

Network Neutrality: A Policy Analysis

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Executive Summary

The internet has become a tool cemented into every aspect of modern society. For a time in its technological advancement, the United States government understood the standards of internet service delivery to be akin to the precedent of common carriage established for other public goods and services. Falling within the purview of telecommunications services, early internet service providers were held to the same standards as that of the phone or telegraph. As such, there could be no discrimination of the data and information passing through the “pipes” of delivery. Further, this classification of the internet saw it firmly placed in the purview of the Federal Communications Commission. However, time would see the internet take on a category of its own as it surpassed any of the capabilities of its predecessors. With this new classification came legitimate questions of authority, marketplace competition, and government regulation.

Since that new classification, the environment of internet regulation has become volatile and subject to the shifting power of the democratic process in the United States. Of specific concern for this policy analysis and proposal is the carrying over of common carriage principles of non-discrimination of data amidst this evolving technology. This principle comes to the forefront of public policy pertaining to the internet when we consider the marketplace in which internet connection is delivered. Demonstrated to be in a field of localized monopolistic firms, many consumers and content producers alike face little to no choice when it comes to their connection to the internet. When coupled with the power gained from a lack of network neutrality, these firms only continue to grow their monopolistic profits directly from the increased negative externalities and deadweight losses absorbed by consumers. Such conditions cannot be allowed to prevail, but the current state of market failure and ongoing government failure require a policy response unlike what the country has experienced priorly.

Efforts to resolve the network neutrality question in the United States have focused on the precedent of telecommunications legislation and seen declaration through the executive branch and its agencies. Utilization of the former factor has seen policy efforts determined to be overreaches of the government due to the fact that it relies on antiquated, irrelevant precedent. The latter factor has seen attempts at adoption and implementation rolled back and reversed each time the executive office changes political parties. The sustainable proposed policy solution directly addresses both of these concerns by creating modern, novel legislation via Congress, where the adoption and implementation of public policy demand more than one voice declaring aye or nay. In doing so, the effort will allow the United States to draw a definitive position on the matter after several decades of indecision.

Keywords: Network neutrality, internet service providers, monopoly, common carriage, information service, telecommunications service

Introduction

The presence of and need for the internet permeate daily life. Society uses it as a means for connection, entertainment, and employment, amongst many other things. Often going unnoticed, except for a monthly bill, the way in which connection to the internet occurs is in the midst of an ongoing political battle. One side of the conflict sees an underlying principle of the internet in the notion of network neutrality or “a network design principle stating that all data packets should be treated equally regardless of their content, sites, and platforms.”¹ The other side of the conflict sees internet service providers seeking to monetize a lack of network neutrality. The ways in which this can be done are various but often materialize as tiered internet speed access plans, internet speed throttling practices, or outright internet content blocking.² As the beneficiaries of these practices, internet service providers are incentivized to exercise their political and infrastructural power to the greatest of their ability to make sure network neutrality in the United States is dismantled and remains dissolved. In applying public policy frameworks and economic theorems, the case becomes apparent why network neutrality is a requirement for our country and our society moving forward.

Policy Problem

Type of Market Failure

Network neutrality is not in and of itself a market failure. However, in taking a step back toward the provision of the internet across the United States, a different picture begins to emerge. Examining the field of internet service providers demonstrates a problematic lack of competition. Our traditional understanding of monopoly can be defined as “a firm that is the sole seller of a product without any clear substitutes.”³ Since the Sherman Antitrust Act of 1890 saw the eventual breaking up of the conglomerate oil and steel institutions in the United States, the country has not experienced the emergence of many new monopolies. While Facebook has recently seen criticism for monopolistic behavior, the most significant implementation of the Sherman Antitrust Act in the last one hundred years has been action taken against AT&T.⁴

In action taken against AT&T by the federal courts in the 1980s, it was determined that the company had localized monopoly power that was being exercised unfairly. Infrastructure to provide such services created a lack of effective markets. AT&T utilized its power to then create difficulties for long-distance service competitors to enter the space in a manner to better position themselves for consumers. In addition to this, they further undercut the competition by subsidizing their long-distance costs with revenue gained from their local power. Speaking to the barriers into entry for the market, the court’s opinion states that “The enormous cost of the wires, cables, switches, and other transmission facilities which comprise that network has completely insulated

¹ Easley, R. F., Guo, H., & Kraemer, J. (2017). From Network Neutrality to Data Neutrality: A Techno-Economic Framework and Research Agenda. *SSRN Electronic Journal*. <http://dx.doi.org/10.2139/ssrn.2666217>

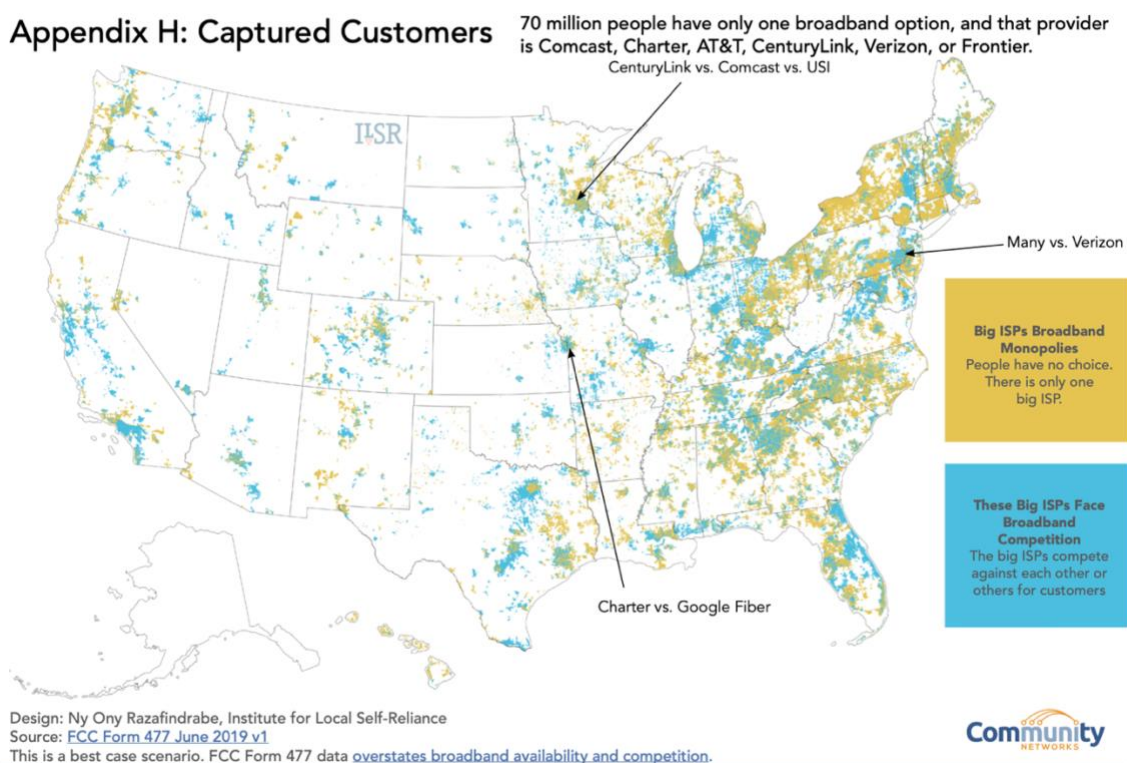
² Audibert, L. C., & Murray, A. D. (2016). A Principled Approach to Network Neutrality. *SCRIPTed*, 13(2), 118-143. <https://doi.org/10.2966/scrip.130216.118>

³ Mankiw, N. G. (2018). *Essentials of economics*. Cengage Learning.

⁴ Beattie, A. (2021). *A History of U.S. Monopolies*. Retrieved from Investopedia: <https://www.investopedia.com/insights/history-of-us-monopolies/>

it from competition.” The court would go on to find that the practices of ⁵ Such conditions are not unlike the modern environment consumers face in the United States when considering internet service providers.

Studies indicate that the current accessibility of modern broadband standards in the United States is limited. The lack of options faced by many consumers starts to paint a picture of effective localized monopolies. Other considerations are drawn forth when considering what constitutes reasonable expected data speeds in the modern demand. The Federal Communications Commission currently considers an internet connection adequate if it reaches 25 megabits per second download and three megabits per second upload. In taking both factors into consideration, tens of millions of people across the United States only have one choice in internet service provider. The extent of the concentrated power of a few firms is visualized in the figure below.⁶ How the distribution of localized monopoly power is concentrated is illustrated in Appendix A to Appendix E with the top five internet service providers who have consumers with no other choice.



