

# “Title Zero”: Ending the Infinite Loop of Classifications for Broadband via a Technology-Agnostic Definition

Matthew Chung,\* David Fang,\*\* Harrison Geron\*\*\* & Walter Mostowy\*\*\*\*

*This Note proposes the creation of “Title Zero,” a broadband-specific addition to the 1996 Telecommunications Act that provides the Federal Communications Commission (FCC) with a specific definition and clear regulatory mandate for broadband. Since the enactment of the 1996 Telecommunications Act, the FCC has classified, and reclassified, broadband as either a Title I information service or Title II telecommunications service. First, this Note traces the history of broadband regulation from its origins in telephone-monopoly regulations to the repeated reclassifications under the current Title I–Title II regime. Second, this Note demonstrates that constant reclassification has created an unpredictable regulatory environment, affecting innovation and investment in broadband infrastructure. Third, this Note shows that Title I and Title II incorrectly assume that broadband is only provided through certain technologies, which hinders new technological development by favoring legacy networks. Fourth, this Note challenges current and future classifications of broadband under Title I and Title II, showing that the regulatory regime is a fundamentally poor fit for broadband.*

---

DOI: <https://doi.org/10.15779/Z38GH9B97Q>

Copyright © 2022 Matthew Chung, David Fang, Harrison Geron, and Walter Mostowy.

\* J.D., 2021, University of California, Berkeley, School of Law. Many thanks from all of the authors to Professor Tejas N. Narechania for the class that kicked off this discussion and for all of your support and guidance. Thank you also to Hailey Yook for providing assistance and the technical know-how to make this Note presentable.

\*\* J.D., 2021, University of California, Berkeley, School of Law.

\*\*\* J.D., 2021, University of California, Berkeley, School of Law.

\*\*\*\* J.D., 2021, University of California, Berkeley, School of Law.

*After analysis, this Note argues for the creation of an entirely new classification, “Title Zero,” because Title I and Title II were written for legacy communications networks such as the telephone, and the regulatory regime is ill-suited and unable to effectively regulate the most complex and important communications network in human history—the internet. Because internet connections are provided through a growing list of different technologies, proper broadband regulation should not be based on how a connection to the internet is made, but rather on the quality of the connection. The proposed “Title Zero” is underpinned by a technology-agnostic definition of broadband services based on quality-of-service requirements. These tenets will help the FCC achieve important policy goals such as bridging the digital divide, network neutrality, and promoting modern broadband infrastructure development.*

Introduction .....	1377
I. The History of Broadband Regulation and Reclassification.....	1379
A. The Computer Inquiries and the Birth of the Current Title I–Title II Regime .....	1379
B. Broadband Classification, Reclassification, and More Reclassification .....	1382
II. The Title I–Title II Framework Has Failed To Properly Regulate the Development of Broadband .....	1386
A. The Lack of a Definition of Broadband by Congress Has Led To Constant Reclassification Which Is Unsustainable and Wastes Judicial Resources .....	1386
B. The Lack of a Definition of Broadband Leads To Misspending and Hurts Competition in the Broadband Market .....	1390
1. Federal money allocated for broadband deployment funding is used less efficiently due to the lack of a definition of broadband .....	1391
2. The lack of a statutory definition of broadband has hindered proper competition and development of broadband.....	1392
C. The Internet is Neither a Title I Information Service Nor a Title II Telecommunications Service .....	1395
D. A New Statutory Classification Is Needed.....	1397
III. Congress Must Create a Broadband-Specific and Technology- Agnostic “Title Zero” That Is Evaluated Through Quality of Service.....	1399
A. The Definition of Broadband in the COVID-19 Emergency Broadband Benefit Is Encouraging But Insufficient .....	1400
B. Title Zero’s Definition of Broadband Should Be	

Technology-Agnostic .....	1401
C. Quality of Service Is the Proper Measure of Internet Connectivity .....	1404
1. What Is Quality of Service? .....	1404
2. Quality of Service (1) Incentivizes a Shift to End-User Metrics, (2) Promotes Market Solutions, and (3) Affords the FCC Flexibility to Adopt Appropriate Rules as Technologies and Needs Change .....	1405
IV. A Technology-Agnostic and Quality-of-Service Definition of Broadband Service Will Aid the FCC and Improve Market Competition, Resulting in Better Internet For All .....	1408
A. Title Zero Supports Better Internet Service That Fits Customer Demands .....	1408
B. Reducing the Digital Divide.....	1410
C. The Internet’s Pervasive Effect on Daily Life and the Economy.....	1413
Conclusion.....	1414

#### INTRODUCTION

A strong internet connection is all but required to interact and participate in today’s society. Whether the connection is used for productivity or entertainment, over the past decade the need for faster and higher-quality internet has greatly increased. However, many Americans are left without internet connections capable of meeting their needs. The wide gap between those with access and those without has come to be known as the digital divide.

Unfortunately, the regulatory environment has been of little help in closing the digital divide. In large part, this is because the Federal Communications Commission (FCC) has been left to regulate the development of broadband without a clear definition set by Congress. While other agency-regulated technologies were clearly defined during their development, broadband—arguably one of the most influential inventions in human history—has been poorly defined by various terms in the 1996 Telecommunications Act (1996 Act), a piece of legislation never intended for the internet age. The 1996 Act defines Title I and Title II, where Title I regulates information services and Title II regulates common carriers. Since the 1996 Act, the FCC has had to classify broadband under Title I or Title II. This classification is significant because the individual titles contain the organic statutes from which the FCC’s legal authority to regulate is derived. Even as the internet has grown from a research project to an integral part of society, Congress has not provided a definition for broadband for the FCC or other agencies. In lieu of an official congressional definition of broadband, when this Article refers to broadband, it refers generally to a high-speed internet access service for consumers.

The lack of a clear statutory definition of broadband has caused a turbulent regulatory environment. Over the past twenty years, broadband has been classified and reclassified by the FCC three times under these two different titles of the 1996 Act. Most recently, the political fight over net neutrality has driven the fight over reclassification, resulting in inconsistencies and inefficient application of regulatory policy. For instance, in 2017 the FCC again reclassified broadband as a Title I information service, thereby placing broadband in a lighter regulatory environment. However, this reclassification left numerous programs that were built on Title II stranded on shaky legal ground. For example, the Lifeline Program, which began providing broadband to underserved populations in 2016, is squarely founded under Title II authority. Even the D.C. Circuit raised questions about the proper classification of broadband in 2019 when they remanded to the FCC to consider reclassification's impact on statutory authority for the Lifeline program.

As the Lifeline example illustrates, constant reclassification weakens the FCC's ability to further long-term internet policies. The FCC has a statutory mandate to promote universal service—connecting all Americans to satisfactory communications services—yet it is difficult to create and implement a successful regulatory framework for broadband when the entire legal basis of the policy is upended every four or eight years. Moreover, developing quality, accessible, and affordable broadband networks takes many years, billions of dollars, and collaboration between public and private stakeholders—all of which compound the problems associated with a poor regulatory environment. The FCC is able and willing to facilitate the public-private partnership necessary to propagate a fast, high-quality, and robust broadband network, but it needs clear authority and a stable framework from Congress to be successful.

To promote internet growth and innovation in the public interest, successful long-term internet policy requires a solid legal foundation designed for the digital age. This Note proposes a new Title specifically for broadband that would provide a clear and stable foundation for the FCC to write rules and regulations necessary for the continued development of the internet.

This Note is organized into three parts. Part I provides a background on the development of Title I and Title II and the subsequent classification, and reclassifications, of broadband. Part II explains how the current Title I–Title II regulatory framework has failed to properly regulate the development of broadband. First, it describes how the resulting reclassifications and inefficient spending harm the FCC's own broadband programs and chill private innovation and investment in broadband. Then it discusses why the framework is a poor fit for regulating the modern internet. Part III proposes a new statutory regulatory regime for broadband. Unlike the existing Title I–Title II framework, this new “Title Zero” regime is specific to broadband and defines it in a way that is technology-agnostic and based on quality of service. At the core of the proposed definition are measurable output factors and characteristics that directly impact

both providers and consumers. This definition provides a better-fitting and stable framework for the FCC to regulate broadband and aid in developing broadband networks that meet the needs of Americans today and in the future. This facilitates the development of better broadband that fits customer needs and demands, the lessening of the digital divide, and broadband's expansive effect on daily life and the economy.

## I.

### THE HISTORY OF BROADBAND REGULATION AND RECLASSIFICATION

The problems of broadband regulation today were foreshadowed by its history. One would have hoped that broadband regulations in the United States would have been developed by carefully crafted regulations tailored to the special needs of the internet. Sadly, they were not. Rather, the history of broadband regulation is the story of attempting to partly extend the regulation of telephone monopolies onto computers. It is also the sad story of Congress abdicating its role, leaving the FCC with poor, outdated tools to handle the modern internet.

This Part first recounts the history and development of the current Title I–Title II regulatory regime, from the *Computer Inquiries* to the Telecommunications Act of 1996. Then it describes the FCC's repeated attempts to fit broadband into that regulatory regime, whipped back and forth by courts and presidents.

#### A. *The Computer Inquiries and the Birth of the Current Title I–Title II Regime*

The history of broadband regulation in the United States can only be understood in the context of the history of regulating telephone monopolies. Before the era of computers, Congress had organized the telephone industry such that monopolies were permitted to exist, but only with heavy regulation.<sup>1</sup> The history of telecom regulation largely began in 1913, at a time when AT&T had effectively monopolized the long-distance telephony market.<sup>2</sup> In an out-of-court settlement known as the Kingsbury Commitment, AT&T reached an agreement with the Attorney General: in exchange for the government permitting AT&T's monopoly to continue, AT&T pledged to limit its entry into local markets and instead interconnect with the local telephone networks.<sup>3</sup> Recognizing the great value of making communication networks widely available to the public,<sup>4</sup>

---

1. See generally Ajit Pai, *Remarks of FCC Commissioner Ajit Pai at the TechFreedom's Forum on the 100th Anniversary of the Kingsbury Commitment, Washington, DC*, FCC (Dec. 19, 2013), <https://www.fcc.gov/document/pai-remarks-100th-anniversary-kingsbury-commitment> [<https://perma.cc/8NDT-CHYF>]; Communications Act of 1934, 47 U.S.C. § 151.

2. See Pai, *supra* note 1, at 1.

3. See *id.*

4. See Communications Act of 1934, 47 U.S.C. § 151.

Congress further developed the spirit of the Kingsbury Commitment and codified it in the Communications Act of 1934.<sup>5</sup> This Act heavily regulated purveyors of public communication services like AT&T, called “common carriers,”<sup>6</sup> and established a new independent agency, the Federal Communications Commission,<sup>7</sup> to oversee the telephony industry.

Computers entered the regulatory story in the 1960s, when AT&T began connecting computers to its telephone networks.<sup>8</sup> Traditional telephone networks simply transmitted data (usually voice audio) from one point to another, but computers could process data, which enabled new services.<sup>9</sup> The FCC inquired whether these new computers should fall under the common carrier regulations, and if so, to what extent.<sup>10</sup> The FCC’s concern was not the internet, because it did not yet exist.<sup>11</sup> Rather, these new computer-based services were viewed as an innovative growth area (and so should perhaps not be regulated) but also threatened to leverage AT&T’s monopoly in other markets, such as telegrams (and so perhaps should be regulated).<sup>12</sup> To that end, the FCC launched an investigation in 1966, *Computer I*.<sup>13</sup> *Computer I* was the first of three *Computer Inquiries* that discussed how to regulate computers.

The FCC concluded *Computer I* in 1971 by attempting to divide computer use into two categories: “message switching” and “data processing.” Message switching was the mere communication of messages without alteration and fell under common carrier regulations. Meanwhile, data processing involved using a program to store, retrieve, calculate, or similarly manipulate data, and was left unregulated.<sup>14</sup> “Hybrid” services were to be determined on a case-by-case basis.<sup>15</sup> However, this division proved unsuitable, and the FCC was quickly overwhelmed by the number of hybrid-use cases.<sup>16</sup> The speed at which computer technology developed ultimately rendered the *Computer I* divisions obsolete.<sup>17</sup>

---

5. *Id.* §§ 151–221.

6. *See, e.g., id.* § 201 (requiring common carriers to provide service to anyone upon reasonable request); *id.* § 205 (authorizing the FCC to control the rates charged by common carriers).

7. *Id.* § 151.

8. *See* Robert Cannon, *The Legacy of the Federal Communications Commission’s Computer Inquiries*, 55 FED. COMMS. L.J. 167, 170 (2003).

9. *Id.* at 169–71.

10. *Id.* at 173.

11. The predecessor of today’s internet, ARPANET, was under active research and development and would make its first connection in 1969. *See Internet History of 1960s*, COMPUT. HIST. MUSEUM, <https://www.computerhistory.org/internethistory/1960s/> [<https://perma.cc/NN5M-T4MY>].

12. *See* Cannon, *supra* note 8, at 171.

13. Notice of Inquiry, *In re* Regulatory and Policy Problems Presented by the Interdependence of Computer and Communication Services and Facilities, 7 F.C.C.2d 11 (1966).

14. *See* Comput. & Comms. Indus. Ass’n v. FCC, 693 F.2d 198, 203 (D.C. Cir. 1982); Final Decision and Order, *In re* Regulatory and Policy Problems Presented by the Interdependence of Computer and Communication Services and Facilities (*Computer I*), 28 F.C.C.2d 267, 36 Fed. Reg. 5345, 5353–54 (1971).

15. *Computer I*, 28 F.C.C.2d, 36 Fed. Reg. at 5353–54.

16. *See* Cannon, *supra* note 8, at 174, 181.

