PAVING THE ROAD TO FIBER

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Citizens must have reliable broadband access to successfully participate in modern American society. As government, healthcare, transportation, and financial services take advantage of the way digital platforms connect people the need for universal broadband access grows. The disparity between those with broadband access and those without is dubbed the "digital divide," and can mean the difference between life and death for people living in the worst conditions. The people who can benefit most from the open availability of these services often lack access to information the rest of the population uses to improve decision-making in every aspect of their lives. Policymakers agree that lack of broadband access is a bipartisan issue, but do not agree on the appropriate solution.

By investing in high-quality fiber in cities across the United States, the government can work toward decreasing the digital divide and ensuring all Americans have high-speed internet access. Offering federal grant money for fiber allows local communities to actualize their plans to provide community-owned broadband. Working in conjunction with federal grant road funding would keep costs down, allowing smaller grants to a larger number of recipients. Through effective federal grant programs, underserved communities across the country can utilize online resources that the rest of the country takes for granted, reducing the digital divide and paving the way for a better future.

This note examines the shortcomings of current broadband funding policy and the challenges with pushing policy toward technical and economic realities. The proposed solution involves transferring more regulatory control over broadband grant distribution from the Federal Communications Commission, which distributes funding to private internet service providers, to the Department of Transportation, which funds state and municipal projects, and explains how critical analysis of ongoing telecommunications policy issues may provide further support for this.

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INTRODUCTION

In a country pervaded by crumbling bridges and roads so worn down that pizza delivery companies have taken to fixing them themselves, there is much opportunity to rebuild our infrastructure.[1] The American Society of Civil Engineers gives the United States a D+ on its infrastructure conditions, arguing that the problem is obvious, but an overhaul of our current system requires large

1. Joe McGauley, *America's Roads Are So Bad, Domino's Is Fixing Them to Protect Pizza Deliveries*, THRILLIST (June 12, 2018) https://www.thrillist.com/news/nation/dominos-paving-for-pizza-pothole-repair [https://perma.cc/BNS5-KRD5].

sums of capital.[2] Broadband is far from universally deployed in the United States: according to the Federal Communications Commission's (FCC) admittedly flawed data, 21 million Americans lack access to broadband.[3] As explained below, this number does not account for Americans that do not have broadband because prices are too high.[4] According to a September 2018 Microsoft study, 162.8 million people in the United States do not use the internet at broadband speeds.[5] Rather than considering these problems independently, American policymakers must consider reforming telecommunications policy as one solution for both issues.

Local governments and states are well-suited to take on the dual duty of road and fiber improvements because they understand the specific challenges their communities face, but the federal government also plays an important role in facilitating infrastructure investments through federal grant and loan programs. The proposed solution is twofold. First, by adding broadband funding to the Department of Transportation's (DOT) grant programs, the federal government can more efficiently provide funding and project management resources for local and state governments. Second, by reserving funds specifically for community-owned broadband projects, the federal government can facilitate lower prices, higher quality, and improved access.

While the Department of Agriculture (USDA) and other federal agencies play important roles in funding fiber deployment, the current state of broadband policy limits the ability of other agencies, like the DOT, to manage fiber deployment. The FCC currently conducts an annual inquiry into broadband deployment, maps broadband access, and sets policy for the Universal Service Fund (USF).[6]

2. Trent Gillies, *US Infrastructure is Crumbling and it Needs Lots of Money to Fix it*, CNBC (Feb. 3, 2019) https://www.cnbc.com/2019/02/03/us-infrastructure-is-crumbling-and-it-needs-big-money-to-fix-it-asce.html [https://perma.cc/M5JX-JHRF]; *America's Infrastructure Scores a D+*, INFRASTRUCTURE REPORT CARD (2017), https://www.infrastructurereportcard.org/ [https://perma.cc/DL7E-CNRZ].

3. 2019 Broadband Deployment Report, *Inquiry Concerning Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion*, GN Dkt. No. 18-238, 2 (May 29, 2019), https://docs.fcc.gov/public/attachments/FCC-19-44A1.pdf [https://perma.cc/9BHC-8FFW].

4. *See infra* Section III.