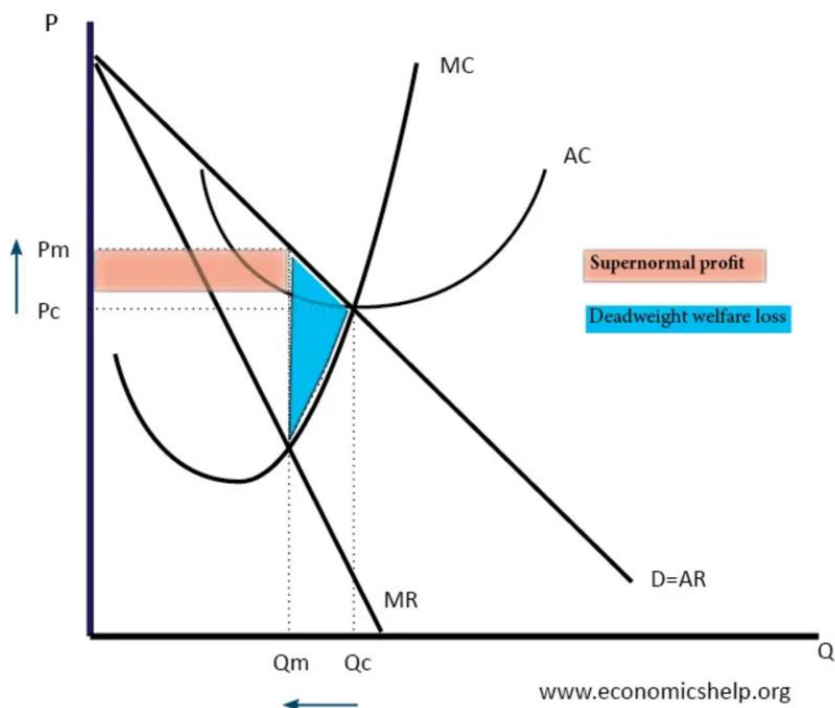
When faced with such localized monopolistic conditions, market failure begins to become evident. Rather than reaching a Pareto optimal point in the marketplace, such firms have the benefit of setting their own terms for engaging with demand. Without the pressure of competition bringing down the prices for consumers, monopolies can instead focus on profit maximization. This result ends up being a lower quantity of production at a higher price. Given how these come together, it

⁵ United States v. American Tel. and Tel. Co., 552, Supp. 131 (U.S. District Court for the District of Columbia February 28, 1983).

⁶ Trostle, H., & Mitchell, C. (2020). *Profiles of Monopoly: Big Cable and Telecom*. Institute for Local Self-Reliance.

permits deadweight loss in the marketplace that is exclusively held by the consumers. The figure below demonstrates how these market forces come together for a less-than-optimal result.⁷

Monopoly Graph



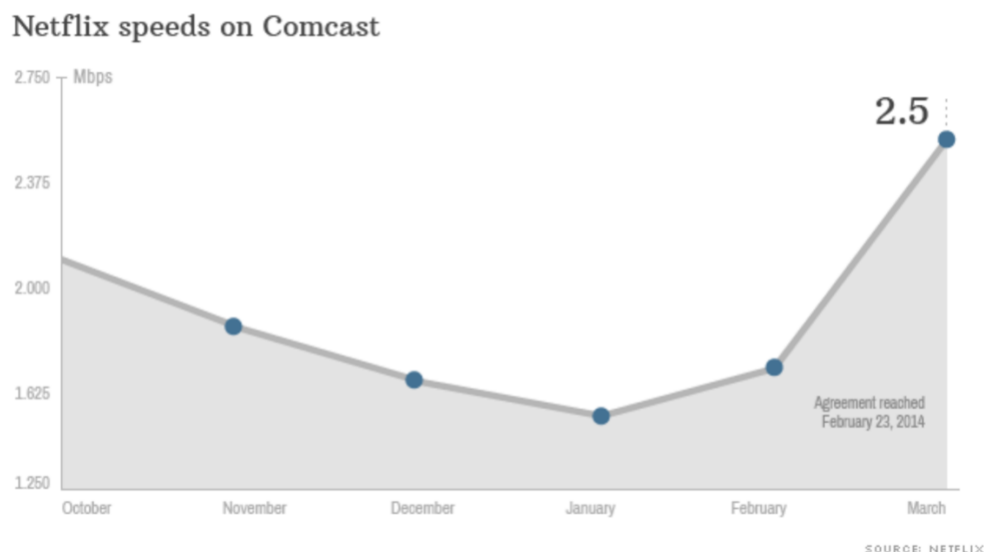
These set of conditions then return to the matter of network neutrality. The power to discriminate against the delivery of internet services only continues to exasperate a monopolistic set of market conditions. Without network neutrality, these firms are able to engage in behaviors such as network speed throttling and tiered plans based on connection speeds.⁸ Continuing the pattern of monopoly behavior, the lack of network neutrality will continue to widen the negative externalities and deadweight loss experienced by consumers and will allow for their losses to lead to a greater accumulation of profits for the internet service providers.

Such losses will be realized not only in the end-consumer market but also by the content producers of the internet as well. Network neutrality also protects their capability to create and publish content on the internet without it being discriminated against. As the battleground continued on, Netflix felt the pressure of what the internet would look like in its absence. During negotiations with Comcast about the bandwidth consumers would experience on the website, Comcast began throttling data speeds for the Netflix website. Essentially, they were ensuring that consumers would have a worse experience on the streaming site. Once a deal was struck, which led to Netflix paying higher fees to Comcast, the throttling practices were halted, and consumer

⁷ Pettinger, T. (2017). *Diagram of Monopoly* | *Economics Help*. Economicshelp.org. <https://www.economicshelp.org/microessays/markets/monopoly-diagram/>

⁸ Audibert, L. C., & Murray, A. D. (2016). A Principled Approach to Network Neutrality. *SCRIPTed*, 13(2), 118-143. <https://doi.org/10.2966/scrip.130216.118>

speeds became even better.⁹ This phenomenon was captured by several journalists and is illustrated in the figure below.¹⁰



Type of Government Failure

The extent of policy justification for network neutrality protections does not stop at the presence of market failure. Rather, the depth of the issue extends further into the space of government failure as well. Common to the space of natural monopolies is the government failure of Regulatory Capture. As an antithesis to public policy working in the public's best interest, these cases see those who would act as regulators take little to no action in the carrying out of such duties.¹¹ Rather than apply this principle to that of the FCC, which has semi-regularly sought to uphold network neutrality, this government failure is being assigned to Congress. Amidst decades of the FCC attempting to codify and adapt its open network policies to be legitimate in the eyes of the courts and enforceable against all internet service providers, no legislation has been passed to better cement or reject the principles.¹² Attempts have been made at both approaches to the issue, with the topic of network neutrality coming to the floor of Congress several times since 2009. Instances ranged from the Internet Freedom Act of 2009, which was anti-network neutrality, to the Open Internet Preservation Act attempting to better empower the FCC in its pro-network neutrality efforts.¹³ Where the Regulatory Capture becomes apparent is when the lobbying efforts of internet

⁹ Essert, M. (2022). *One Graph Shows Exactly Why We Need Net Neutrality*. Retrieved from Mic: <https://www.mic.com/articles/88457/one-graph-shows-exactly-why-we-need-net-neutrality>

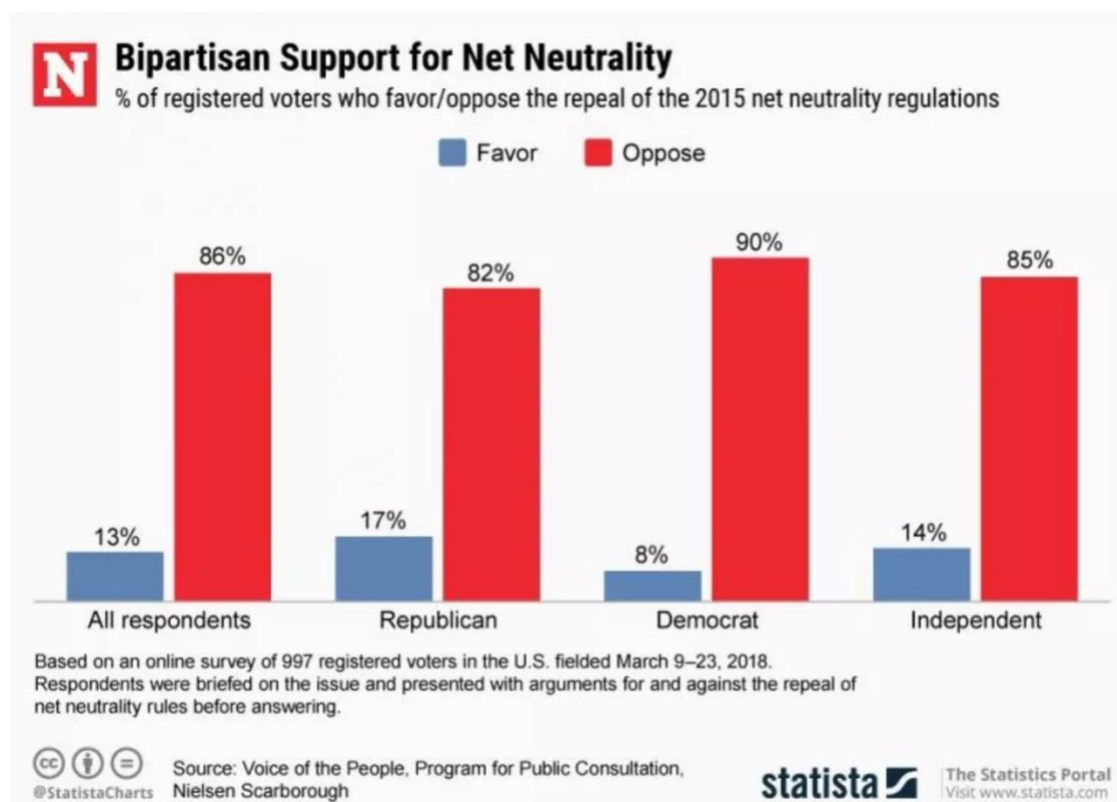
¹⁰ O'Toole, J. (2014). *Netflix speeds surge for Comcast users following connection deal*. CNN Money. <https://money.cnn.com/2014/04/14/technology/netflix-comcast/index.html>