17. *Comput. & Comms. Indus. Ass’n*, 693 F.2d at 204.

For example, computing was no longer limited to dumb terminals granting access to a central mainframe that did all the work; instead, the terminals themselves were getting smarter and better able to process data, gradually becoming more like today's computers.<sup>18</sup> It became arbitrary to demarcate such terminals as either message switchers or data processors. Needing a new approach, in 1976 the FCC tried again in *Computer II*<sup>19</sup> to find a suitable division between computing that should fall under common carrier regulations and computing that should not.<sup>20</sup>

In 1980, the FCC concluded *Computer II* and settled on a new division: "basic service," a service offering only pure transmission; and "enhanced service," a service offering anything more.<sup>21</sup> However, rather than simply sweeping the former "hybrid" category into enhanced services, the new dichotomy introduced a subtle but fundamental reconceptualization of pure transmission. In contrast to *Computer I*, which tried to draw a dividing line according to functional differences in the implementing technologies, *Computer II* deliberately discarded that technological analysis and instead drew the line according to *user perception*.<sup>22</sup> For example, a telephone network that internally incorporated new computer technologies such as bandwidth compression, packet switching, or error control would still be a basic service, and thus subject to common carrier regulations, because the technologies did not affect the consumer's perception of the service as basic transmission of voice and data.<sup>23</sup> However, ancillary services, such as voice mailboxes or automatic call answering, represented something more to consumers than simple point-to-point transmission of data, so they would be enhanced services not subject to regulation.<sup>24</sup>

In fact, this dichotomy between basic services and enhanced services was enshrined in law sixteen years after *Computer II*. Finding that regulatory models based on competition rather than monopolies were preferable, Congress passed the Telecommunications Act of 1996 to overhaul and reduce telecommunications regulation.<sup>25</sup> The Act provided for three separate regulatory regimes: Title II-regulated common carriers, Title III-regulated radio

---

18. *See id.* at 204 n.12; Cannon, *supra* note 8, at 182.

19. Notice of Inquiry and Proposed Rulemaking, *In re* Amendment of Section 64.702 of the Commission's Rules and Regulations, 61 F.C.C.2d 103 (1976); Final Decision, *In re* Amendment of Section 64.702 of the Commission's Rules and Regulations (*Computer II*), 77 F.C.C.2d 384 (1980).

20. *Comput. & Comms. Indus. Ass'n*, 693 F.2d at 204.

21. *Computer II*, 77 F.C.C.2d ¶¶ 90, 93, 97.

22. *Nat'l Cable & Telecomms. Ass'n v. Brand X Internet Servs.*, 545 U.S. 967, 976 (2005); Cannon, *supra* note 8, at 183; *see Computer II*, 77 F.C.C.2d ¶¶ 95–96.

23. *See Computer II*, 77 F.C.C.2d ¶ 96.

24. *See id.* ¶¶ 97–98.

25. Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56 ("An Act to promote competition and reduce regulation in order to secure lower prices and higher quality services for American telecommunications consumers . . .").

broadcasters, and Title VI-regulated cable communications.<sup>26</sup> Internet service was not among these regimes. This is perhaps because the internet was only in its infancy and its future importance was not yet clear.<sup>27</sup> The Title II common carrier regime governed “telecommunications,” defined as “the transmission . . . of information . . . without change in the form or content of the information,”<sup>28</sup> much like the basic service of *Computer II*.<sup>29</sup> In contrast, the Act also contemplated “information service[s],” defined as “generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information via telecommunications [but excluding] any such capability for the management, control, or operation of a telecommunications system,”<sup>30</sup> much like the enhanced service of *Computer II*.<sup>31</sup> Also echoing the regulatory carve-outs *Computer II* afforded to enhanced services, the Act governed information services with a very light-weight “ancillary” authority in Title I, intended to encourage the development of innovative services ancillary to a core telecommunications service, in contrast to the heavy regulations imposed upon telecommunications services in Title II.<sup>32</sup> This was the birth of the Title I–Title II regime that governs broadband today.

*B. Broadband Classification, Reclassification, and More Reclassification*

Since the passage of the Telecommunications Act of 1996, Congress has not updated the Title I–Title II regime, leaving the FCC in a bind. It became apparent just a few years after the Act’s passage that broadband—by then undoubtedly an important emerging technology—needed to be regulated, but Congress had not contemplated it when legislating the Act. This left the FCC with no choice but to shoehorn broadband into either of two ill-fitting classifications. This proved to be a challenge. Does internet service merely transmit digital data unchanged between server and user, rendering it a Title II telecommunications service? Or is internet access inextricably bound with advanced services like email and forums, or perhaps underlying computer technologies like DNS and caching, rendering it a Title I information service? Do these questions turn on user perception, and if so, an expert or novice? Resolving these questions had significant implications for the FCC’s power to regulate broadband, as well as for the impact of those regulations upon broadband providers. Flip-flopping between regimes was inevitable.

---

26. Telecommunications Act of 1996, 47 U.S.C. ch. 5 (2000).

27. See *Internet History of 1960s*, *supra* note 11.

28. 47 U.S.C. § 153(43)–(44) (2000).

29. Nat’l Cable & Telecomms. Ass’n v. Brand X Internet Servs., 545 U.S. 967, 967–68 (2005).

30. 47 U.S.C. § 153(20) (2000).

31. *Brand X*, 545 U.S. at 968.

32. *Id.* at 976.

In its 2002 Cable Broadband Order, the FCC determined broadband's classification for the first time: it was to be a Title I information service.<sup>33</sup> The FCC reasoned that broadband providers bundled email or web-hosting services with the basic transmission service.<sup>34</sup> The Supreme Court endorsed this reasoning in *National Cable & Telecommunications Association v. Brand X Internet Services*, affirming the FCC's authority to classify broadband as an information service under *Chevron* deference.<sup>35</sup> The Court held that the text of the Telecommunications Act was ambiguous, so under *Chevron* deference, the Court must defer to the agency's reasonable interpretation of the statute regarding classification.<sup>36</sup> To support its finding that the FCC's interpretation was reasonable, the Court relied on the internet's use of Domain Name Service (DNS) technology as evidence of data processing and thus transforming broadband into an information service.<sup>37</sup> *Brand X* became a pivotal Supreme Court case moving forward, granting the FCC the power to classify and reclassify broadband through notice and comment rulemaking under the most basic reasoning.

However, the FCC's attempt to regulate broadband under Title I authority quickly demonstrated the inadequacy of Title I's powers. In *Comcast Corp. v. FCC*, the D.C. Circuit rejected the FCC's authority to regulate internet service providers (ISPs) under its ancillary authority—its limited Title I powers to regulate services ancillary to telecommunications<sup>38</sup>—because Title I lacked both express authority and reasonably implied statutory authority.<sup>39</sup> The court considered and rejected seven potential sources of statutory authority in the Telecommunications Act, only leaving open a reinterpretation of the broad policy statement.<sup>40</sup> However, the court left a small opening: section 706, a broad policy statement—essentially a preamble—in support of universal service, provides that the FCC “shall encourage the deployment . . . of advanced telecommunications capability to all Americans . . . by utilizing . . . price cap regulation, regulatory forbearance, measures that promote competition in the local telecommunications market, or other regulating methods that remove barriers to infrastructure investment.”<sup>41</sup> Although the court rejected section 706 as a basis for ancillary authority, it did so by relying on the FCC's own earlier finding that section 706 provided no such authority. Indeed, the court allowed

---

33. *In re Inquiry Concerning High-Speed Access to the Internet over Cable and Other Facilities: Internet Over Cable Declaratory Ruling*, 17 F.C.C.R. 4798, ¶ 7 (F.C.C. 2002).

34. *See id.* ¶¶ 34–39.

35. *Brand X*, 545 U.S. at 987–89.

36. *Id.* at 989–90.

37. *Id.* at 998–1000. *Cf. id.* at 1007–08 (Scalia, J. dissenting) (finding that DNS is a separate service from the internet like how pizza delivery is separate from a pizzeria offering pizza).

38. *See U.S. v. Southwestern Cable Co.*, 392 U.S. 157, 178 (1968) (establishing the FCC's ancillary authority under Title I, 47 U.S.C. § 152(a)).

39. *Comcast Corp. v. FCC*, 600 F.3d 642, 661 (D.C. Cir. 2010).

40. *Id.* at 651–61.

41. Telecommunications Act of 1996, § 706 (codified at 47 U.S.C. § 1302(a)).

that section 706 “could at least arguably be read to delegate regulatory authority to the Commission.”<sup>42</sup>

Chasing this hope, the FCC made one last-ditch effort to save its internet rules under Title I. In its 2010 Open Internet Order, the FCC reinterpreted section 706 to provide the requisite regulatory authority for Title I and, pursuant to this renewed authority, established rules to (1) prohibit blocking or degrading traffic, or unreasonably discriminating against certain types of traffic, (2) require reasonable conduct in managing networks, and (3) require transparency into providers’ practices.<sup>43</sup> However, the D.C. Circuit held in *Verizon v. FCC* that even with a reinterpretation of section 706, the FCC lacked the authority to implement these rules<sup>44</sup> because the rules were tantamount to common-carrier regulations, which are statutorily excluded from the scope of Title I.<sup>45</sup>

Left with no alternative, the FCC abandoned Title I and instead reclassified broadband as a Title II telecommunications service in the 2015 Open Internet Order (OIO).<sup>46</sup> Driven by the change in internet technology, the FCC justified reclassification by citing the need for a strong legal foundation to enact rules that protect the internet’s openness, thereby promoting innovation and investment in internet products and services.<sup>47</sup> In the FCC’s 2015 view, the internet was an open marketplace of commerce, innovation, speech, and consumer choice, all of which are threatened when certain types of traffic are blocked outright, throttled down in speed, or prioritized based on extra fees paid.<sup>48</sup> Under the 2015 OIO, the FCC moved broadband into a self-described “light touch” Title II framework and reestablished the rules invalidated in *Verizon*.<sup>49</sup> The FCC touted the “light touch” framework as “Title II tailored for the 21st century,”<sup>50</sup> forbearing twenty-seven Title II provisions and over 700 Commission rules and regulations.<sup>51</sup> This is because numerous Title II provisions specifically assume that the telecommunications service provided is a telephone service and should not apply

---

42. *Comcast*, 600 F.3d at 658–59.

43. *In re Preserving the Open Internet Broadband Industry Practices*, 25 F.C.C.R. 17905, ¶¶ 117–23 (F.C.C. 2010).

44. *See Comms. Inc. v. FCC*, 740 F.3d 623, 659 (D.C. Cir. 2014).

45. *Id.* at 649–50, 655–56.

46. *In re Protecting and Promoting the Open Internet (OIO)*, 30 F.C.C.R. 5601, ¶ 335 (F.C.C. 2015).

47. *Id.* ¶¶ 4, 14–19 (explaining why clear, bright-line rules are necessary).

48. *Id.* ¶¶ 1–4.

49. *Id.* ¶ 37.

50. *Id.* ¶ 5.

51. *Id.* Here, forbearance refers to the FCC opting not to exercise their authority to enforce certain provisions under the organic statute. For example, major provisions forbearances include rate regulation and universal service contributions. *Fact Sheet: Chairman Wheeler Proposes New Rules for Protecting the Open Internet*, FCC, [https://transition.fcc.gov/Daily\\_Releases/Daily\\_Business/2015/db0204/DOC-331869A1.pdf](https://transition.fcc.gov/Daily_Releases/Daily_Business/2015/db0204/DOC-331869A1.pdf) [<https://perma.cc/E5RP-UV3J>].

to broadband.<sup>52</sup> Reclassification to Title II was upheld by the D.C. Circuit in *United States Telecom Association v. FCC*, which cited the *Brand X* decision as giving the FCC authority to reclassify.<sup>53</sup>

While Title II provided the FCC with sufficient authority to regulate broadband, the weight of Title II regulations attracted political pushback from the next presidential administration. In 2017, a mere two years after the reclassification, a reorganized FCC recognized that full Title II common-carrier regulations were inappropriate for broadband.<sup>54</sup> The FCC thus adopted the 2017 Restoring Internet Freedom Order (RIFO) reclassifying broadband back to a Title I information service.<sup>55</sup> The FCC argued that reclassification was necessary because the Title II regulations imposed substantial costs on the internet ecosystem, stifling innovation and investment.<sup>56</sup> The FCC determined that “the significant forbearance . . . strongly suggests that the regulatory framework of Title II, which was specifically designed to regulate telephone services, is unsuited for the dissimilar and dynamic broadband Internet access service marketplace.”<sup>57</sup> Instead, the 2017 RIFO proposed a return to a free-market competition-based regulation system, positing that other laws and market discipline would be sufficient for maintaining an open internet. The FCC’s power to reclassify broadband was upheld by the D.C. Circuit in 2019, in the case *Mozilla Corp. v. FCC*, but the court demanded the agency consider reclassification’s impact on three discrete issues through notice and comment rulemaking.<sup>58</sup>

In sum, broadband to date has been classified three times, going from a Title I service to a Title II service and back to a Title I service. Each change followed a new presidential administration. While broadband is currently classified as a Title I service as of the writing of this Note, it is unlikely the classification will remain unchanged. After the 2020 election of President Biden and the installation of his administration, the FCC leadership will again change. In April 2021, Jessica Rosenworcel, a key dissenter against the 2017 RIFO, was named acting chairwoman of the FCC.<sup>59</sup> Furthermore, many Democratic

---

52. *Fact Sheet*, *supra* note 51, at 1. Numerous Title II provisions explicitly assume that all telecommunications services are a telephone service: Section 221 addresses special provisions related to telephone companies, Section 251 addresses the obligations of local exchange carriers and incumbent local exchange carriers, and Section 271 addresses limitations on Bell Operating Companies’ provision of interLATA services.

53. *U.S. Telecom Ass’n v. FCC*, 825 F.3d 674, 710, 726 (D.C. Cir. 2016) (“Having upheld the Commission’s reclassification of broadband services, both fixed and mobile . . .”).

54. *See In re Restoring Internet Freedom (RIFO)*, 33 F.C.C.R. 311, 351, ¶ 64 (F.C.C. 2018).

55. *Id.* at 313, ¶ 2.

56. *Id.* at 364, pt. C, sec. 1.

57. *Id.* at 313, ¶ 2.

58. *Mozilla Corp v. FCC*, 940 F.3d 1, 17–18 (D.C. Cir. 2019) (remanding RIFO to the FCC to examine the order’s effect on public safety, pole attachments, and the Lifeline program).

59. *See Statement of Jessica Rosenworcel on Being Designated the Acting Chairwoman of the Federal Communications Commission by President Biden*, FCC (Jan. 21, 2021), <https://docs.fcc.gov/public/attachments/DOC-369420A1.pdf> [<https://perma.cc/5PDW-37JJ>].

policymakers have put pressure on the Biden administration to reinstate net neutrality protections on the internet, which would most likely require reclassification to Title II.<sup>60</sup>

## II.

### THE TITLE I–TITLE II FRAMEWORK HAS FAILED TO PROPERLY REGULATE THE DEVELOPMENT OF BROADBAND

The last twenty years of U.S. broadband policy have been marked by lawsuits, political theater, and general ineffectiveness.<sup>61</sup> Though the U.S. broadband infrastructure has grown, it has done so despite the FCC's disjointed policies and lack of clear regulations and goals. The broadband industry has had to wade through a set of outdated statutes and considerable uncertainty as to what regulations the FCC might establish or enforce.

This uncertainty is rooted in the Title I–Title II regulatory regime, a dated regime designed for telephony service. The Telecommunications Act of 1996 did not define broadband because it did not even contemplate it.<sup>62</sup> This has caused a multitude of problems.<sup>63</sup> Section A discusses the detrimental effects of constant reclassification under the Title I–Title II regime. The result leaves federal programs vulnerable under shaky legal authority, chills investment in internet infrastructure and services due to uncertainty, and wastes judicial resources upon each successive reclassification. Section B explores the harms caused by the lack of a statutory definition of broadband, including ineffective spending on legacy firms, regulations favoring legacy players, and potential market competitors hurt by higher costs. Section C explains how these problems cannot be resolved within the Title I–Title II regime, because it is a fundamentally poor fit for the modern internet. Section D calls for a new regulatory regime legislated by Congress.

#### *A. The Lack of a Definition of Broadband by Congress Has Led To Constant Reclassification Which Is Unsustainable and Wastes Judicial Resources*

The lack of a statutory definition of broadband has led to the repeated reclassification of broadband from Title I to Title II and back again.<sup>64</sup> Repetitive reclassification leaves various FCC programs and regulations stranded on

---

60. See Tony Romm, *Pressure Builds on Biden, Democrats to Revive Net Neutrality Rules*, WASH. POST (Jan. 27, 2021), <https://www.washingtonpost.com/technology/2021/01/27/net-neutrality-biden-fcc/> [<https://perma.cc/T75P-PQWD>].

61. For a more detailed discussion of the history of broadband classification, see *supra* Part I.

62. See *supra* Section I.A.

63. Note that although Title 47, Chapter 12 of the U.S.C. is titled “Broadband,” only Section 1302 in Chapter 12 is from the Telecommunications Act. The other provisions are from the Broadband Data Improvement Act and are not relevant in defining broadband service. See generally Broadband Data Improvement Act of 2008, Pub. L. No. 110–385, 122 Stat. 4096.

64. See *supra* Section I.B.

uncertain legal authority. Further, the resulting uncertainty chills investment in internet infrastructure and services. Finally, the inevitable lawsuits waste judicial resources, introducing additional uncertainty as to whether the courts will uphold the reclassification. Such lawsuits may even threaten the viability of the *Chevron* deference upon which much of the executive authority relies.

One of the most detrimental effects of constant reclassification is regulatory uncertainty. Within a period of less than twenty years, the FCC has classified and reclassified broadband three times. After each classification, the FCC and the courts entertained a multitude of lawsuits filed against each decision, undermining the FCC and other administrative agencies' ability to classify. Furthermore, each change in classification forces the FCC to revise their legal positions in order to comply with the preceding court orders. This process is long and arduous as it includes notice and comment rulemaking. The process is also tenuous because the FCC tries to delicately craft rules and regulation that do not implicate net neutrality considerations which may otherwise complicate their acceptance. For example, the recent Lifeline notice and comment rulemaking is a direct result of the FCC reclassifying broadband, because its new classification meant that the FCC could no longer rely on statutory authority from Title II to regulate the Lifeline program.

The *Mozilla Corp. v. FCC* case in particular highlights the problems with constant reclassification. In *Mozilla*, while the D.C. Circuit affirmed the FCC's authority to reclassify broadband, the court struck down the 2017 RIFO's preemption authority, ruling that the order exceeded the scope of the FCC's authority.<sup>65</sup> The court also remanded the case back to the FCC to determine the RIFO's impact on three areas: (1) public safety, (2) the regulation of pole attachments, and (3) universal service support for low-income consumers through the Lifeline program.<sup>66</sup> In particular, the court ruled that the FCC did not seek adequate information regarding how reclassifying broadband to a Title I service would affect how these programs would be administered.<sup>67</sup> *Mozilla* illustrates the uncertainty caused by reclassification with regards to important programs such as Lifeline and those used for public safety and pole attachments. Furthermore, as the authors of this Note explained in a comment filed with the FCC,<sup>68</sup> reclassification severely impacts the FCC's legal authority to administer a program like Lifeline.

The regulatory uncertainty resulting from reclassification chills investment in internet infrastructure and services. Regulatory uncertainty greatly inhibits

---

65. *Mozilla Corp v. FCC*, 940 F.3d 1, 18 (D.C. Cir. 2019).

66. *Id.*

67. *See id.* at 82–86, 88–90, 91–93.

68. *See In re Restoring Internet Freedom Bridging the Digital Divide for Low-Income Consumers Lifeline and Link Up Reform and Modernization (Mozilla Remand Order)*, 35 F.C.C.R. 12328, ¶¶ 93–94 (F.C.C. 2020) (citing *Berkeley Law Students Comments*).

corporations and other entities relying on the FCC's programs from being able to effectively plan their future activities and access government services.

Reclassification also exacerbates the uncertainty that forbearance causes, deterring investment in broadband deployment and improvement. Although classifying broadband as a Title II telecommunications service provides sufficient authority for the FCC to enact common carrier-like rules to advance important policy goals, classifying broadband this way relies on "light-touch" forbearance. Companies generally view forbearance of regulations as a temporary policy decision that can change depending on the political climate. Coupled with the reclassifications that have already happened, they can hardly be blamed for their cautious view.

Forbearance could be ended by an administration that favors more regulation; alternatively, broadband could be reclassified yet again, eliminating the regulations altogether. These legal and business risks deter investment. For example, the threat of public utility-like regulation, like rate regulation and other common carrier requirements, can deter broadband infrastructure investment because of reduced profits below the competitive rate of return.<sup>69</sup> In its 2017 RIFO, the FCC pointed to the 2015 and 2016 reduction in capital investment by broadband providers that followed the reclassification of Title II as examples of reclassification deterring investment despite forbearance.<sup>70</sup>

Similarly, reclassification and forbearance hinder innovation. In the 2017 RIFO, the FCC pointed to Title II regulatory uncertainty as the reason why Charter, Cox, and Comcast delayed product launches and put on hold projects to build new services.<sup>71</sup> After the 2015 OIO classified broadband as a Title II service, Charter delayed a project to build an out-of-home Wi-Fi network. Charter attributed the delay to concerns of future interpretations of Title II that could prevent Charter from offering its out-of-home Wi-Fi network as a benefit to existing customers.<sup>72</sup> Regulatory uncertainty delayed Charter from launching its own service to compete with existing mobile data providers. Charter's example here is counter to the 1996 Act's goal of promoting market competition and lowering barriers for new market entrants. As of April 2021, over five million Americans pay for mobile-phone service provided by their cable TV providers because of lower prices and ease of adjusting plans.<sup>73</sup> One customer switched to Charter phone service because Charter's offerings were cheaper than the customer's previous AT&T service.<sup>74</sup> In this case, Title II regulation deterred

---

69. See RIFO, 33 F.C.C.R. 311, ¶ 89 (F.C.C. 2018).

70. *Id.* ¶ 90.

71. *Id.* ¶ 99.

72. *Id.*

73. See Lillian Rizzo & Drew FitzGerald, *Cable Companies Emerge as Force in Cellphone Business*, WALL ST. J. (Apr. 15, 2021), [https://www.wsj.com/articles/cable-companies-emerge-as-force-in-cellphone-business-11618488006?st=dae84i8hhdbf7ez&reflink=desktopwebshare\\_permalink](https://www.wsj.com/articles/cable-companies-emerge-as-force-in-cellphone-business-11618488006?st=dae84i8hhdbf7ez&reflink=desktopwebshare_permalink) [<https://perma.cc/ADQ5-GP23>].

74. *See id.*

Charter from launching a competitive and more affordable mobile broadband service earlier.

In addition to regulatory uncertainty, each reclassification inevitably attracts lawsuits, wasting judicial resources and further sowing regulatory uncertainty. Future reclassification could even threaten administrative law. While the courts have thus far given wide deference to the FCC under *Chevron* deference, a future court could find reclassification to be too arbitrary to survive another challenge to the FCC's authority. In *Brand X*, the Court signaled that “[u]nexplained inconsistency is . . . a reason for holding an interpretation to be an arbitrary and capricious change from agency practice under the Administrative Procedure Act” leaving open the possibility of rejecting a classification in the future.<sup>75</sup> Indeed, there are signs that the current Supreme Court may be ready to reconsider *Chevron* deference.<sup>76</sup>

Still, it remains to be seen where the courts will draw the *Chevron* line of arbitrariness. While three reclassifications in twenty years may appear arbitrary, reclassification could still survive “hard look” review. In *Motor Vehicle Manufacturers v. State Farm*, the Court announced that they would “uphold a decision of less than ideal clarity if the agency’s path may reasonably be discerned.”<sup>77</sup> With *Brand X*, it would likely take a Supreme Court decision ruling the FCC’s reasoning to be inadequate to prevent further reclassification. Furthermore, the courts have shown significant deference to FCC interpretations covering broadband. A striking example of this judicial deference occurred in *National Cable Telecommunications v. Gulf Power Co. (Gulf Power II)*, where the Court upheld the FCC’s interpretation of the word “cost” to mean two-thirds of the total cost.<sup>78</sup> However, with the changing makeup of the Supreme Court, the Court may be more reluctant to allow reclassification under *Chevron*.<sup>79</sup> Indeed, the current Supreme Court could always choose to overrule *Brand X*. Justice Thomas, the author of *Brand X*, certainly seems to favor that position,<sup>80</sup> and other conservative Justices may be inclined to agree.<sup>81</sup>

---

75. See Nat’l Cable & Telecomms. Ass’n v. Brand X Internet Servs., 545 U.S. 967, 981 (2005).

76. See Nicholas Bagley, *Chevron Deference at Stake in Fight over Payments for Hospital Drugs*, SCOTUSBLOG (Nov. 29, 2021), <https://www.scotusblog.com/2021/11/chevron-deference-at-stake-in-fight-over-payments-for-hospital-drugs/> [<https://perma.cc/T8AJ-ZUAA>].

77. *Motor Vehicle Mfrs. Ass’n of the U.S., Inc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983).

78. See Nat’l Cable & Telecomms. Ass’n, Inc. v. Gulf Power Co. (*Gulf Power II*), 534 U.S. 327, 336, 345 (2002).

79. See U.S. Telecom Ass’n v. FCC, 855 F.3d 381, 417 (D.C. Cir. 2017) (Kavanaugh, J. dissenting) (finding that reclassification to common carrier regulations should fall under the major rules doctrine and not be allowed under *Chevron*).

80. See Marcia Coyle, *Justice Thomas, in Lone Dissent, Thrashes ‘Chevron’ and His Own ‘Brand X’ Decision*, LAW.COM, (Feb. 24, 2020), <https://www.law.com/nationallawjournal/2020/02/24/justice-thomas-in-lone-dissent-thrashes-chevron-and-his-own-brand-x-decision/> [<https://perma.cc/87U6-E2HU>].

81. See Bagley, *supra* note 76 (“Several of the conservative justices . . . may be receptive to the argument” that *Chevron* deference is an “affront to the separation of powers . . .”).

Ultimately, the FCC has used the ambiguity surrounding internet broadband's classification to develop policies reflecting the administration's *ad hoc* political goals rather than long-term internet policy goals. Constant reclassification of broadband between Title I to Title II causes many harms. It puts the legal authority of various FCC broadband programs and regulations on shaky legal authority and chills investment in broadband deployment due to future uncertainty. Furthermore, constant reclassification attracts lawsuits that waste judicial resources and further sow regulatory uncertainty. It could also break the *Chevron* analysis and cause dire consequences if the Supreme Court uses the FCC's constant reclassification as the method to constrain agency discretion. These harms alone should raise alarms for those who want better broadband service and deployment. Sadly, these are not the only harms caused by the current regulatory regime.