¹¹ Pettinger, T. (2018). *Regulatory Capture*. Economics Help. <https://www.economicshelp.org/blog/141040/economics/regulatory-capture/>

¹² Reardon, M. (2015). *Net neutrality: How we got from there to here*. CNET. <https://www.cnet.com/tech/services-and-software/net-neutrality-from-there-to-here/>

¹³ American Library Association. (2018). *Network Neutrality Legislative History*. Advocacy, Legislation & Issues. <https://www.ala.org/advocacy/telecom/netneutrality/legislativeactivity>

service providers are brought to light. Expenditures on Congressional lobbying by them during the years 2019 and 2020 come together to over \$500 million dollars. The issue of network neutrality continued to be one of the top targets of these spending efforts.¹⁴ If the case for Regulatory Capture needs further demonstration, one need only look at how constituents across the United States vary on the matter with respect to the polarized partisanship of Congress. The figure below shows the results of a survey amongst registered voters with respect to one of the instances of network neutrality policy facing a threat of dissolution.¹⁵



Another means to characterize the government failure surrounding network neutrality is that of No Consistency. Summarized as when the democratic shifts of power as a result of elections lead to shifts in the political philosophy and agenda of the actors in government. Amidst the indecision of Congress to take decisive measures on the matter, the FCC has wavered in its own action as well. The agency is headed by five presidentially appointed commissioners, each of whom serves five-year terms. The commissioners themselves are associated with the interests of the political party to which they belong.¹⁶ Generally shifting power and agenda solely with the party in control of the executive branch of the federal government, that has led to three shifts since network neutrality picked up momentum in 2010. With essentially opposite viewpoints on the

¹⁴ Brodtkin, J. (2021). *ISPs spent \$235 million on lobbying and donations, "more than \$320,000 a day."* Ars Technica. <https://arstechnica.com/tech-policy/2021/07/isps-spent-235-million-on-lobbying-and-donations-more-than-320000-a-day/>

¹⁵ Goodkind, N. (2018). *Senate votes to save net neutrality, what's next?* Newsweek. <https://www.newsweek.com/what-will-happen-net-neutrality-after-senate-votes-save-protections-930124>

¹⁶ Federal Communications Commission. (2022). *What We Do*. Federal Communications Commission. <https://www.fcc.gov/about-fcc/what-we-do>

matter, there has been a tug-of-war of initiatives by the agency to either instill or deconstruct government expectations in the matter.

Regulatory Environment

Historical Analysis of Policy Landscape

Building the case of this government failure due to No Consistency and in order to better understand the issue at hand, there is an importance to the matter of following the historical trail of public policy in respect to network neutrality. Like many public policy matters, precedence and societal values laid the groundwork for how the debate around the internet could be so contested.

Common Carriage

Given the still relative novelty of the internet, there lacks a robust record of explicit relevant policy. However, for a period, the landscape of the internet fell under the same notion of policy guidelines that traced back to colonial roots. An English court's ruling in 1701 cemented such a notion into the commonly accepted law and it would continue to see its evolution from there. This general notion arose in early society around the benefit of certain goods and services and of the principle that "intended to guarantee that no customer seeking service upon reasonable demand, willing and able to pay the established price, however set, would be denied lawful use of the service or would otherwise be discriminated against"¹⁷ Such debate draws upon the interpretation that different kinds of goods and services exist. What the establishment of common carriage did was an attempt to move certain kinds of goods and services from the realm of private goods into a space more akin to common resources or public goods.¹⁸ The rationale for essentially a requirement to deliver these particular goods and services found its foundation in the understandings that they were essential for society, depended on network infrastructure, facilitated the flow of commerce, and fostered basic human freedoms such as free speech. Should any companies be allowed to discriminate in their delivery, it would impede one or all these factors.¹⁹

These principles would find their way into the American legal system as it came into its own. First seeing its implementation with telegraph companies in 1848, common carriage would see various state and federal actors extend it into rail and freight. As the telecommunication network grew, the Communications Act of 1934 then extended common carriage into this space by classifying it as such. With such a declaration, it was deemed that telecommunications companies could not unreasonably discriminate against communications across their networks based on the type of phone call.²⁰ Originally utilizing the same infrastructure, the internet was understood to fall within the same categorization as common carriers.²¹ The technology infrastructure utilized to connect to the internet would evolve, but the principle held true. Thus, for

¹⁷ Noam, E. (1994). Beyond liberalization II: The impending doom of common carriage. *Telecommunications Policy*, 18(6), 435-452. [https://doi.org/10.1016/0308-5961\(94\)90013-2](https://doi.org/10.1016/0308-5961(94)90013-2)

¹⁸ Mankiw, N. G. (2018). *Essentials of economics*. Cengage Learning.

¹⁹ Noam, E. (1994). Beyond liberalization II: The impending doom of common carriage. *Telecommunications Policy*, 18(6), 435-452. [https://doi.org/10.1016/0308-5961\(94\)90013-2](https://doi.org/10.1016/0308-5961(94)90013-2)

²⁰ Ibid.

²¹ Hauben, M., & Hauben, R. (1998). Netizens: On the History and Impact of Usenet and the Internet. *First Monday*, 3(7). <https://doi.org/10.5210/fm.v3i7.605>

a considerable time, the data traffic passing through the original means of connection to the internet could not be discriminated against by the companies providing the connection.

The Federal Communications Commission (FCC) would go on to reclassify companies providing such new broadband internet services in 2002. Under this new declaration, those companies would no longer be considered telecommunication services, but rather information services. Resultantly, the delivery of broadband internet no longer fell within the nondiscriminatory protection of common carriage. Soon after this, the FCC would adopt guidelines expected from the broadband industry that included “freedom of access to content, freedom to run applications, freedom to attach devices, and freedom to obtain service plan information.”²² Further agency action would see internet provided through the phone network infrastructure also become reclassified from telecommunication services to information services. Adherence to the guidelines provided wavered throughout the years and the country did not see much enforcement by the FCC. This did not stop the agency from adopting more guidelines:

1. “Consumers are entitled to access the lawful Internet content of their choice
2. Consumers are entitled to run applications and services of their choice, subject to the needs of law enforcement
3. Consumers are entitled to connect their choice of legal devices that do not harm the network
4. Consumers are entitled to competition among network providers, application and service providers, and content providers.”²³

Such ideals would however still only be recommendations from the FCC and not official policy. Therefore, the case was evident that the agency would take minimal to no action for their enforcement. This would carry on as the norm until the FCC decided to bring the expectation of not discriminating against internet traffic data, now known as network neutrality, into official agency regulation.²⁴

2010 FCC Order: Preserving the Open Internet

In 2010, the FCC took action to codify the expectations of network neutrality from all internet service providers. This would be the first time that the matter was raised from guidelines into enforceable policy. The culmination of their policy efforts was three core tenets:

1. “Transparency
 - Fixed and mobile broadband providers must disclose the network management practices, performance characteristics, and terms and conditions of their broadband services
2. No blocking

²² Reardon, M. (2015). *Net neutrality: How we got from there to here*. CNET. <https://www.cnet.com/tech/services-and-software/net-neutrality-from-there-to-here/>

²³ Ibid.

²⁴ Ibid.