*B. The Lack of a Definition of Broadband Leads To Misspending and Hurts Competition in the Broadband Market*

The lack of a definition for broadband not only has led to the FCC constantly reclassifying broadband, but also has resulted in the misspending of federal funds and has hurt broadband market competition. Indeed, the lack of a statutory definition of broadband is a primary reason for the FCC's regulatory inefficiency and inability to provide quality, affordable broadband to all Americans. First, the lack of a definition causes wasteful misspending of federal funds allocated to broadband deployment.<sup>82</sup> To this day, funding for broadband is still channeled through preexisting programs designed to facilitate *telephone* networks and require eligible telecommunications carrier (ETC) status to receive funding. This framework favors awarding broadband funds to legacy telecommunications and cable providers who have historically provided telephone service and have ETC status but may not provide the most competitive or efficient internet services over new broadband-only providers who need to obtain ETC status, which requires implementing telephone services before being eligible to receive broadband-only funding.<sup>83</sup> For example, in order for SpaceX's Starlink satellite broadband service to be eligible to receive federal broadband funding, Starlink needed to first become an ETC, which required Starlink to

---

82. Note that this is in addition to the significant number of resources that are poured into reclassification and litigation following reclassification previously discussed. *See supra* Section II.B.

83. Petition of Starlink Services, LLC, *In re* Petition of Starlink Services, LLC for Designation as an Eligible Telecommunications Carrier 14–15 (WC Docket No. 09-197) (F.C.C. 2021), <https://ecfsapi.fcc.gov/file/1020316268311/Starlink%20Services%20LLC%20Application%20for%20ETC%20Designation.pdf> [<https://perma.cc/D35J-KBX2>] (“Expedited designation of Starlink Services as an ETC in the Service Areas will serve the public interest by ensuring that the Starlink Services is eligible to receive federal [Universal Service Fund] support, including the [Rural Digital Opportunity Fund] support it won through the auction, and to expand broadband coverage in and throughout the Service Areas . . . ETC designation in the FCC Jurisdiction states will allow Starlink Services to receive RDOF support . . .”).

implement and offer a phone service.<sup>84</sup> Second, the lack of a definition hurts competition in the marketplace for broadband. Potential competitive newcomers, such as Google Fiber, face higher regulatory hurdles and costs because current regulations are structured around, and favor, legacy telecommunications and cable technologies.

1. *Federal money allocated for broadband deployment funding is used less efficiently due to the lack of a definition of broadband*

The concerns of inefficient spending due to a lack of a definition of broadband, including a lack of performance metrics, are not new. The past is rife with examples. For instance, Universal Service Funding, including the revamped Connect America Fund (CAF) and Mobility Fund, have been critiqued both as being too limiting and as lacking specific performance measures.<sup>85</sup> For instance, in a July 2012 report, the U.S. Government Accountability Office (GAO) stated that the “FCC lacked specific performance goals or measures for the high-cost program . . . [and] [a]s a result, after spending more than \$41.1 billion in high-cost funds since 2001, [the GAO] reported that it was still unclear what FCC had achieved through the program.”<sup>86</sup> The GAO further “recommended that FCC establish short- and long-term performance goals and measures to make clear the program’s intentions and accomplishments.”<sup>87</sup>

More specifically, the lack of a definition leads to particular types of misspending. For instance, the lack of a technology-agnostic performance metric leads to incumbent spending on gold-plated services (i.e., costly and unnecessary services that are mismatched to the needs of customers), as well as only spending in areas where a provider has competition, while ignoring underserved areas. This is because without baseline standards for what qualifies as broadband, ISPs

---

84. *Id.*; see Jon Brodtkin, *SpaceX Plans Starlink Phone Service, Emergency Backup, and Low-Income Access*, ARSTECHNICA (Feb. 5, 2021), <https://arstechnica.com/information-technology/2021/02/spacex-plans-starlink-phone-service-emergency-backup-and-low-income-access/> [<https://perma.cc/D8PW-R8JW>].

85. See Press Release, U.S. Gov’t Accountability Off., GAO-12-738, *Telecommunications: FCC Has Reformed the High-Cost Program, but Oversight and Management Could Be Improved* (July 25, 2012), <https://www.gao.gov/products/gao-12-738> [<https://perma.cc/Y3Q6-QM4P>] (“Management challenges identified by GAO included a lack of performance goals and measures for the program and weak internal controls, while OMB criticized FCC’s inability to base funding decisions on measurable benefits. In response, FCC established performance goals and measures for the high-cost program and improved internal control mechanisms over the fund. While these are noteworthy actions, GAO identified gaps in FCC’s plans to better oversee the program and make it more effective and efficient. In particular, FCC has not addressed its inability to determine the effect of the fund and lacks a specific data-analysis plan for carrier data it will collect. Such analysis would enable FCC to adjust the size of the Connect America Fund based on data-driven evaluation and would allow Congress and FCC to make better informed decisions about the program’s future and how program efficiency could be improved.”).

86. See U.S. GOV’T ACCOUNTABILITY OFF., GAO-12-738, *TELECOMMUNICATIONS: FCC HAS REFORMED THE HIGH-COST PROGRAM, BUT OVERSIGHT AND MANAGEMENT COULD BE IMPROVED* 16–17 (July 25, 2012).

87. *Id.* at 16.

have no incentives to invest in better base service in areas where they are effectively the only broadband provider. In fact, Former FCC Commissioner Michael O’Rielly voiced such concerns, stating that:

Nor should RUS expand the definition of “sufficient access” to reflect a gold-plated version of the statutory speed requirement for eligibility. The pilot program will produce the greatest benefit by focusing specifically on unserved areas—not by limiting eligibility to particular technologies. “Sufficient access” should be determined from a *technology-neutral* point of view, and there should be no restrictions that would favor or disfavor a certain type of service offering. Further, given the varying degrees of cost-effectiveness among broadband technologies in different locations, a technology-neutral policy is especially critical to stretching program dollars as far as possible.<sup>88</sup>

Thus, without a technology agnostic definition, spending is often limited to particular technologies, which are inefficient for their purpose and meeting the needs of customers.

Another example of wasteful spending is the FCC’s execution of broadband subsidies for low-income Americans through the Lifeline program. Broadband subsidies provided through the Lifeline program must be given to eligible telecommunications carriers.<sup>89</sup> These eligible telecommunications carriers are often incumbent telecommunications firms who then utilize this money, allocated for broadband deployment, to improve telecommunications facilities.<sup>90</sup> Furthermore, because universal service programs like Lifeline assume that FCC funding is going to a telecommunications service, and broadband has been classified as an information service since 2017, broadband-only providers by definition are technically excluded from funding. This is because the broadband-only providers do not provide any telecommunications services, like landlines. Here, the lack of a definition of broadband has resulted in inefficient deployment of government capital, because the funds go to incumbent service providers who may not have the best technology or lowest cost.

2. *The lack of a statutory definition of broadband has hindered proper competition and development of broadband*

The FCC has been forced to indirectly achieve its goals to subsidize and incentivize broadband deployment through legacy telecommunications and

---

88. Letter from Michael O’Rielly, FCC Commissioner, to Christopher McLean, Acting Administrator, Rural Utilities Service (Sept. 10, 2018), <https://docs.fcc.gov/public/attachments/DOC-354004A1.pdf> [<https://perma.cc/XFX8-FVAE>] (emphasis in original).

89. *Universal Service: Low-Income Consumers*, FCC: WIRELINE, <https://www.fcc.gov/general/universal-service-low-income-consumers> [<https://perma.cc/6Z4M-425R>].

90. See Tyler Cooper, *Report: Every ETC Registered with the FCC’s Lifeline Program*, BROADBAND NOW (Dec. 7, 2021), <https://broadbandnow.com/report/report-every-etc-registered-with-the-fccs-lifeline-program/> [<https://perma.cc/9UTP-K3TA>] (showing that many ETCs are telephone companies).

cable infrastructures. This leads to inefficiencies and barriers that challenge newcomer companies, thereby hindering market competition in broadband development.

First, it is inefficient for broadband funding to be directed to legacy networking companies. As a result of the ineffectiveness of the High Cost Fund to increase broadband access in high cost areas the FCC revamped and replaced it with the Connect America Fund in their National Broadband Plan.<sup>91</sup> The FCC established new principles that were intended to avoid the High Cost Fund's problems with misspent money.<sup>92</sup> However, because the FCC's statutory authority to distribute this money was limited to telecommunications, the FCC funneled the money that it allocated for broadband through Title II eligible telecommunications carriers.<sup>93</sup> Thus, in its CAF Order, the FCC spent *broadband* funds on *telecommunications* carriers—merely conditioning the funds on fulfilling broadband build-out obligations.<sup>94</sup> This strategy was well intended; the FCC had a large budget for promoting (legacy) telecommunications connectivity,<sup>95</sup> so it was laudable to appropriate that money for something relevant, like broadband. However, to fund broadband in this manner was legally questionable.<sup>96</sup>

The legality of this strategy was questionable because the funding was allocated to telecommunications carriers (Title II), but at the time, broadband was classified as an information service (Title I). Universal service is defined by statute to be “an evolving level of *telecommunications services* that the Commission shall establish.”<sup>97</sup> Yet the FCC classified broadband as an *information service*.<sup>98</sup> As a regulatory hook, the FCC was forced to rely on vague language in the statute: section 254(b)(2), which says the FCC “shall base policies for the preservation and advancement of universal service on the following principles: . . . Access to advanced telecommunications *and information services* should be provided in all regions of the Nation;”<sup>99</sup> and section 254(e), which says that any “[telecommunications] carrier that receives [universal service] support shall use that support only for . . . *facilities and services for which the support is intended.*”<sup>100</sup> Thus, in light of the mismatch between the goal (funding broadband) and the statute (funding universal service of telecommunications), the legal strategy in the CAF Order targeted funds to telecommunications carriers, but required the funding to be used for broadband

---

91. *In re* Connect America Fund (CAF Order), 26 F.C.C.R. 17663, 17667 (2011).

92. *See id.* at 17670.

93. *Id.* at 17670, 17673 (“While continuing to require that all eligible telecommunications carriers (ETCs) offer voice services, we now require that they also offer broadband services.”).

94. *Id.* at 17670.

95. *See id.* at 17669, 17672.

96. *See id.* at 17670.

97. 47 U.S.C. § 254(c) (emphasis added).

98. *See In re* FCC 11-161, 753 F.3d 1015, 1042 (10th Cir. 2014).

99. 47 U.S.C. § 254(b)(2) (emphasis added).

100. *Id.* § 254(e) (emphasis added).

services.<sup>101</sup> Inevitably, the order's questionable legal basis was challenged in court in *In re FCC 11-161*.<sup>102</sup> Perhaps recognizing the well-intentioned policy goals, the Tenth Circuit deferred to the FCC's awkward interpretation of "facilities and services" stating:

The FCC . . . reasonably concluded that Congress's use of the terms 'facilities' and 'service' in the second sentence of § 254(e) afforded the FCC the flexibility not only to designate the types of telecommunications services for which support would be provided, but also to encourage the deployment of the types of facilities that will best achieve the principles set forth in section 254(b).<sup>103</sup>

In other words, the FCC was permitted to direct funding for Title II "facilities and services" toward non–Title II broadband services.

Though the intentions were well-meaning, the result was inefficiency and uncertainty. Broadband was only funded via telecommunications companies and their telecommunications "facilities and services." Companies interested in deploying broadband, but who were not telecommunications carriers, were not eligible for these federal funds. Thus, the funds excluded newcomer competitors who could provide much-needed competition in broadband deployment. In addition, the awkward legal justification remained in place, leaving a cloud of uncertainty that further hindered investment in deploying broadband.

In addition to being ineligible for federal funds, potential competitive broadband newcomers face additional hurdles. Perhaps the most prominent example is pole attachments. Securing permits and leases for utility pole space comprises about 20 percent of the cost of deploying fiber optic wire (fiber).<sup>104</sup> Thus, access to utility poles is very important for broadband deployment. But there is no statute providing pole access to broadband providers. The FCC's authority for pole attachment regulation comes from the 1996 Telecommunications Act, which granted a right of access to utility poles to "cable television system[s]" and "telecommunications carrier[s]," subject to rate regulation.<sup>105</sup> Broadband providers have faced several legal hurdles to pole access. First, the FCC interpreted the statute to apply to cable TV systems even if the fiber also carried internet service, but some pole-owning utilities objected, leading to circuit splits that the Supreme Court eventually resolved in favor of access.<sup>106</sup> Second, "attachers" suffered significant delays and costs because the pole owners balked at making poles ready for attachments, so-called "make-ready" work.<sup>107</sup> The FCC had to intervene with an order readjusting its pole-

---

101. CAF Order, 26 F.C.C.R. 17663, 17670, 17673 (2011).

102. See 753 F.3d at 1041–54.

103. *Id.* at 1046–47 (internal quotation marks omitted).

104. FCC, CONNECTING AMERICA: NATIONAL BROADBAND PLAN 109 (2010).

105. 47 U.S.C. § 224(f)(1).

106. See *Gulf Power II*, 534 U.S. 327, 338 (2002).

107. See *In re Accelerating Wireline Broadband Deployment by Removing Barriers to Infrastructure Investment*, 33 F.C.C.R. 7705, 7714 (F.C.C. 2018).

attachment regulations to put in place “One Touch Make Ready,” a permissionless attachment process.<sup>108</sup> Newcomer broadband providers like Google Fiber supported these adjustments.<sup>109</sup> Third, despite the promising changes in the past, broadband-only providers have once again been excluded from pole-access rights since the FCC reclassified broadband from a telecommunications service (which has pole-access rights) to an information service (which does not).<sup>110</sup> Though the FCC attempted to “whistle past the graveyard” on this issue,<sup>111</sup> the D.C. Circuit ordered the FCC to confront the issue directly.<sup>112</sup> On remand, the FCC was forced to admit that broadband-only providers have no right of access under section 224<sup>113</sup> and that their only remaining option was to engage in private agreements with the utilities.<sup>114</sup>

This is an enduring hurdle for newcomer competitors like Google Fiber. Even if, someday, broadband is again reclassified as a telecommunications service, thus regaining access rights under section 224, broadband providers would remain under a cloud of uncertainty given the ever-present possibility of a new regulatory reclassification.

A clear statutory definition of broadband is necessary to clarify the FCC’s regulatory authority to regulate and promote broadband, to reduce wasteful spending, and to improve competition in broadband deployment. A regulation specifically targeted to broadband would establish the FCC’s authority to regulate broadband, and the resulting regulatory certainty would remove disincentives for firms currently discouraged to invest in broadband and help lower consumer prices by increasing competition. Such a regulation would also better target federal funding toward desirable broadband technologies and service areas, rather than irrelevant services or unnecessary gold-plated services. Finally, it would also remove the obstacles that non-telecommunications providers face to enter the broadband space, and improve the ability of upstart competitors to compete.

*C. The Internet is Neither a Title I Information Service Nor a Title II Telecommunications Service*

The root of all these troubles is that the Title I–Title I regulatory regime—i.e., the Telecommunications Act of 1996 as a whole—was simply not designed for the internet. It was designed for telephones. With roots in the history of regulating telephone monopolies, the Act was designed to heavily regulate

---

108. *Id.*

109. See John Burchett, *FCC Supports OTMR - Faster and Fairer Rules for Pole Attachments*, GOOGLE FIBER (July 13, 2018), <https://fiber.google.com/blog/2018/fcc-supports-otmr-faster-and-fairer-rules-for-pole-attachments/> [https://perma.cc/RU66-ULPE].

110. See RIFO, 33 F.C.C.R. 311, 409 & n.600 (F.C.C. 2018).

111. See *Mozilla Corp v. FCC*, 940 F.3d 1, 67 (D.C. Cir. 2019).

112. *Id.*

113. *Mozilla Remand Order*, 35 F.C.C.R. 12328, ¶¶ 71–74 (F.C.C. 2020).

114. *Id.*

traditional pure transmission services but carve out services ancillary to telecommunications to foster their innovation. But because Congress has not updated this regime despite the internet revolutionizing our lives since 1996, the FCC has been left to force a round peg into this square hole.

The FCC's current statutory authority requires broadband to be classified as either a telecommunication service or an information service, but the internet has characteristics of both. At its core, the internet protocol suite is generally characterized by point-to-point information exchange, like a telecommunications service. However, many internet services (and some protocols) can also generate, acquire, store, transform, process, retrieve, utilize, or make available information, like an information service.<sup>115</sup> Thus, the 1996 Act's classification regime is a poor fit for broadband.

As a result, for the last decade, the FCC has struggled to identify the appropriate legal authority for its broadband regulations. Applied to broadband, Title I provided a wider berth for private actors to innovate but was too weak to legally support the tailored regulation needed for broadband. Title II supported heavy regulations but required significant forbearance, resulting in the market struggling from unpredictability and costs that hindered innovation.

Under Title I ancillary authority, the FCC often lacked legal authority to create rules and achieve broadband policy goals it thought was necessary. Its strongest source of authority was section 706, which states that the FCC shall "encourage the deployment on a reasonable and timely basis of advanced telecommunications capability to all Americans."<sup>116</sup> But when the FCC implemented rules relying on section 706, they were struck down by the courts, showing the limitations of the FCC's authority to enact internet policy rules without more explicit congressional authorization.<sup>117</sup> Recognizing that carefully tailored regulation of broadband providers is necessary to protect the internet's openness and to promote innovation and investment in internet products and services,<sup>118</sup> the FCC reclassified broadband as a Title II telecommunications service in search of stronger rulemaking authority.<sup>119</sup>

Though Title II provided the FCC with sufficient authority for the broadband regulations it wanted,<sup>120</sup> the FCC also recognized that full Title II common-carrier regulations were inappropriate for broadband.<sup>121</sup> This is

---

115. See *Nat'l Cable & Telecomms. Ass'n v. Brand X Internet Servs.*, 545 U.S. 967, 987–91 (2005).

116. See Telecommunications Act of 1996, § 706 (codified at 47 U.S.C. § 1302(a)).

117. See *Comcast Corp. v. FCC*, 600 F.3d 642, 661 (D.C. Cir. 2010); *Verizon Comms. Inc. v. FCC*, 740 F.3d 623 (D.C. Cir. 2014).

118. OIO, 30 F.C.C.R. 5601, ¶¶ 4–5 (F.C.C. 2015).

119. *Id.* ¶¶ 4–5, 329. (“Carefully-tailored rules need a strong legal foundation to survive and thrive. Today, we provide that foundation by grounding our open Internet rules in multiple sources of legal authority—including both section 706 of the Telecommunications Act and Title II of the Communications Act . . .”).

120. *Id.* ¶¶ 4–5.

121. See *RIFO*, 33 F.C.C.R. 311, ¶ 64 (F.C.C. 2018).

precisely because Title II was designed for telephones, but broadband is not a telephone network. When reclassifying broadband under Title II, the FCC adopted a “light touch” framework touted as “Title II tailored for the 21st century.”<sup>122</sup> This framework involved forbearing twenty-seven Title II provisions and over 700 Commission rules and regulations.<sup>123</sup> Though classifying broadband as a Title II telecommunications service ostensibly meant that broadband was to be regulated by the suite of telecommunications regulations, many of these regulations only made sense if—quite reasonably—the service to be regulated was a telephone network. Indeed, in RIFO, the FCC determined that “the significant forbearance . . . strongly suggests that the regulatory framework of Title II, which was specifically designed to regulate telephone services, is unsuited for the dissimilar and dynamic broadband Internet access service marketplace.”<sup>124</sup>

#### *D. A New Statutory Classification Is Needed*

In view of the harms of constant reclassification, the harms of a lack of statutory definition of broadband, and the poor fit that broadband is in the Title I–Title II regime, it does not make sense to devote FCC resources to a decade-long fight over reclassification based on an antiquated distinction of information and telecommunications services. The answer must be new congressional authority.

The internet is the most important communications network in human history, yet the laws the FCC relies on to create rules and enforce regulations do not even define broadband. The lack of a definition, combined with the seemingly unconstrained ability of the FCC to reclassify broadband results in unpredictability for industry and an inability to execute long-term policy goals. Political debates, posturing, and action over a single policy issue, such as net neutrality, requires changing the entire legal regime for broadband. The FCC appears to regulate under Title II when the executive branch favors net neutrality. Conversely, when the executive branch disfavors net neutrality, the FCC regulates under Title I.<sup>125</sup>

The current Title I–Title II regulatory regime for broadband, a dichotomy between Title I ancillary authority and Title II common-carrier authority, is ineffective and a poor fit for modern, internet-based communications networks. Title I and Title II were written for telephones. This regulatory regime has not been updated since 1996, when only 22 percent of Americans were online and less than half of those online used the internet every day.<sup>126</sup> The 1996 Act was

---

122. OIO, 30 F.C.C.R., ¶ 5.

123. *Id.*

124. *Id.*; RIFO, 33 F.C.C.R., ¶ 64.

125. *See infra* Section I.B.1; *see generally* OIO, 30 F.C.C.R. 5601; RIFO, 33 F.C.C.R. 311.

126. *See Online Use*, PEW RSCH. CTR. (Dec. 16, 1996), <https://www.pewresearch.org/politics/1996/12/16/online-use/> [<https://perma.cc/9RSU-JCJ6>].

intended to usher in a new era of competition, empowering the FCC to create fair rules, and “[to] let anyone enter any communications business . . . to let any communications business compete in any market against any other.”<sup>127</sup> However, today, over half of all rural customers only have access to one or no broadband providers, and 14.6 percent of those customers have access to zero providers, excluding satellite providers.<sup>128</sup> And only 36.2 percent of urban customers have more than two broadband providers to choose from.<sup>129</sup> This is a far cry from the competition promised by the 1996 Act.

In addition to the tenuous legal standing of broadband regulation, our world is undergoing a digital transformation. The exponential increase in demand for broadband connectivity combined with the lack of connectivity within certain communities highlights the need for broadband reform. The 2020 COVID-19 crisis has further revealed how America’s broadband networks do not meet the needs of many people and that internet connectivity is necessary to participate in modern society. In 2020, the demand for data to access internet services increased significantly.<sup>130</sup> This increase was fueled by the explosion of video streaming for both productivity and entertainment services such as Zoom, Netflix, and countless others. However, many Americans do not have internet service that can support such high bandwidth services. While the FCC boasts that 96.25 percent of Americans have access to the internet,<sup>131</sup> a Pew research study found that around 7 percent of Americans do not actually use the internet, with about 20 percent of that group making less than \$50,000 a year annually.<sup>132</sup> More gravely, a Microsoft study found that nearly 120.4 million Americans do not use the internet at broadband speeds, showing a significant discrepancy between reported access and actual usage speeds realized.<sup>133</sup> This discrepancy

127. Press Release, Telecommunications Act of 1996, FCC (June 20, 2013), <https://www.fcc.gov/general/telecommunications-act-1996> [<https://perma.cc/79CA-GWLT>].

128. *Compare Broadband Availability in Different Areas*, FCC (June 2020), [https://broadbandmap.fcc.gov/#/area-comparison?version=jun2020&tech=acfow&speed=25\\_3&searchtype=county](https://broadbandmap.fcc.gov/#/area-comparison?version=jun2020&tech=acfow&speed=25_3&searchtype=county) [<https://perma.cc/C257-7GE6>]; see *Online Use*, *supra* note 126.

129. *Compare Broadband Availability in Different Areas*, *supra* note 128.

130. See Rahul De’, Neena Pandey & Abhipsa Pal, *Impact of Digital Surge During Covid-19 Pandemic: A Viewpoint on Research and Practice*, 55 INT’L J. INFO. MGMT. 102171, 102171 (2020) (finding an increase of 40%–100% in the demand for digital services).

131. See *Compare Broadband Availability in Different Areas*, *supra* note 128.

132. See Andrew Perrin & Sara Atske, *7% of Americans Don’t Use the Internet. Who Are They?*, PEW RSCH. CTR. (Apr. 2, 2021), <https://www.pewresearch.org/fact-tank/2019/04/22/some-americans-dont-use-the-internet-who-are-they/> [<https://perma.cc/9RSU-JCJ6>].

133. See Microsoft Power BI, *FCC Indicates Broadband Is Available to ~14.5 M People*, MICROSOFT (Oct. 2020), <https://app.powerbi.com/view?r=eyJrIjoiYzlhZWYyNWEtMDlkOS00MWJkLWExZGYtOWQ3NTNjNzJiNDIwIiwidCI6ImMxMzZlZWwLWZlOTItNDVIMC1iZWFiLTQ2OTg0OTczZTlzMilImMiOjF9> [<https://perma.cc/288W-8YP7>]; see also MICROSOFT NEWS CTR., *Nextlink Internet and Microsoft Closing Broadband Gap in Central US*, MICROSOFT (Sept. 18, 2019), <https://news.microsoft.com/2019/09/18/nextlink-internet-and-microsoft-closing-broadband-gap-in-central-us/> [<https://perma.cc/6G4S-YGZE>]. The broadband data from Microsoft is based on data

shows the limitations of the current broadband legal framework where incumbent ISPs can show off their incredible internet access, yet many communities still do not use broadband. For example, FCC data shows that Ferry County in Washington has broadband access for 99.61 percent of its residents, yet Microsoft data indicates that only 3.2 percent of the residents in that county actually use internet at broadband speeds.<sup>134</sup> While this may be a more extreme example, it illustrates that there are additional challenges besides widespread availability that continue to prevent Americans from having broadband access.

As a result, there is a need for Congress to provide the FCC with a new classification written specifically for broadband. The FCC under both Democratic and Republican Presidents has recognized the need for a light-touch regulatory framework to promote internet openness, innovation, and investment.<sup>135</sup> The internet is society's primary means of communication, economic value creation, and source of culture, and it acts as the backbone and nerve center of almost every industry. Regulations are necessary to ensure equal access via universal service and to protect the free market in both the physical and digital worlds. At the same time, the internet is a technology-agnostic, decentralized platform, shaped by individual and corporate actors in the market. Therefore, the looming threat of a heavy-handed, utility-style regulation of Title II introduces uncertainty and economic deterrence that slows down innovation and investment. The FCC lacks the ability to create long-term internet policy to ensure universal service and free market competition because the Telecommunications Act in its current form only offers a choice between two flawed tools, a Title I with insufficient legal authority or a Title II with overburdensome rules. Therefore, we call for a new "Title Zero" which is specifically written and designed for modern communications networks.

### III.

#### CONGRESS MUST CREATE A BROADBAND-SPECIFIC AND TECHNOLOGY-AGNOSTIC "TITLE ZERO" THAT IS EVALUATED THROUGH QUALITY OF SERVICE

In view of all the difficulties, problems, and harms resulting from the Title I–Title II regulatory regime, a new regime is needed. Rather than attempting yet again to reclassify broadband as a Title I information service or Title II telecommunications service, we propose that Congress legislate a new "Title Zero" for broadband. A broadband-specific Title Zero achieves two purposes.

---

collected from users using Microsoft services, primarily when the user connects to Microsoft servers during software updates. Whenever a user connects to Microsoft servers, Microsoft can estimate the speed of connection and determine the machine's location based on reverse IP. For more information regarding how Microsoft collected its data, see *United States Broadband Usage Percentages Dataset*, GITHUB, <https://github.com/microsoft/USBroadbandUsagePercentages> [<https://perma.cc/98TU-CDTM>].