- Fixed broadband providers may not block lawful content, applications, services, or non-harmful devices; mobile broadband providers may not block lawful websites, or block applications that compete with their voice or video telephony services; and
3. No unreasonable discrimination
- Fixed broadband providers may not unreasonably discriminate in transmitting lawful network traffic.”²⁵

Within their reasoning for these expectations came similar notions from that of common carriage, wherein the means of the internet served greater public services and goods of free speech and a marketplace for commerce. Further, the open nature of the internet itself created an environment for entrepreneurship and innovation. They drew concern that the allowance of discriminating data traffic passing through the infrastructure of these companies would see all such principles inhibited. They went on to make the case that in the lack of regulation surrounding network neutrality, internet service providers were incentivized to go act against all the included principles. Given the ease of exercising their infrastructure and the vast ability to monetize the data discrimination, the economic case was too strong for these internet service providers to ignore the revenue opportunity.²⁶

However, Verizon would go on to challenge these expectations drawn forth by the FCC. The courts would find that due to the agency’s reliance upon common carriage in order to justify its power in creating the policy, it was an ill-suited foundation upon which to build their case. The services provided by these companies were that of “information,” which falls outside of the telecommunications scope of common carriage. Further, the agency would need to codify these principles in a new manner in order for their effective regulation.²⁷

2015 FCC Order: Protecting and Promoting the Open Internet

The next significant response by the FCC was in 2015. Responding to the finding of the courts that disenfranchised their last effort, the agency explicitly outlined that the provision of internet service is a telecommunications service. The significance of this was to go against the previous court and policy decisions in this space and essentially reaffirm that the principles of common carriage are applicable to internet service providers. They went on to re-enforce the expectations laid out in 2010 and further built upon them. Heading the way this time for the policy were “clear bright-line rules” intended to provide optimal protection under the principles of network neutrality:

1. “No Blocking
 - Consumers who subscribe to a retail broadband Internet access service must get what they have paid for—access to all (lawful) destinations on the Internet. This essential and well-accepted principle has long been a tenet of Commission policy,

²⁵ Federal Communications Commission. (2010). *Preserving the Open Internet Broadband Industry Practices* (FCC 10-201). <https://docs.fcc.gov/public/attachments/FCC-10-201A1.pdf>

²⁶ Ibid.

²⁷ Reardon, M. (2015). *Net neutrality: How we got from there to here*. CNET. <https://www.cnet.com/tech/services-and-software/net-neutrality-from-there-to-here/>

stretching back to its landmark decision in *Carterfone*, which protected a customer's right to connect a telephone to the monopoly telephone network.

2. No Throttling

- The 2010 open Internet rule against blocking contained an ancillary prohibition against the degradation of lawful content, applications, services, and devices, on the ground that such degradation would be tantamount to blocking... The ban on throttling is necessary both to fulfill the reasonable expectations of a customer who signs up for a broadband service that promises access to all of the lawful Internet, and to avoid gamesmanship designed to avoid the no-blocking rule by, for example, rendering an application effectively, but not technically, unusable. It prohibits the degrading of Internet traffic based on source, destination, or content.¹⁷ It also specifically prohibits conduct that singles out content competing with a broadband provider's business model.

3. No Paid Prioritization

- Paid prioritization occurs when a broadband provider accepts payment (monetary or otherwise) to manage its network in a way that benefits particular content, applications, services, or devices... "Paid prioritization" refers to the management of a broadband provider's network to directly or indirectly favor some traffic over other traffic, including through use of techniques such as traffic shaping, prioritization, resource reservation, or other forms of preferential traffic management, either (a) in exchange for consideration (monetary or otherwise) from a third party, or (b) to benefit an affiliated entity."²⁸

Upon these principles, specific expectations were laid out that would further codify exactly how internet service providers would adhere to such tenets. Provisions were established for how the enforcement of network neutrality would occur. In a more reactive manner, the FCC would set up a system to receive complaints about noncompliance and allocate resources to investigate. Further, an individual would be appointed to head all such efforts within the agency.²⁹

Such a re-assertion of authority and re-application of common carriage by the FCC did not go unchallenged. Soon internet service providers were challenging the agency in the courts and seeking another overturn of these regulations. The suits would rise to the purview of the Supreme Court of the United States, which ultimately declined to hear the appeal and affirmed the district court's ruling that ruled in favor of the FCC.³⁰ Thus, it would have appeared that the policy was settled through the vehicle of the courts and the FCC had the legitimate authority to not only oversee the matters of the internet, but also to make internet service providers abide by the agency's defined interpretation of network neutrality.

²⁸ Federal Communications Commission. (2015). *Protecting and Promoting the Open Internet* (FCC 15-24). <https://www.fcc.gov/document/fcc-releases-open-internet-order>

²⁹ Ibid.

³⁰ Brodtkin, J. (2018b). *Supreme Court rejects industry challenge of 2015 net neutrality rules*. *Ars Technica*. <https://arstechnica.com/tech-policy/2018/11/supreme-court-wont-rule-on-legality-of-obama-era-net-neutrality-rules/>

2017 FCC Order: Restoring Internet Freedom

The shift of political power in the executive branch of the federal government coincided with the shift in the majority power in the FCC. As such, the perspective and agenda on network neutrality shifted as well. The FCC would go on to issue an order rolling back previous efforts and saying that the agency had overstepped its power in misappropriately interpreting the Communications Act of 1934. Further, it discouraged an interpretation of the delivery of the internet as a utility-like service. While encouraging increased transparency of internet service providers, it reversed the 2015 provisions and removed the expectations of network neutrality.³¹

Serving as a fundamental piece of the issue of network neutrality, the understanding and classification of “information service” compared to “telecommunications service” has been at the core of regulation. As such, this order by the FCC drew upon the language of the original act when it defined “telecommunications service” as “the offering of telecommunications for a fee directly to the public, or to such classes of users as to be effectively available directly to the public, regardless of the facilities used.” Further, the understanding of “telecommunications” was articulated as “the transmission, between or among points specified by the user, of information of the user’s choosing, without change in the form or content of the information as sent and received.” In distinguishing this from “information service,” the FCC pointed to the understood definition:

“the offering of a capability for generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information via telecommunications, and includes electronic publishing, but does not include any use of any such capability for the management, control, or operation of a telecommunications system or the management of a telecommunications service.”³²

Juxtaposing the two definitions next to each other, the FCC would go on to point to the expectation of agencies to act within “reasonable interpretation” of the executive and legislative artifacts that empower them. The majority of Commissioners sitting at the time of this order felt that their predecessors did not act within these bounds when issuing the order in 2015.³³

The actions drew criticism from the start-ups and investors who authored a letter objecting to the reversal. The feedback mechanism on the FCC’s website had its servers overloaded during this time. Advocates for network neutrality point to it as overwhelming public support for the cause, while the agency stated it was the result of a cyber-attack. A current sitting member of the Commission went on record to comment, “If you unequivocally trust that your broadband provider will always put the public interest over their self-interest or the interest of their stockholders, then [this proposal] is for you.”³⁴

Since this FCC rollback, various actors have brought lawsuits and legislative attempts have been made in Congress. Mozilla, an internet browsing service, brought forth a suit against the FCC

³¹ Federal Communications Commission. (2017). *Restoring Internet Freedom* (FCC 17-166). <https://www.fcc.gov/document/fcc-releases-restoring-internet-freedom-order>

³² Ibid.

³³ Ibid.

³⁴ Fiegerman, S. (2017). *FCC votes to move forward with net neutrality rollback*. CNN Money. <https://money.cnn.com/2017/05/18/technology/fcc-net-neutrality-vote/index.html>

in their push to uphold network neutrality standards.³⁵ Congress attempted to pass the Save the Internet Act that mirrored the expectations set forth in the 2015 FCC order, but codified the relevancy and authority into law. Bringing the matter into Congress continued to draw the partisan lines on the matter.³⁶ Potential constitutionality matters have been drawn into the matter with California passing its own network neutrality legislation. The United States Department of Justice brought forth a suit against the state as the relevant federal actor, the FCC, had already drawn a national position that should be upheld.³⁷ The Chairman of the FCC at the time stated, “The Internet is inherently an interstate information service. As such, only the federal government can set policy in this area.”³⁸ Further suits were filed against California by internet service providers, who drew the concern of the resulting harm that this measure would cause residents in California and the disincentive the firms would have for investment.³⁹ The subsequent election of Joe Biden as President of the United States saw the federal Department of Justice drop its lawsuit against California.⁴⁰

Current Regulatory and Policy Environment

Bringing us to the current regulatory environment, we see the continued battleground upon which the notion of network neutrality is being fought and that it is far from over. In 2021, the President signed a series of executive orders, which included several pertaining to “Big Tech.” Within these orders came a call to action for the FCC to reverse the 2017 rollback of network neutrality measures. The chief economic advisor went on record to state that the action “is not just about monopolies...but it’s about consolidation more generally and the lack of competition when you have a limited set of market players.” The administration sees the measures taken as a means to promote greater competition in the technology space.⁴¹

Examination of the language of the Executive Order on Promoting Competition in the American Economy speaks to this expectation of network neutrality leading to better marketplace competition with the verbiage:

“To promote competition, lower prices, and a vibrant and innovative telecommunications ecosystem, the Chair of the Federal Communications Commission is encouraged to work with the rest of the Commission, as appropriate and consistent with applicable law, to consider:

³⁵ Dixon, D. (2018). *Mozilla Files Suit Against FCC to Protect Net Neutrality* | *The Mozilla Blog*. Blog.mozilla.org. <https://blog.mozilla.org/en/mozilla/mozilla-files-suit-fcc-protect-net-neutrality/>

³⁶ Kelly, M. (2019). *Democrats push new bill to write net neutrality into law, but can it pass?* The Verge. <https://www.theverge.com/2019/3/6/18253176/net-neutrality-bill-democrats-law-fcc-house-senate-congress>

³⁷ Cooper, J. (2018). *California’s Tough Net Neutrality Bill Prompts U.S. Lawsuit*. HuffPost. https://www.huffpost.com/entry/us-sues-california-net-neutrality-law_n_5bb177f8e4b0343b3dc1674f

³⁸ Kelly, M. (2018). *Broadband industry groups sue California over net neutrality bill*. The Verge. <https://www.theverge.com/2018/10/3/17933804/net-neutrality-california-bill-broadband-isp-sb822>

³⁹ Ibid.