134. See Microsoft Power BI, *supra* note 133.

135. See RIFO, 33 F.C.C.R. 311, ¶¶ 1–5 (F.C.C. 2018); OIO, 30 F.C.C.R. 5601, ¶¶ 1–6 (F.C.C. 2015).

First, Title Zero itself will provide clear legal authority for the FCC to create rules and regulations necessary for long-term broadband policy. This will end the decade-long reclassification debate between Title I and Title II and provide regulatory predictability to industry. Second, defining broadband in this way will increase competition and reduce wasteful spending. This will be achieved by defining broadband independent of the technology used to provide service, leveling the playing field for new technologies to compete with existing networks, and requiring baseline quality-of-service levels to determine classification as a broadband provider.

This Part first briefly discusses the encouraging, but insufficient, definition of broadband recently adopted as part of the COVID-19 Emergency Broadband Benefit. The remainder of this Part discusses in depth why the proposed Title Zero defines broadband based on both technology agnosticism and quality of service, and why such a definition is important to increasing competition, reducing wasteful spending, and creating a flexible, long-term regulatory framework.

*A. The Definition of Broadband in the COVID-19 Emergency Broadband Benefit Is Encouraging But Insufficient*

Interestingly, Congress recently adopted a temporary definition of broadband—not for Title I or Title II of the 1996 Act, but rather for the Covid-19 Emergency Broadband Benefit (EBB).<sup>136</sup> While this is a promising step and reflects an understanding that the Title I–Title II regime has shortcomings, even if the definition were made permanent, it would not address the problems of the current regime.

In the Consolidated Appropriations Act of 2021, Congress created the EBB Program which authorized the FCC to provide eligible households with a monetary discount for internet broadband services. Congress clearly recognized that having a good broadband connection is essential, particularly during the height of the COVID-19 pandemic. In order to do this, Congress administered the program through Lifeline, a preexisting universal service program—one that stood, incidentally, on shaky legal authority. To solve this problem, Congress needed a definition for broadband.

Instead of basing its definition of broadband on any language in the 1996 Act, the EBB adopted the broadband definition in the FCC’s net neutrality transparency rules in the Code of Federal Regulations (CFR).<sup>137</sup> There, the FCC defined broadband as “a mass-market retail service by wire or radio that provides the capability to transmit data to and receive data from all or substantially all

---

136. Consolidated Appropriations Act, 2021, tit. IX, § 904(a)(1), Pub. L. 116-260, 134 Stat. 2120 (2020).

137. *Id.* (“The term ‘broadband internet access service’ has the meaning given such term in section 8.1(b) of title 47, Code of Federal Regulations, or any successor regulation.”).

internet endpoints . . . excluding dial-up internet access service,”<sup>138</sup> but still including “any . . . functional equivalent” of broadband.<sup>139</sup> The EBB adopted this definition by reference to the CFR.

Unfortunately, while seeing Congress adopt a definition for broadband is an encouraging development, the EBB definition does nothing to address the problems in the Title I–Title II scheme. The EBB definition has three shortcomings. First, because the EBB is a separate and one-time legislative program, the definition only applies to the EBB and not to the 1996 Act. Second, the FCC can change the CFR definition at will. Thus, whichever political party is in the White House, and in turn in charge of the FCC, will remain motivated to change the definition to fit its political agenda. The reclassification problem would continue unabated. And third, even if the CFR definition were copied into a statute amending the 1996 Act, thereby rectifying the previous two shortcomings, the definition would still lack the two elements necessary to improve broadband competition and reduce wasteful spending: technology agnosticism and baseline quality-of-service requirements.

*B. Title Zero’s Definition of Broadband Should Be Technology-Agnostic*

Although an easy way to author a regulation for broadband would be to define broadband with reference to current technology, doing so would be a mistake. For a new Title Zero to be effective, its framework must reflect the realities of internet service instead of rooting itself in outdated legal precedent. One of the major flaws of the Title I and Title II frameworks is that it regulates the internet based on the underlying technology. The categories were established in *Computer II*.<sup>140</sup> Applied to broadband, the classification debate turns on whether broadband networks’ underlying technology provides *only* point-to-point data transmission or whether the data is manipulated before reaching the user.<sup>141</sup> Thus, the FCC currently classifies broadband based on *how* (i.e., cable, satellite, spectrum) a person connects to the internet over *what* broadband is (i.e. a service that provides an ability to transmit and receive data via internet protocols). This is a misguided approach based on ineffective precedent and an outdated understanding of modern telecommunications networks. Modern broadband service should not be defined by how its underlying technology works.

The distinction between manipulated data (information service) and non-manipulated data (telecommunications service) was established decades ago in the *Computer Inquiries* when internet technology was in its infancy. Even then, a technology-based definition of internet service never really fit because the

---

138. 47 C.F.R. § 8.1(b).

139. *Id.*

140. *Computer II*, 77 F.C.C.2d 384, ¶¶ 21–22 (1980).

141. See *Nat’l Cable & Telecomms. Ass’n v. Brand X Internet Servs.*, 545 U.S. 967, 990–91 (2005).

internet was provided through pre-existing technologies, such as telephone wires or cable wires, instead of its own dedicated transmission technology. This has led to idiosyncratic divisions for different types of internet services. For example, dial-up Internet access service is distinguished from modern broadband service<sup>142</sup> even though the only practical difference to consumers between the two services is the connection speed. The internet, since its infancy, has been wedged into ill-fitting categorizations based on particular technologies, just to fit with pre-existing laws and regulations. This has led to negative effects on the internet's development, particularly broadband deployment, and has colored the entire conversation about broadband classification to one based on outdated technological categories that are rapidly blurring.

Title Zero needs to adopt a technology-agnostic framework for broadband. The internet is a system of interconnected computers and devices that use shared protocols to communicate between devices. It is a network of networks to transfer data between devices. When discussing broadband, we are specifically referring to the service used to connect to the internet, that is, the service used to send or receive data using established internet protocols. How data is sent and received can be achieved via a multitude of underlying technologies,<sup>143</sup> but as long as the broadband service enables users to send and receive interoperable data, it provides access to the internet.

In contrast, the Title I–Title II regime attempts to define broadband as either a telecommunication service or information service—whether the service provides only point-to-point data transmission or whether the data is manipulated before reaching the user. Adhering to a Title II framework for example would regulate the entire internet based strictly on the regulation for telephone calls (a telecommunications service) while adhering instead to a Title I framework would regulate the entire internet based on the hands-off regulation of voicemail (an information service). This attempt at a differentiation is sourced from the *Computer Inquiries*, which were written before the internet grew to be a provider of services itself. Before, the internet required the copper lines of the telephone networks to reach users. Now, the inverse is true; the wire that provides internet service is now the one that brings telephone calls to homes over the internet. The same is true for television services in general. Certainly, regulations for these specific services can be made, but it is nonsensical to attempt to regulate all the services provided on the internet based on one of them, which is what a Title I or Title II classification does.

Ultimately, the attempted distinction between telecommunications and information services is irrelevant to the definition of broadband. The service

---

142. See 47 C.F.R. § 8.1(b).

143. See generally *Which Type of Internet Connection Is Right for You?*, XFINITY DISCOVERY HUB (July 6, 2017), <https://www.xfinity.com/hub/internet/internet-connections> [<https://perma.cc/MF77-98UW>] (outlining the many different ways someone can get connected to the internet).

broadband provides is the ability to send or receive interoperable data, independent of the particular technology used to implement a broadband service. Thus, a technology-agnostic definition of broadband service would look past the underlying technology that facilitates internet service and instead would look at the characteristics of the internet that matter to consumers. This approach is not entirely new and has been advocated before by policymakers.<sup>144</sup> A technology-agnostic definition is especially important when we consider the rapid pace of technological advancement. We are seeing rapidly increasing technological convergence when it comes to modern internet service. Advancements in wire technology such as fiber optic cable have introduced new technologies into the broadband conversation. Furthermore, the development of mobile broadband service transmitted through radio spectrum has blurred the lines on how the FCC should regulate radio spectrum. Finally, new technologies, such as satellite internet,<sup>145</sup> are constantly being improved to transmit internet data and so a technology-based definition of broadband would quickly become obsolete. This then causes FCC regulations to be less robust and harder to enforce. By embracing a truly technology-agnostic approach, the FCC can stop focusing on which classification broadband falls under and instead focus on promoting quality broadband service for all Americans.

In summary, broadband provides access to the internet by allowing a user to send and receive interoperable data. How a broadband service sends and receives data can be achieved via a multitude of underlying technologies. Therefore, the definition of broadband should be technology-agnostic. The old Title I–Title II framework attempts to define broadband based on a specific service provided via broadband. However, a broadband connection to the internet allows access to a wide variety of services, and it does not make sense to regulate the entire internet based on a single service provided.

---

144. Letter from Michael O’Rielly, *supra* note 88.

145. Satellite internet only recently has been able to meet the 25/3 Mbps benchmark. Larry Thompson & Brian Enga, *Satellite Broadband Remains Inferior to Wireline Broadband*, VANTAGE POINT 10 (Sept. 2017), <https://ecfsapi.fcc.gov/file/1090792953817/VPS-Satellite%20Broadband%20Remains%20Inferior%20to%20Wireline%20Broadband%2009-07-17.pdf> [<https://perma.cc/8EVZ-LSQZ>]. However, aside from the fact that 25/3 is unsatisfactory for modern users, satellite internet is also plagued with other problems such as extremely poor latency, high cost, data caps, and connectivity issues during inclement weather. *Id.* at 1, 4. For instance, almost all historical, and most of the current satellite offerings, fail the FCC’s requirement of 100 ms or less round-trip latency for networks to receive support from the FCC for the Rural Broadband Experiments and CAF Phase II. *Id.*; see *Satellite Providers*, BROADBANDNOW (Aug. 30, 2021), <https://broadbandnow.com/Satellite-Providers> [<https://perma.cc/F4UY-NSYG>]. Only *very* recently have new companies and technologies, namely SpaceX’s Starlink 2020 and 2021 beta program, started to provide satellite service offerings that meet terrestrial broadband standards, including latency. Florence Ion, *Speed Tests Show Starlink Is Now Nearly as Fast as Broadband*, GIZMODO (Aug. 4, 2021), <https://gizmodo.com/speed-tests-show-starlink-is-now-nearly-as-fast-as-broa-1847423674> [<https://perma.cc/M25Y-368R>].

### C. *Quality of Service Is the Proper Measure of Internet Connectivity*

In 2020, the FCC began to finalize the Rural Digital Opportunity Fund (RDOF), with the aim of closing the digital divide across America by directing significant funds to broadband network development in rural areas.<sup>146</sup> In its proposal, the FCC gave ISPs a detailed breakdown of what constitutes “internet broadband service,” providing some regulatory footholds for prospective entrants.<sup>147</sup> This approach reflects a quality-of-service approach in regulating broadband service. However, while the FCC is using a quality-of-service approach in implementing the RDOF, the FCC’s legal authority derives from section 254 of the 1996 Act, which gives the FCC authority to build out voice telephony services.<sup>148</sup> The FCC’s ability to also fund internet development is thus predicated on a legal fiction where, as long as providers also provide some sort of voice telephony service, the FCC can also justify providing funds for broadband. The proposed Title Zero will flip the script and directly adopt the quality-of-service approach already being used by the FCC in RDOF. This provides a one-two punch that gives the FCC clear legal authority to fund broadband but also forces the agency to focus on what really matters.

#### 1. *What Is Quality of Service?*

Quality of service involves a set of requirements, like internet speed and stability, that broadband networks attempt to meet. As a term of art, quality of service refers to the “measurable end-to-end performance properties of a network service.”<sup>149</sup> Restated in layman’s terms, quality of service describes how good actual network service is for an internet customer. Applying this to broadband, quality of service measures and compares particular technical metrics and criteria as experienced by the customer. Quality of service standards will allow the FCC to estimate the success of the funded broadband via metrics that directly measure the success of the network in relation to intended regulatory goals, as well as the internet users themselves. Instead of the regulations being chained to indirect measures, or purely monetary expenditures of the development of networks, the actual realized success of networks will be clear—reducing wasteful spending and leading to tangible, improved results for Americans across the nation.

Included in these specifications are important measurements of a connection’s quality and stability like bandwidth, latency, and uptime. In many

---

146. See Angela Y. Kung, *FCC Kicks off 2020 by Establishing the Rural Digital Opportunity Fund*, MINTZ (Jan. 10, 2020), <https://www.mintz.com/insights-center/viewpoints/2776/2020-01-fcc-kicks-2020-establishing-rural-digital-opportunity-fund> [<https://perma.cc/3EK3-XX8N>].

147. See *id.*

148. *In re* Rural Digital Opportunity Fund Connect Am. Fund (RDOF), 35 F.C.C.R. 686, ¶ 43 (F.C.C. 2020).

149. Nat’l Inst. of Standards and Tech., U.S. Dep’t of Com., *Quality of Service (QoS)*, COMPUT. SEC. RES. CTR. (Apr. 29, 2021), [https://csrc.nist.gov/glossary/term/Quality\\_of\\_Service](https://csrc.nist.gov/glossary/term/Quality_of_Service) [<https://perma.cc/X9XB-PCL5>].

ways, these characteristics are already what people think of when trying to describe broadband service:<sup>150</sup> bandwidth is the amount of data that can be sent per unit of time; latency is how long it takes for a piece of data to arrive at its destination; and uptime is how long a service has been available without interruption. A quality-of-service framework can also lay out important characteristics of the connection such as affordability, data caps, content discrimination, and net neutrality as being key measures of the network's quality. By defining broadband based on these characteristics, the FCC will have clear direction and authority to establish rules and regulations that actually result in quality broadband connections being provided to people. While we are not proposing that Congress lay out specific numbers defining what baseline broadband service should be, Congress can specify that proper broadband service should have a *reasonable* bandwidth or a *reasonable* data cap. The specific measure of reasonableness can then be measured by the FCC as the expert administrative agency on these matters. Congress can even build in specific time intervals for the FCC to reevaluate their determinations, while authorizing the FCC to reevaluate sooner if need be.

2. *Quality of Service (1) Incentivizes a Shift to End-User Metrics, (2) Promotes Market Solutions, and (3) Affords the FCC Flexibility to Adopt Appropriate Rules as Technologies and Needs Change*

First, a quality-of-service approach would shift the focus from factors that are largely invisible to end users towards those that are involved in a person's day-to-day use of the internet. This article's technology-agnostic quality-of-service definition would directly tie the success of internet development to the metrics that capture an individual's ability to enjoy their internet connection. On the whole, the core function of the internet, whether it was in the early days of dialup or today's high-speed fiber networks, has remained the same: to give people the ability to send and receive as many bytes of data as quickly as possible, and as reliably as possible. This fundamental utility has not changed since the beginning of the internet, nor is it likely to. Quality of service, then, allows the planning, development, and deployment of broadband networks to be measured directly from core metrics. This allows us to truly understand the success of our broadband infrastructure, as well as set proper and measurable goals. What is more, the FCC will be able to easily adjust these metrics based on specific geographic areas and different markets. After all, challenges presented in deploying broadband networks to less densely populated areas may affect what is considered "reasonable." Even if different markets may require different attainment levels across core metrics, we can ensure that the services are at least comparable.

---

150. See Joan Marsh, *Defining Broadband for the 21st Century*, AT&T CONNECTS (Mar. 26, 2021), <https://www.attpublicpolicy.com/wireless/defining-broadband-for-the-21st-century/> [https://perma.cc/44LF-QBGP] (defining broadband service by upload and download speed).

Second, the definition will continue to promote market competition while increasing the overall quality of broadband service by establishing a minimum baseline for low-quality providers to meet. We have no reason to believe that placing a baseline requirement would harm overall market competition. In fact, Uri Ronnen has explained how imposing minimum standards actually encourages competition.<sup>151</sup> By forcing low-quality providers to increase the quality of their products, higher-quality providers will either have to further increase the quality of their offerings or decrease their prices in order to compete.<sup>152</sup> Furthermore, research has shown that broadband providers in competitive markets actually increase the quality of their broadband offerings to compete.<sup>153</sup> The entry of Google Fiber into various markets is a good example of this. In such cases, Google Fiber's mere presence in a market forced incumbent providers to substantially increase the quality of their services.<sup>154</sup> Therefore, defining broadband service based on key baseline criteria is unlikely to hamper the beneficial effects of market competition. The benefits of quality-of-service standards are especially pronounced in areas with no competition, such as rural areas or tribal lands. Baseline quality-of-service requirements in those areas will only serve to ensure underserved areas have access to a decent broadband service.

Additionally, this definition promotes innovation by allowing the market to develop and implement *any* technology as long as it meets the quality-of-service goals, instead of being hindered by rigid regulations tied to a particular technology. Under the framework established by the 1996 Act, FCC authority over broadband is forever limited by its underlying technology. Instead, by simply defining broadband service by what it needs to offer, the FCC would allow providers to determine for themselves how they want to get there. This regime will then promote the market, and the companies developing the network, to either adopt or create innovations to meet or exceed the quality-of-service standards. This approach is more efficient than having the FCC or Congress legislate around a specific technology, because network developers are the ones with the true expertise and cutting-edge research to develop new technologies. Furthermore, studies have shown that minimum baseline requirements do not hinder innovation, but instead may even spur innovation by codifying past innovations into a new baseline.<sup>155</sup> In industries promoting a public service, for

---

151. Uri Ronnen, *Minimum Quality Standards, Fixed Costs, and Competition*, 22 RAND J. ECON. 490, 490 (1991).

152. *See id.* at 503.

153. *See, e.g.*, Gabor Molnar & Scott J. Savage, *Market Structure and Broadband Internet Quality*, 65 J. IND. ECON. 73 (2017).

154. Blair Levin & Larry Downes, *Why Google Fiber Is High-Speed Internet's Most Successful Failure*, HARV. BUS. REV. (Sept. 7, 2018), <https://hbr.org/2018/09/why-google-fiber-is-high-speed-internets-most-successful-failure> [<https://perma.cc/N3PN-9896>].

155. *See, e.g.*, Robert H. Allen & Ram D. Sriram, *The Role of Standards in Innovation*, 64 TECH. FORECASTING & SOC. CHANGE 171, 171 (2000).

example, establishing standards can be what is necessary for industry adoption of innovative products.<sup>156</sup> This creates an environment that is highly suited for the research and development of new technologies.

Third, the definition would provide a clear goal-setting regime for the FCC to enact regulations while also allowing the FCC the flexibility to preempt technological changes, instead of becoming a solely reactionary regulator. Quality of service can help by creating specific benchmarks for the FCC to aspire to. Even better, such benchmarks are familiar to the FCC. In the CAF Order, the FCC used a quality-of-service approach to structure the program's build-out and eligibility.<sup>157</sup> In Phase 1, the FCC focused on the download and upload speed, latency, and usage as criteria to evaluate ISPs in the program.<sup>158</sup> Phase 2 expanded these criteria to include supported locations and mobile access to 3G and 4G networks.<sup>159</sup> Besides the FCC's experience with quality of service, these criteria have been regularly used in Service Level Agreements (SLA) in the telecommunications industry.<sup>160</sup> Furthermore, quality-of-service criteria are commonplace in broadband contexts because it simply describes the core of what broadband is.

The quality-of-service approach also allows Congress to lay out specific goals for the FCC to meet when developing broadband networks—goals that the FCC is expected to attain, and mandated baselines that are free from executive branch interference. This approach is far more specific than vague mission statements, such as section 706, that the FCC has relied on to justify a wide range of broadband regulation.<sup>161</sup> While this can act as a sword by allowing the FCC to enact regulations to meet these criteria, it can also act as a shield by protecting the FCC from the whims of the executive branch. By using specific benchmarks to define broadband, the FCC at the very least would be forced to consider how new regulations might impact actual internet usage for people. This is much preferred over the current regime, where the FCC must consider how a specific regulation on broadband might also help the build-out of common carrier facilities or the improvement of voice telephony. The FCC can also implement long-term policy and lay out long-term goals without worrying that a presidential election will quickly change bedrock regulations. Since these specifications are already laid out in the proposed statute, the FCC will have no choice but to use them or do nothing.

---

156. See Knut Blind, *The Impact of Standardization and Standards on Innovation* (Nat'l Endowment for Science, Tech. & the Arts (NESTA), Working Paper No. 13/15, 2013), [https://media.nesta.org.uk/documents/the\\_impact\\_of\\_standardization\\_and\\_standards\\_on\\_innovation.pdf](https://media.nesta.org.uk/documents/the_impact_of_standardization_and_standards_on_innovation.pdf) [<https://perma.cc/UYP7-5GQK>].

157. CAF Order, 26 F.C.C.R. 17663, ¶ 22 (2011).

158. *Id.*

159. *Id.* ¶ 28.

160. See *Service Level Agreement*, IBM (Apr. 14, 2021), <https://www.ibm.com/docs/en/i/7.2?topic=service-level-agreement> [<https://perma.cc/EJ83-MNKM>].

161. See *Comcast Corp. v. FCC*, 600 F.3d 642, 659 (D.C. Cir. 2010) (discussing the FCC's uses of the broad language in section 706).

However, as technology progresses, the FCC will have the ability to update what it means to provide a quality service. *Chevron* deference will remain a powerful tool for the FCC to update what constitutes a reasonable level of service for each benchmark. Consumers and the broadband industry could also lend a hand to the FCC in helping to determine what future broadband needs are by offering their perspectives through notice-and-comment rulemaking. Furthermore, since the underlying technology that provides the service is disregarded under Title Zero, the FCC will not have to worry about whether it has the authority to regulate a given new technology. As long as the technology provides a service connecting an individual to what we know as the internet, it will have to conform to these quality-of-service terms.

#### IV.

##### A TECHNOLOGY-AGNOSTIC AND QUALITY-OF-SERVICE DEFINITION OF BROADBAND SERVICE WILL AID THE FCC AND IMPROVE MARKET COMPETITION, RESULTING IN BETTER INTERNET FOR ALL

There are a multitude of reasons for developing strong broadband networks and many definitions of what success could look like. Part III of this paper attempted to answer how Congress and the FCC should implement the legislative text that controls the measure and definition of success—Title Zero. Our proposal of a technology-agnostic and quality-of-service definition would (1) incentivize a shift to end-user metrics, (2) promote market solutions, and (3) afford the FCC flexibility to adopt appropriate rules as technologies and needs change. This technology-agnostic and quality-of-service definition also provides a measurable and actionable goal to the FCC and the market for broadband implementation. However, there are other policy considerations that weigh in favor of shifting to Title Zero that are themselves integral to the success of implementing sustainable, resilient, and uniformly-accessible broadband for all.

##### *A. Title Zero Supports Better Internet Service That Fits Customer Demands*

Consumers demand good internet service. As a *Vox* article described it, “[b]roadband internet in the United States is not great. It is too slow, too expensive, and it is not everywhere.”<sup>162</sup> This is a well-known fact that underlies some of the key concerns that consumers have when it comes to accessing the internet. People want fast internet speeds to access the latest and greatest shows on Netflix, to communicate through video chat, and since the start of the pandemic, to simply go to school.<sup>163</sup> People want a stable internet connection

---

162. Emily Stewart, *Give Everybody the Internet*, VOX (Sept. 10, 2020), <https://www.vox.com/recode/2020/9/10/21426810/internet-access-covid-19-chattanooga-municipal-broadband-fcc> [<https://perma.cc/GSL7-B3SM>].

163. *Id.*

with low latency.<sup>164</sup> And despite what some ISPs are asserting, a multitude of consumer advocacy groups and consumers in general do care about data caps as many have filed comments that oppose the deregulation of them.<sup>165</sup> Consumers, in the end, do not care for the distinction between a Title I or a Title II service, but rather the quality of their internet service. A technology-agnostic, quality-of-service approach will ultimately help industry develop better internet service overall.

Additionally, survey data, while seemingly limited, often correlate various quality-of-service criteria with consumer quality of experience.<sup>166</sup> The American Customer Satisfaction Index measures internet service customer satisfaction through a variety of benchmarks reflecting quality-of-service criteria.<sup>167</sup> Within these customer satisfaction benchmarks, ISPs have often ranked at the very bottom of the telecommunications industry.<sup>168</sup> Possibly of more importance is another fact: while today's internet may or may not be meeting present demand (or at least consumers' perception of their needs), it almost definitely will not meet the future's true demand without exponential development of broadband networks. With the current unsatisfactory regulatory schema, additional development of broadband networks will not meet these future needs.

A technology-agnostic approach will expand the playing field and allow increased competition in the market, likely leading to a higher quality of service and lower costs for the public. The Title I and Title II framework currently benefits incumbents in the market and discourages new ISPs from entering. Current universal service programs clearly illustrate this disparity. Universal service is codified under Title II of the Telecommunications Act and was clearly created for telephony service.<sup>169</sup> The ramification of this placement means that

---

164. *Id.*

165. See Jon Brodtkin, *Charter Tries to Convince FCC That Broadband Customers Want Data Caps*, ARSTECHNICA (Aug. 11, 2020), <https://arstechnica.com/tech-policy/2020/08/charter-tries-to-convince-fcc-that-broadband-customers-want-data-caps/> [https://perma.cc/S47W-7C7W].

166. See Steven Bauer, William Lehr & Shirley Hung, *Gigabit Broadband, Interconnection Propositions, and the Challenge of Managing Expectations*, TELECOMMS. POL'Y RSCH. CONF. 43 (Sept. 30, 2016) (finding that consumers are increasingly subscribing to broadband services ranging from 100 Mbps to 1 Gbps); see also Volker Stocker & Jason Whalley, *Speed Isn't Everything: A Multi-Criteria Analysis of the Broadband Consumer Experience in the UK*, 42 TELECOMMS. POL'Y 1 (2018) (finding that only increasing broadband speed is insufficient to satisfy consumer expectations).

167. See *Internet Service Provider*, AM. CUSTOMER SATISFACTION INDEX (2021), <https://www.theacsi.org/industries/telecommunications-and-information/internet-service-provider> [https://perma.cc/WC46-BSLU] (listing out reliable speed and service, data transfer speed, and interruptions and outages as customer experience benchmarks, among others).

168. See Joan Engebretson, *Report: ISP Customer Satisfaction Increases but Is Still Low*, TELECOMPETITOR (June 10, 2020), <https://www.telecompetitor.com/report-isp-customer-satisfaction-increases-but-is-still-low/> [https://perma.cc/25G7-K9ZB] (explaining ASCI's findings that ISP customer satisfaction remains one of the lowest in the telecommunications industry for 2019–2020); see also *Customer Satisfaction with Video Streaming Points to Problems with ISPs and Subscription TV*, AM. CUSTOMER SATISFACTION INDEX (May 22, 2018) (finding that ISPs rank the lowest for customer satisfaction in the telecommunications industry for 2018).