⁴⁰ Maddaus, G. (2021). *Biden’s Justice Department Drops Legal Challenge to California Net Neutrality Law*. Variety. <https://variety.com/2021/digital/news/biden-net-neutrality-department-of-justice-1234903450/>

⁴¹ Breuninger, K., & Feiner, L. (2021). *Biden signs order to crack down on Big Tech, boost competition “across the board.”* CNBC. <https://www.cnn.com/2021/07/09/biden-to-sign-executive-order-aimed-at-cracking-down-on-big-tech-business-practices.html>

- adopting through appropriate rulemaking “Net Neutrality” rules similar to those previously adopted under title II of the Communications Act of 1934 (Public Law 73-416, 48 Stat. 1064, 47 U.S.C. 151 et seq.), as amended by the Telecommunications Act of 1996, in “Protecting and Promoting the Open Internet,” 80 Fed. Reg. 19738 (Apr. 13, 2015)⁴²

Looking at the framing of this order, one draws forth the intriguing notion that there is still an expectation to rely upon the power of the Communications Act of 1934 and to re-instate the FCC’s court-upheld authority established in the FCC 2015 order that affirmed the reclassification of information services as telecommunication services. Despite the presidential call to action for the agency, no further significant action has been taken with respect to network neutrality.

Policy Goals

Two primary goals for network neutrality are held. The first goal is federal government consistency. The current regulatory environment surrounding network neutrality is no more certain than it has been for the last few decades. As the issue has been drawn into the partisan divide, the federal government’s stance has flip-flopped at the whim of the presidency. Given the nature of the United States’ democratic process, these fluctuations are expected to continue indefinitely. Such conditions are not inherently problematic, but rather the ability or inability for government action to be carried out into adoption and implementation as a result of these fluctuations begins to draw the legitimacy and effectiveness of the government into action. As such, the foremost goal of the policy is to take a policy adoption measure that can better cement itself into the American political landscape.

The second goal of the policy for network neutrality is to embrace the inherent tenets of the notion and ingrain it into the internet experience in the United States. Best capturing network neutrality, at the core of the effort should be the embracing of “a network design principle stating that all data packets should be treated equally regardless of their content, sites, and platforms.”⁴³ Only with such an approach to the policy can the monopolistic powers of internet service providers begin to be curtailed. While the effort will not take action attempting to dismantle such power held by those firms, it will at least not allow such a significant increase in their ability to exercise price discrimination, gaining further from monopolistic profit taken directly from the deadweight losses absorbed by consumers.

Policy Alternatives

In examining the possible policy options for achieving these goals, several alternatives to the final proposal were considered. While some of them may serve to be effective for achieving one of the goals, none of them proved economically viable or politically defensible for the realization of both of the outlined goals of a sustainable policy and network neutrality

⁴² The White House. (2021). *Executive Order on Promoting Competition in the American Economy*. The White House. <https://www.whitehouse.gov/briefing-room/presidential-actions/2021/07/09/executive-order-on-promoting-competition-in-the-american-economy/>

⁴³ Easley, R. F., Guo, H., & Kraemer, J. (2017). From Network Neutrality to Data Neutrality: A Techno-Economic Framework and Research Agenda. SSRN Electronic Journal. <http://dx.doi.org/10.2139/ssrn.2666217>

embracement. The appropriateness and fit of each proposed policy option, including the final proposal, are juxtaposed and summarized in Appendix F.

Alternative One: Do Nothing

The first considered course of action was to do nothing. Certainly, the easiest possible path forward, the anticipated effects of this lack of action do not serve the policy goals. Should there be no further action taken by either the FCC or through executive order, we can only expect the continued fluctuation of decisions according to which political power holds the presidency, which then dictates the agenda of the FCC. This only continues to perpetuate the issue of the federal government losing perceived legitimacy. In such an environment of indecision and following in the path of California, other states may pass their own legislation upholding the tenets of network neutrality. While noble in theory for taking up the mantle of seeing network neutrality principles come to fruition, I am in agreement with the objections drawn forth against California's actions as unconstitutional.

The Constitution of the United States explicitly enumerates certain powers to the federal government. In the absence of their enumeration, the Tenth Amendment makes the matter quite clear that "The powers not delegated to the United States by the Constitution, nor prohibited by it to the States, are reserved to the States respectively, or to the people."⁴⁴ That being said, the internet has proved itself as a vehicle for commerce both internationally and domestically. Should states begin to adopt and enforce measures affecting how consumers engage with those markets, we will begin to see a different set of rules and expectations that depend on which state a citizen currently stands. Falling explicitly within the purview of the federal government is the power to regulate interstate commerce.⁴⁵ Given the nature of the internet, the regulations of network neutrality fall within the federal government's exclusive powers on the matter. As such, the anticipated series of events in the event of "doing nothing" will not see a constitutionally-sound conclusion to the series of issues surrounding the matter.

Alternative Two: Supply-side Subsidies

Rather than coercive means to see network neutrality adoption come to fruition, another considered policy alternative was that of creating incentives for internet service providers to adopt them on their own. Within this policy consideration, both tax expenditures and matching grants are at our disposal for policy tools. Given the lucrative nature of monopolistic internet service providers monetizing a lack of network neutrality, the most effective means may be to provide both carrots and sticks to the firms. Matching grants may be offered to those internet service providers that do not engage in such monopolistic practices and provide the service in a more public-good, oriented fashion. This could provide for some of the revenue lost and still stimulate their incentive to invest in infrastructure and innovation. On the other side, the monopolistic profit gained through increased consumer deadweight losses could be reduced with the adoption of taxes.⁴⁶

⁴⁴ United States Congress. (2022). *U.S. Constitution | Constitution Annotated | Congress.gov | Library of Congress*. Constitution.congress.gov. <https://constitution.congress.gov/constitution/>

⁴⁵ Ibid.

⁴⁶ Weimer, D. L., & Vining, A. R. (2017). *Policy analysis: concepts and practice* (6th ed.). Routledge.

While allowing for less direct government intervention in the internet marketplace, these policy solutions do not meet the threshold of what is required in a monopolistic economic environment. While both policy approaches are most appropriate in instances of market failure from public goods, which the internet could be akin to, they are not appropriate for market failure from negative externalities.⁴⁷ With respect to subsidizing internet service providers who do not engage in the behavior, such action would only draw further criticism about the expanded subsidization of an industry that regularly receives billions of dollars in subsidies.⁴⁸ Speaking to the taxes side, one finds there could be significant difficulties in passing punitive corporate tax measures, which would have to make their way through Congress. Even should this happen, there is still the risk that the tax level will not adequately disincentivize the monopolistic behavior due to how much revenue it can generate.

Alternative Three: FCC Action

The final considered policy alternative was for the current iteration of the FCC to respond to the executive branch's call to action. In doing so, the agency would be carrying out an "establishing rules" means for policy implementation. Policy taking shape in regulatory action sees the government fully exercise its own monopoly. The monopoly, in this case, is that of power. As Weimer and Vining note, "regulations generally operate through command and control: directives are given, compliance is monitored, and noncompliance is punished." However, in the environment of monopolies, these measures are often the only effective tool of the government to see behavior change occur.⁴⁹ The case has been demonstrated that the environment in which network neutrality exists is one of monopolistic behavior. Internet service providers do not encounter proper competition so that market forces work in favor of consumers. Thus, regulations are one of the most viable policy tools at our disposal for the adoption of network neutrality principles.

While the policy tool might be right, the means of it coming to fruition is not. Adoption is not as much of an issue in this case as the FCC can issue orders with a simple majority vote from the sitting Commissioners. Should the FCC attempt to act on the green light given by the executive branch, there is a strong likelihood that the matter will return to the courts. Given that the agency is still relying on its own interpretation of the same statute of the Communications Act of 1934, the court's decision could sway either way on a letter-of-the-law interpretation or a spirit-of-the-law reading. Here the effort by the FCC can either proceed or halt entirely. Should they be granted permission by the courts to proceed, the matter still returns to the volatility of partisanship in the executive branch and its agencies. When the inevitable next changing of the guard comes for the White House, all efforts towards ensuring network neutrality could be undone by order of the President or by order of the next seated chair of the agency. Thus, the best opportunity to see sustainable network neutrality realized does not fall within the hands of the executive branch or the agencies.