169. 47 U.S.C. § 254.

the FCC must administer all of its universal service programs, including those meant to provide broadband, under the guise of providing universal service for telephony. This means that to be an ETC for the purposes of universal service, the provider must include some sort of a standalone voice service.<sup>170</sup> This fossilized inefficiency remains to this day, regardless of whether broadband is currently classified as a Title I or a Title II service. This obviously benefits incumbent telephone providers that have shifted into also providing broadband service at the expense of newcomers such as Google Fiber, which has no standalone voice service. By removing technological distinctions from broadband service and classifying it within its own category, the FCC can open the playing field for a wide variety of new companies and innovators like Google Fiber or Starlink. The FCC could even directly subsidize municipalities to develop their own broadband networks, like the successful Chattanooga fiber network.<sup>171</sup> Adding more players into the market will directly increase its level of competition, driving prices down and the quality of service up.

Furthermore, by directly incorporating a quality-of-service framework into the legal definition of broadband, the FCC will have a mandate to ensure America's internet infrastructure reaches at least the proposed statutory minimum criteria. For example, by building affordability directly into the definition of broadband, the FCC will face no question on whether it has the legal authority to enact regulations to enforce an affordable service. In a forthcoming manuscript, Professor Tejas Narechania proposes a model statute that would give the FCC legal authority to evaluate effective competition in broadband areas, and if there is no effective competition, to directly regulate the price of the most basic tier of broadband.<sup>172</sup> Under a quality-of-service framework, the FCC could take these ideas and directly implement them under notice-and-comment rulemaking instead of through congressional statute. Furthermore, since the quality-of-service framework only dictates a baseline set of requirements, providers would still be free to offer higher tiers of service, which the FCC would not have the ability to regulate. Given this new legal foundation, the FCC can finally start to tackle some of our nation's most pressing broadband issues, such as bridging the digital divide.

### B. Reducing the Digital Divide

Recent FCC regulation has attempted to reduce the digital divide that exists in the United States. However, implementation of previous plans applied towards

---

170. See RDOF, 35 F.C.C.R. 686, ¶ 43 (F.C.C. 2020); *Mozilla Remand Order*, 35 F.C.C.R. 12328, ¶ 100 (F.C.C. 2020).

171. *Why a Tennessee Town Has the Fastest Internet*, BBC (Sept. 2, 2014), <https://www.bbc.com/news/blogs-echochambers-29038650> [<https://perma.cc/MR9C-MHMG>].

172. See Tejas N. Narechania, *Convergence and a Case for Broadband Rate Regulation*, BERKELEY TECH. L.J. (forthcoming 2022), [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3810367](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3810367) [<https://perma.cc/26CJ-YFSZ>].

broadband have had limited success whether due to questionable legal grounds or otherwise, such as the aforementioned creation of the RDOF. The creation of a broadband-specific Title Zero would give the FCC a direct mandate from Congress to provide universal broadband service, allowing the FCC to properly design and implement projects that directly alter the balance of the digital divide. Title Zero can empower the FCC to set minimum quality broadband standards for all users. This would all but require every service address, and the subsequent network provider, to meet the quality standards set out for each service area, and not just for areas that are more economically beneficial to the service provider. The technology-agnostic definition will also allow service providers to develop new technologies to more efficiently reach high-cost and underserved areas that continue to be ignored.

This recommendation is not necessarily new. Others, including network providers themselves, have expressed similar recommendations. For instance, one organization, the NTCA,<sup>173</sup> has commented to the FCC that previous statutory goals of “reasonable comparability” dictate that “[i]nasmuch as high-cost support is intended by statute to enable rural users to obtain services that are reasonably comparable to those that are available in urban areas, performance testing endeavors to confirm whether, in fact, subscribers are receiving that defined level of service *without regard* to the underlying technology by which it is provided.”<sup>174</sup> The NTCA went on to note that the FCC should consider cost of service and carrier size in regulations, and that those “regulations should be *technology neutral*.”<sup>175</sup>

We are not suggesting that these quality-of-service definitions will force uniform quality broadband to every service address across the country. For instance, urban areas and high-density housing are more likely to be accessible for fiber lines or other high-speed connections placed directly into units, as well as contact with more providers. However, at the very least, Title Zero will ensure every service address meets a certain baseline requirement to be considered as “broadband.” Furthermore, this minimum quality will be set and measured by the FCC, which can evaluate what requirements are necessary for an individual to fully participate online. In an article, AT&T’s Executive Vice President of Federal Regulatory Regulation noted that “it’s time to revisit the FCC’s current broadband definition of 25/3 Mbps.” She highlighted that while the speed may

---

173. The NTCA, or NTCA-Rural Broadband Association, represents nearly 850 independent, community-based telecommunications companies and cooperatives and more than 400 other firms that support, or are themselves, engaged in the provision of communication services in the most rural portions of America. All NTCA’s service provider members are full service rural local exchange carriers (RLECs) and broadband providers. See *Who We Are*, NTCA, <https://www.ntca.org/ruraliscool/who-we-are> [<https://perma.cc/65LT-SXA5>].

174. See *Connect America Fund: Performance Measures for Connect America High-Cost Universal Service Support Recipients, Comments of NTCA—The Rural Broadband Association*, DA 17-1085 at 4 (F.C.C. Dec. 6, 2017) (emphasis in original).

175. *Id.* at 5 (emphasis in original).

be suitable for a single user, “[w]hen zooming, streaming and tweeting is combined in an average household of four, it’s easy to conclude that download speeds must increase.”<sup>176</sup> While increasing the baseline would likely not be enough to completely bridge the divide, the fact that a baseline level of broadband services has not been adopted illustrates a lack of care on the part of the FCC. Incorporating a reasonable speed directly into the definition of broadband would force the FCC to consider what download speed a family of four might need.

The remainder of this Note centers on another topic—flexibility in the choice of technologies used in providing broadband.<sup>177</sup> The FCC should not be fixated on one vision of how to provide broadband service to rural or underserved areas. The technology-agnostic approach helps the FCC leave open to providers the type of medium used to deliver internet service, so long as they meet a certain quality of service. Once again this would focus on *what* a provider is providing instead of *how* they are providing it. If a provider thinks mobile broadband is the most logical form of broadband in rural areas, the provider will still need to reach data quality requirements by providing, for example, a sufficiently high data cap. Likewise, if fiber lines are determined to provide the highest quality service, the subsequent service will still need to be affordable to meet the standard. This will ultimately allow market forces to eventually percolate the most successful form of broadband technology in any one particular area. This would go a long way in helping to bridge the digital divide because then the FCC could focus all of its efforts on ensuring providers satisfy minimum baseline requirements at affordable rates, instead of policing whether the provider is a valid telecommunications carrier. Separate from the definitional result, any competitive bidding framework for allocating dollars can be structured to favor what is conventionally thought of as the best solution, such as optic fiber, wherever it is available. But the model must be flexible enough to allow for other solutions where deployment of the best option is not economical or geographically practical.<sup>178</sup>

While building a new broadband definition will not immediately bridge the digital divide, it is one of the best places to start. A key concept to note is that the FCC cannot physically bridge this divide itself—it does not have the capacity to directly provide services to people. The power of the FCC is in its ability to enact programs and regulations that promote industry to expand and innovate. Title Zero gives the FCC the legal authority it needs to implement programs and regulations to help incentivize industry to reach these universal service goals. A quality-of-service definition would force the FCC to determine baseline criteria for what constitutes broadband service in different geographic locations or service areas—minimums that would apply to all providers across the market.

---

176. See Marsh, *supra* note 150 (defining broadband service by upload and download speed).

177. *Id.*

178. *Id.*

This definition combined with a technology-agnostic approach would open up the broadband market to those outside of legacy telecommunications providers, and allow the industry to determine the best ways to reach underserved or previously unconnected populations with effective broadband. Bridging the internet divide through industry's innovation and greater participation is crucial, especially as the internet is all but required for people to function and participate in society.

C. *The Internet's Pervasive Effect on Daily Life and the Economy*

Today the internet is used for various functions ranging from entertainment and social connections to vital business and government processes and communication. More so, the industry itself provides services unfathomable twenty years ago. In fact, as of 2018, the internet sector alone accounted for \$2.1 trillion of the U.S. economy, or ten percent of the GDP.<sup>179</sup> This is more than twice the output volume the internet contributed to the economy in 2014. Today, the number is almost certainly more. More than the direct economic output provided by the internet sector, almost every facet of personal, business, and government operations enlists the use of the internet. The internet is the very backbone of modern daily life and business operations. Whether it is simple emails and communications, highly secure or confidential data transfers, or basic interactions with the markets, the use of the internet is overwhelmingly ubiquitous.

The effect of complete internet outage on daily life and economic output is almost unfathomable. Simply put, a loss of connection by just a fraction of users to a fraction of the data and services on the internet equates to a large percentage of the entire economy. In fact, Deloitte studied the effects of internet shutdowns in a 2016 report. They found that for a highly connected country such as the United States, a temporary shutdown would cause harm on the scale of \$23.6 million in GDP loss per ten million people per day.<sup>180</sup> Such a wide loss of access to the internet would have large repercussions to worldwide output, akin to the lockdown effects of the COVID-19 crisis. Furthermore, the effects of a completely inaccessible internet would be even more appreciable today, as the internet has become a lifeline and primary conduit for interconnection both

---

179. Christopher Hooton, *Measuring the U.S. Internet Sector: 2019*, INTERNET ASS'N (Sept. 26, 2019), <https://internetassociation.org/publications/measuring-us-internet-sector-2019/> [https://perma.cc/L5EF-36YA].

180. See *The Economic Impact of Disruptions to Internet Connectivity: A Report for Facebook*, DELOITTE 4 (Oct. 2016), <https://www2.deloitte.com/content/dam/Deloitte/global/Documents/Technology-Media-Telecommunications/economic-impact-disruptions-to-internet-connectivity-deloitte.pdf> [https://perma.cc/JA3V-URBU] [hereinafter *The Economic Impact*].

during the pandemic and in normal times, allowing business and daily life to churn on.<sup>181</sup>

Throttling, like internet failure, involves an impact on economic life. While a complete internet failure is unlikely—outside of catastrophic physical events—due to the distributed nature of U.S. networks, throttling is much more likely. Throttling could occur either due to true demand and network limitations, or perceived or instilled ones from network providers. It would have a measurable economic effect on GDP and economic output. Deloitte calculated that throttling with a 30 percent speed reduction would lead to an estimated reduction of .09 percent of daily GDP.<sup>182</sup>

Title Zero, with a clear definition of broadband and particular quality-of-service requirements, would decrease the chance of internet outages or throttling. First, the technology-agnostic approach will aid the building of more robust networks by increasing market options for broadband. By making sure that providers using different technologies have the same opportunities to profit in any given market, consumers would have alternative services to turn to if needed. Furthermore, this discourages anti-consumer behavior since incumbent ISPs would face competition by newcomers with potentially more innovative and efficient technologies—or approaches that are simply more user-friendly. Second, the quality-of-service requirements would, either via legislative text or through FCC rulemaking, be able to ban artificial throttling by service providers or decrease the chance of throttling due to network limitations. Quality-of-service criteria would make throttling, the antithesis of what broadband is, a limitation of the past. If a service provider throttles a service too much or too often, their service may not even meet the requirements of “broadband.” For a service to be considered broadband, it must meet certain baseline quality and stability requirements—requirements that would not permit companies to throttle at will. Moreover, the distinct quality-of-service definitions would allow network providers and internet users to anticipate reasonable expectations of their internet connections and speeds, which could alleviate some of the negative economic effects of unanticipated data outages or throttling.

#### CONCLUSION

In the Consolidated Appropriations Act of 2021, Congress created the EBB Program that authorized the FCC to provide eligible households with a monetary discount for internet broadband services. Congress clearly recognized that strong broadband connection is essential, particularly during the height of the COVID-19 pandemic. Strangely, however, Congress sought to administer the program

---

181. See Will Douglas Heaven, *Why the Coronavirus Lockdown Is Making the Internet Stronger than Ever*, MIT TECH. REV. (Apr. 7, 2020), <https://www.technologyreview.com/2020/04/07/998552/why-the-coronavirus-lockdown-is-making-the-internet-better-than-ever/> [<https://perma.cc/F53R-6E9X>].

182. See *The Economic Impact*, *supra* note 180, at 18.

through Lifeline, a preexisting universal service program and a program that stood on shaky FCC legal authority. To solve this problem, Congress used a definition for broadband found in the CFR. While this definition is not complete, its use shows Congress's frustration with the current Title I-Title II framework, and underscores the central importance of supporting internet access in our society.

Congress should enact a new broadband-focused statute that finally puts to rest the debate over broadband's classification. However, instead of falling into the trap of reusing old precedents, Congress should really look at what broadband service is. It's not telephone, it's not cable, and it's certainly not radio. Instead, broadband service makes use of all three technologies to provide an abundance of information, utility, and entertainment to consumers. The regulatory framework for broadband should reflect the basic characteristics of broadband. What is needed is a technology-agnostic, quality-of-service approach for defining broadband service. This approach removes outdated law and focuses on the technical aspects of broadband that competitive industry and consumers actually care about. By focusing on these two factors, the FCC can implement impactful regulations without having to follow the whims of presidential elections or the threat of lawsuits.

Finally, even if a technology-agnostic and quality-of-service-based definition of broadband were infeasible or undesirable due to, say, congressional politics, at a minimum Congress must provide the FCC with a coherent and actionable definition of broadband. The internet has transformed, in the past two decades, into a core facet of our society and economy. This interconnection is only primed to become stronger over the next century. The Telecommunications Act was enacted in 1996, twenty-five years ago and at the infancy of the internet's development. To this day, not only is there still no dedicated statute or act for regulating broadband service, but the government cannot even come to a consensus on where it wants to classify broadband in the meantime. This lack of direction is unacceptable and will continue to have detrimental consequences on the daily life of people and businesses across the United States. The minimum threshold going forward is, at the very least, a coherent and actionable definition of broadband set forth by Congress to lead development of the internet through the twenty-first century and beyond.