⁴⁷ Ibid.

⁴⁸ Brodtkin, J. (2018a). *ISPs say they can't expand broadband unless gov't gives them more money*. Ars Technica. <https://arstechnica.com/tech-policy/2018/08/isps-want-to-be-utilities-but-only-to-get-more-money-from-the-government/>

⁴⁹ Ibid, 44.

Recommendation

Policy Proposal

The analysis has demonstrated that due to the monopolistic environment of internet delivery, regulations are the most appropriate tool through which to act. The agency traditionally deferred to for these matters has seen a period of indecision on the matter since the beginning. In order to accomplish the joint goals of a sustainable policy and network neutrality embracement, the most viable means to get there is through an act of Congress. One of the main detractions against action taken by the FCC is that the agency is unreasonably interpreting a previous statute that dates back to 1934. Some of the agency's greatest battle has been justifying the claim that technology of today can be contained within the confines of technology from a century ago. Rather than entertain either of these factors, the policy proposal is to have Congress establish entirely standalone policy for network neutrality. Only with independent, clear articulation of the matter in modern terms can the FCC be empowered without question. Only with an act of Congress can the federal decision be made in a manner that is less subject to the whim of revolving political parties.

Neutral Network Act of 2023

Definition of Internet

In regard to matters of the internet, this does pertain to the means by which information services or “the offering of a capability for generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information”⁵⁰ take place, regardless of the type of device through which it occurs.

Classification of Internet as a matter of common carrier

The public good and competitive marketplace fostered by the internet has evolved into a space in which any measures taken to restrict or interfere with access will no longer be permissible for the common interest. As such, delivery of the internet to the public will now be considered to fall within the same legal understandings as what is known as common carriage.

Network Neutrality Principles

Further, upholding the space created by the internet will require all providers of the service to adhere to several basic principles.

- “Unbiased delivery of data
 - Regardless of the user or content type or classification, internet service providers will not slow or block the consumption of data.
- Flat monetization of service

⁵⁰ Federal Communications Commission. (2017). *Restoring Internet Freedom* (FCC 17-166). <https://www.fcc.gov/document/fcc-releases-restoring-internet-freedom-order>

- Internet service providers will not tier access to the internet according to a provided speed of service.
- Accessibility of service
 - The price point of internet access must be reasonable to operating costs, infrastructure development, and provided subsidies.”⁵¹

Purview of Federal Communications Commission

The Federal Communications Commission is hereby determined to be the most relevant and appropriate agency through which governmental considerations and regulations will be executed. The specifics of interpretation of proper adherence to of the Network Neutrality Principles hereby will be deferred to the Federal Communications Commission for its discretion, within reasonable interpretation.

Policy Adoption

With any effort to pass measures through Congress comes immense difficulty. Not only must the legislation pass with majority votes from both the House of Representatives and the Senate, but the sitting President must also sign the legislation into law. The country’s current 117th Congress has only enacted 1% of its legislation measures. Since the year 2001, the various Congresses have averaged only 3%.⁵² Several attempts for network neutrality have already been attempted to no avail. Meanwhile, as noted earlier, the lobbying done by internet service providers amounts to hundreds of millions of dollars each year. Given that the anti-network neutrality is utilizing its own interest groups for their advocacy, the proposed way forward utilizes interest group theory for of policy adoption.⁵³ Rather than continue to allow for disparate groups to advocate for network neutrality, a concentrated political action committee (PAC) of the needs to be formed to combat those of institutional behemoths such as Comcast and AT&T. The Open Internet Coalition could see a wide range of support from its own range of large firms.

While a legislative lobbying battle through PACs may not initially appear reasonable considering the expenditures of the internet service providers, one needs only to closer examine the advocated in the pro-network neutrality corner. Although “Big Tech” may be riddled with its own monopolistic behaviors and issues, many of those firms support network neutrality. Amongst the Open Internet Coalition’s allies could be Apple, Amazon, Google, and many more.⁵⁴ A concentrated effort of these companies could see a lobbying for the Neutral Network Act that matches and even surpasses those made by internet service providers. Within the framework of Interest Group Theory, this is when initiatives see themselves become politically effective.⁵⁵ Thus, the concern of policy adoption has been effectively addressed. Contained mostly within the political realm, the next consideration goes to how such efforts see implementation.

⁵¹ Tripp, A. (2022). *Critical Analysis One*. Pepperdine University.

⁵² GovTrack. (2022). *Historical Statistics about Legislation in the U.S. Congress*. GovTrack.us.
<https://www.govtrack.us/congress/bills/statistics>

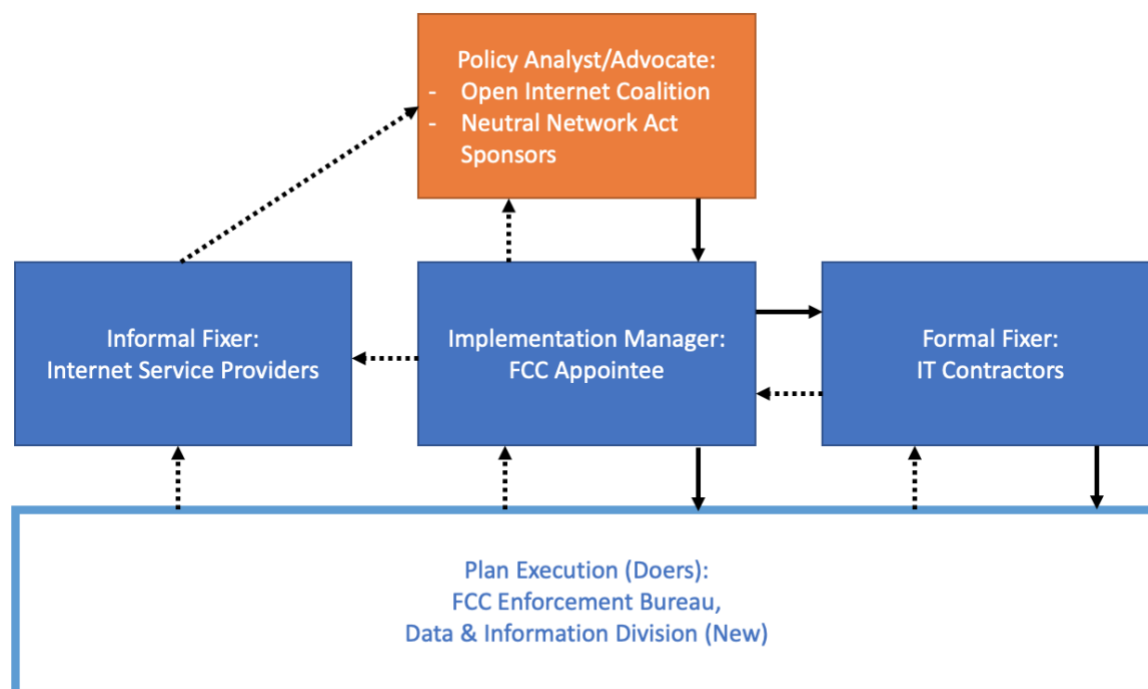
⁵³ Weimer, D. L., & Vining, A. R. (2017). *Policy analysis: concepts and practice* (6th ed.). Routledge.

⁵⁴ Matzko, P. (2018). *The Real Reason Facebook and Netflix Support Net Neutrality* | Paul Matzko. Fee.org.
<https://fee.org/articles/the-real-reason-facebook-and-netflix-support-net-neutrality/>

⁵⁵ Ibid. 47.

Policy Implementation

Upon passing Congress and being signed into federal law by the President of the United States, there are certain roles that are crucial to seeing the Neutral Network Act come to fruition. Weimer and Vining emphasize the importance of having these actors identified for implementation. Within the scope of this issue, we have the considerations of policy design, implementation plan, and plan execution. The Open Internet Coalition will take into account the responsibility of policy analysis and advocacy along with the bill sponsors. The FCC-appointed ombudsman will head the big picture of putting the policy into action. Meanwhile, the doers, the ones who are on the ground-level ensuring the new expectations are abided by will be a new division within the Enforcement Bureau of the FCC.⁵⁶ Similar to the division dedicated to “Telecommunications” this division will be specifically designated for the FCC’s new purview of “Data & Information”.⁵⁷ In order to supplement the expertise for network neutrality specifics, information and technology specialists will be contracted and brought in to advise the actors in the organizational chart. Necessary to the implementation will also be acknowledgement of those experts who informally play a role in the implementation, that role will most likely be filled by the counterparts of the internet service providers who now have to account for the Neutral Network Act. Having their insight will be invaluable to ensure that implementation takes shape in a realistic manner. This proposed implementation structure is illustrated in the figure below and based on Weimer and Vining’s work.



⁵⁶ Ibid, 47.

⁵⁷ Federal Communications Commission. (n.d.). *Enforcement Bureau Organizational Chart*. https://www.fcc.gov/sites/default/files/eb_web_chart_2-23-2022.pdf

Policy Evaluation

Successful rollout of the Neutral Network Act will be accomplished through gauging the adherence of internet service providers to the outlined principles of the legislation. Given the need to make publicly available the internet plans provided to average consumers, the unbiased delivery of data and flat monetization of service will be straightforward to determine. More difficult will be the requirement to provide the same to the content creators of the internet, that the connection and speeds do not see any discrimination. This can be accomplished through regular audits of available speeds from a random array of content providers such as Netflix, Facebook, and YouTube. Assurance of service accessibility aligning with operating costs, infrastructure development, and subsidization, will prove to be more difficult to guarantee and will depend on the providers themselves to realize. Given the need for firms to track such metrics for their internal accounting processes, the responsibility to report on these findings will fall upon the firms themselves. Semi-regular audits to ensure accuracy will be conducted periodically

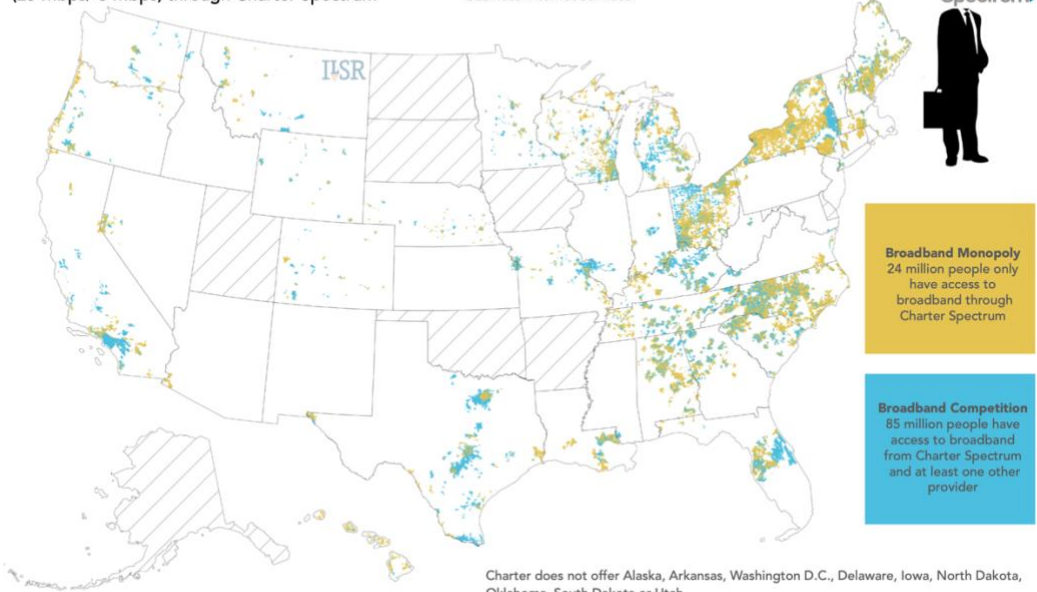
Appendices

Appendix A – Localized internet monopoly of Charter

Charter's Captured Customers

24 million people only have access to broadband (25 Mbps/ 3 Mbps) through Charter Spectrum

Internet customers: 25 million households (~64 million people)
2020 first quarter revenue: \$4.4 billion from residential and small business Internet services



Design: Ny Ony Razafindrabe, Institute for Local Self-Reliance
Source: [FCC Form 477 June 2019 v1](#); [Charter 1st quarter results 2020](#)
This is a best case scenario. FCC Form 477 data [overstates broadband availability and competition.](#)

Charter does not offer Alaska, Arkansas, Washington D.C., Delaware, Iowa, North Dakota, Oklahoma, South Dakota or Utah

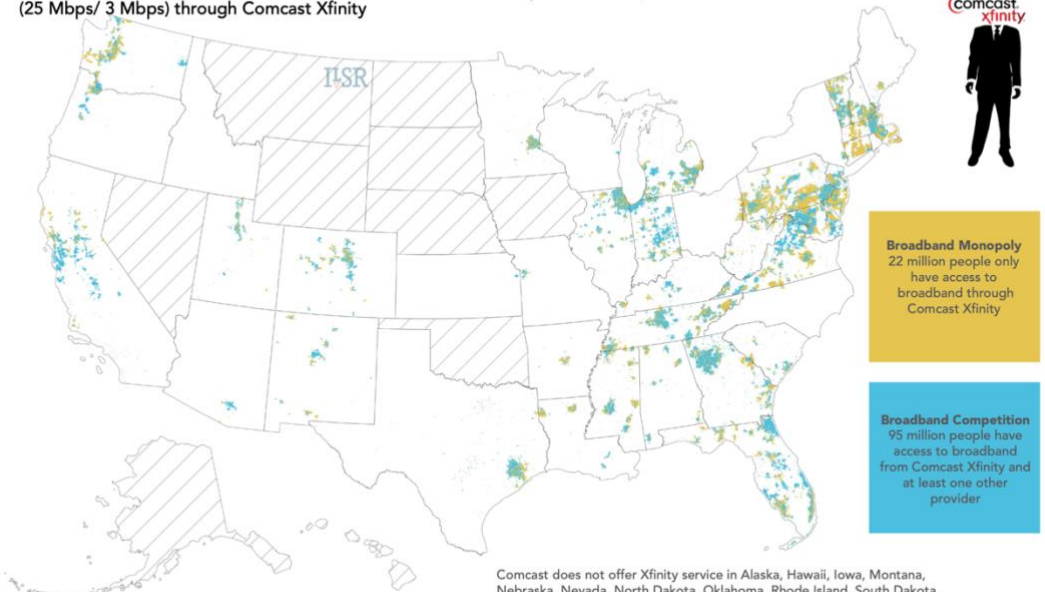


Appendix B – Localized internet monopoly of Comcast

Comcast's Captured Customers

22 million people only have access to broadband (25 Mbps/ 3 Mbps) through Comcast Xfinity

Internet customers: 27 million households (~68 million people)
2020 first quarter revenue: \$5 billion from Internet services



Design: Ny Ony Razafindrabe, Institute for Local Self-Reliance
Source: [FCC Form 477 June 2019 v1](#); [Comcast 1st quarter results 2020](#)
This is a best case scenario. FCC Form 477 data [overstates broadband availability and competition.](#)

Comcast does not offer Xfinity service in Alaska, Hawaii, Iowa, Montana, Nebraska, Nevada, North Dakota, Oklahoma, Rhode Island, South Dakota, or Wyoming

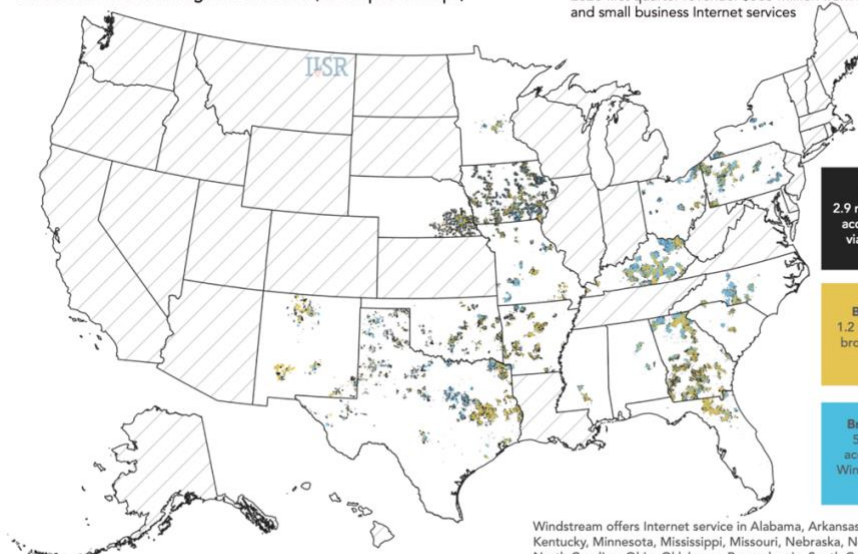


Appendix C – Localized internet monopoly of Windstream

Windstream’s Captured Customers

Windstream has a widespread DSL network, but many of these DSL customers cannot get broadband (25 Mbps / 3 Mbps)

Internet customers: 1.1 million households and some small businesses (~2.7 million people)
2020 first quarter revenue: \$505 million from residential and small business Internet services



- DSL- No Broadband**
2.9 million people do not have access to broadband access via DSL from Windstream*
- Broadband Monopoly**
1.2 million people only have broadband access through Windstream
- Broadband Competition**
5.1 million people have access to broadband from Windstream and at least one other provider

Windstream offers Internet service in Alabama, Arkansas, Florida, Georgia, Iowa, Kentucky, Minnesota, Mississippi, Missouri, Nebraska, New Mexico, New York, North Carolina, Ohio, Oklahoma, Pennsylvania, South Carolina, and Texas.

*8.9 million people in total have access to Windstream DSL

Design: Michelle Andrews, Institute for Local Self-Reliance
Source: FCC Form 477 June 2019 v1, Windstream 1st Quarter Report 2020
This is a best-case scenario. FCC Form 477 data overstates broadband availability and competition.

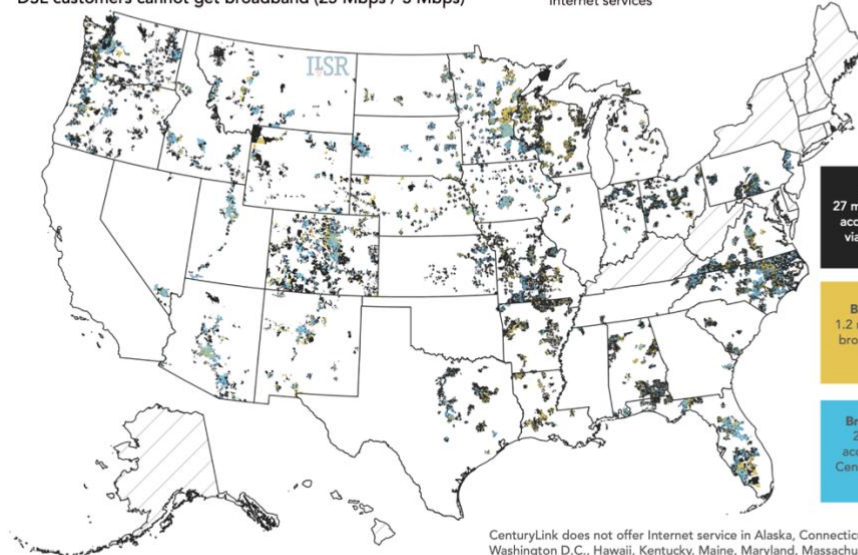


Appendix D – Localized internet monopoly power of CenturyLink

CenturyLink’s Captured Customers

CenturyLink has a widespread DSL network, but many of these DSL customers cannot get broadband (25 Mbps / 3 Mbps)

Internet customers: 4.7 million households (~12 million people)
2020 first quarter revenue: \$722 million from residential Internet services



- DSL- No Broadband**
27 million people do not have access to broadband access via DSL from CenturyLink*
- Broadband Monopoly**
1.2 million people only have broadband access through CenturyLink
- Broadband Competition**
28 million people have access to broadband from CenturyLink and at least one other provider

CenturyLink does not offer Internet service in Alaska, Connecticut, Delaware, Washington D.C., Hawaii, Kentucky, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island, Vermont and West Virginia.

*53 million people in total have access to CenturyLink DSL

Design: Michelle Andrews, Institute for Local Self-Reliance
Source: FCC Form 477 June 2019 v1, CenturyLink 1st Quarter Report 2020
This is a best-case scenario. FCC Form 477 data overstates broadband availability and competition.

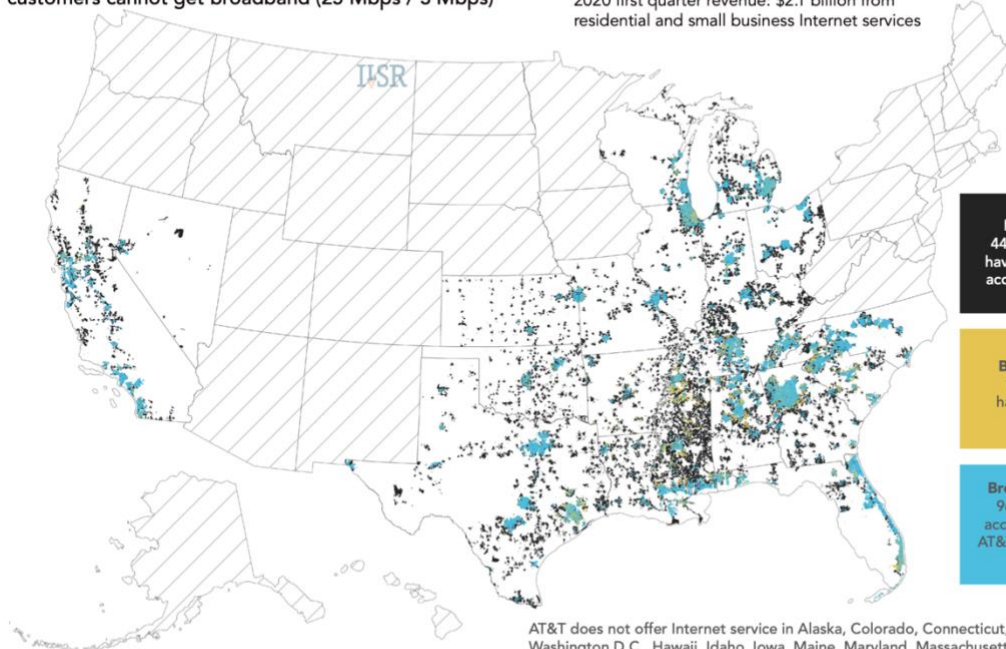


Appendix E – Localized internet monopoly power of AT&T

AT&T's Captured Customers

AT&T has a widespread DSL network, but many of these DSL customers cannot get broadband (25 Mbps / 3 Mbps)

Internet customers: 14 million households (~35 million people)
2020 first quarter revenue: \$2.1 billion from residential and small business Internet services



DSL- No Broadband
44 million people do not have access to broadband access via DSL from AT&T

Broadband Monopoly
1 million people only have broadband access through AT&T

Broadband Competition
96 million people have access to broadband from AT&T and at least one other provider

AT&T does not offer Internet service in Alaska, Colorado, Connecticut, Delaware, Washington D.C., Hawaii, Idaho, Iowa, Maine, Maryland, Massachusetts, Minnesota, Montana, Nebraska, New Hampshire, New Jersey, New Mexico, New York, North Dakota, Oregon, Pennsylvania, Rhode Island, South Dakota, Utah, Vermont, Virginia, Washington, West Virginia, and Wyoming.

Design: Michelle Andrews, Institute for Local Self-Reliance
Source: [FCC Form 477 June 2019 v1](#), [AT&T 1st Quarter Report 2020](#)
This is a best-case scenario. FCC Form 477 data [overstates broadband availability and competition.](#)



Appendix F – Comparison of policy options for addressing network neutrality⁵⁸

Policy Action	Motivator for behavioral change	Use Cases for Approach	Means of Adoption	Appropriateness of Fit for Network Neutrality
Do Nothing	Entrusting the motivation for behavioral change will come from the market forces that can be exercised on them. In this instance, it would be the law of demand from consumers.	In absence of market failure, government failure, limitations of competitive framework, and distributional issues	Not Applicable. Remains as the status quo	Not adequate to effectively address network neutrality. The case has been demonstrated how there exists both market and government failure surrounding the issue. Given the monopolistic environment, consumers are unable to exercise the law of demand.
Supply-side subsidies: matching grants	Incentive opportunities created by the government, that would lead to receiving utility from matching the government’s preferred behavior.	“market failure from positive externalities, market failure from public goods, distributional issue from demand to increase equity” (p. 388)		Not adequate to effectively address network neutrality. The monopolistic profits gained from ignoring network neutrality outweigh the most realistic grant programs that could be adopted.
Supply-side subsidies: tax expenditures	Incentive opportunities created by the government, that would lead to receiving utility from matching the government’s preferred behavior.	“market failure from positive externalities, market failure from public goods” (p. 388)		Not adequate to effectively address network neutrality. The monopolistic profits gained from ignoring network neutrality outweigh the most realistic corporate tax cuts that could be adopted.

⁵⁸ Weimer, D. L., & Vining, A. R. (2017). *Policy analysis: concepts and practice* (6th ed.). Routledge.

Federal Communications Commission Action	Risk of civil and criminal penalties for the firm, courtesy of the government's monopoly on power.	“market failure from negative externalities, information asymmetries, public goods, distributional issue of equal opportunity, limitation of competitive framework from think markets and limitation of competitive framework from illegitimate preferences” (p. 410)	Order issued by the agency after receiving a simple majority vote by the sitting Commissioners and not resisted by the sitting President or federal courts system.	Not adequate to effectively address network neutrality. Frequent shifts in actors' preferences has been demonstrated over the policy track record of network neutrality. While the use case of establishing rules is appropriate for the conditions of network neutrality, the means of adoption is too volatile.
Congressional action through novel legislation	Risk of civil and criminal penalties for the firm, courtesy of the government's monopoly on power.	“market failure from negative externalities, information asymmetries, public goods, distributional issue of equal opportunity, limitation of competitive framework from think markets and limitation of competitive framework from illegitimate preferences” (p. 410)	Legislation signed into law by the sitting President after receiving simple majority votes in both the House of Representative and the Senate.	Most adequate to effectively address network neutrality. While also the most difficult to adopt of the policy options, as it would establish new domains of oversight, the establishment of rules is the most suited for addressing network neutrality and the passing of legislation ensures a long-term sustainability of the action.

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