5. *See* Ex Parte from Microsoft, *Inquiry Concerning Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion & In the Matter of Reform of the FCC Form 477 Data Program Development of Nationwide Broadband Data to Evaluate Reasonable and Timely Deployment of Advanced Services to All Americans Improvement of Wireless Broadband Subscribership Data*, GN 18-238 & WC 11-10, 4 (March 29, 2019), https://www.fcc.gov/ecfs/filing/10329025758889 [https://perma.cc/8U5Z-ZHR7]; *see also* John Kahan, *It's Time for a New Approach for Mapping Broadband Data to Better Serve Americans*, MICROSOFT (Apr. 8, 2019), https://blogs.microsoft.com/on-the-issues/2019/04/08/its-time-for-a-new-approach-for-mapping-broadband-data-to-better-serve-americans/ [https://perma.cc/D5KS-J3T8].

6. *See Infra* Section I.

The results of these maps influence funding applications for community-owned broadband providers and grant decisions for federal and state fiber development grants.[7] After years of criticism, the FCC is updating the broadband maps.[8]

Section I explains the challenges the United States has encountered in regulating and funding broadband, as well as the alternate regulatory system the DOT oversees for funding infrastructure projects. Section II argues in favor of an alternative solution to managing fiber deployment, explaining the legal and policy changes necessary for enabling state and local fiber infrastructure projects. Section III discusses ongoing critiques that question the accuracy of the FCC's maps and current arguments for internet classification that impact the amount of funding available for fiber deployment. Section IV concludes by arguing for greater USF contributions by ISPs, which could provide a crucial funding source for expanding the fiber network while improving roads.

I. BACKGROUND

A ubiquitous fiber infrastructure is essential for the United States to ensure that people across the country have reliable internet access.[9] Fiber's dominance as a method of providing internet access is founded in scientific fact.[10] As explained below, this does not mean that broadband policy's design furthers the goal of facilitating fiber deployment.

Subpart A of this section compares alternative infrastructure models for providing broadband through the lens of historical dominance, then discusses the statutory and regulatory broadband policy scheme while highlighting the mismatch between policy and technical and economic reality. Subpart B concludes by discussing the advantages and challenges of the DOT's process for distributing infrastructure funding and educating local governments with project management resources.

7. Doug Dawson, *Regulating from Broadband Maps*, CCG CONSULTING (Feb. 12, 2018), https://potsandpansbyccg.com/2018/02/12/regulating-from-broadband-maps/ [https://perma.cc/T8CP-9VCW].

8. *FCC Unveils Updated and Modernized National Broadband Map*, FCC (Mar. 6, 2018), https://www.fcc.gov/fcc-unveils-updated-and-modernized-national-broadband-map [https://perma.cc/U8TP-SQJC].

9. TIMOTHY SCHOECHLE, NATIONAL INSTITUTE FOR SCIENCE, LAW & PUBLIC POLICY, RE-INVENTING WIRES: THE FUTURE OF LANDLINES AND NETWORKS 9 (2018) http://electromagnetichealth.org/wp-content/uploads/2018/02/ReInventing-Wires-1-25-18.pdf [https://perma.cc/Y7NG-5BHT] (last visited Oct. 8, 2019).

10. *See generally id.*

A. The United States' current broadband policy does not further the goal of ensuring all Americans have access to fiber infrastructure

When considering broadband policy and regulation, understanding the physical technology is imperative. The internet can be provided through several means: copper wireline, coaxial cable, fiber-optic wireline, and wireless.[11] Wireless options, such as satellite and mobile internet, offer their own set of challenges which limit their role as meaningful tools to bridge the digital divide. In Reinventing Wires, engineer and telecommunications technology expert Timothy Schoechle, Senior Research Fellow with the National Institute for Science, Law and Public, makes a strong case for policy encouraging fixed wired broadband connection deployment.[12] While wired broadband is a prevalent mode for internet connection today, when Congress amended the Communications Act in 1996, it delegated regulation of specific technologies to the FCC.[13]

The 1996 Telecommunications Act specified the FCC's mandate to regulate the Universal Service Fund.[14] Under the current system, the Universal Service Fund has four programs: E-Rate, which provides a broadband discount of 20-40% for schools and libraries; Rural Healthcare, which allows rural healthcare providers to have comparable rates to urban providers; the Connect America Fund, which supports telephone companies serving high-cost areas; and, Lifeline, which provides a $9.25 subsidy for people with incomes below 135% of the federal poverty guidelines.[15] Telecommunications revenues contribute to the Universal Service Fund, which is administered by the Universal Service Administrative Company.[16] Each of the four universal service programs now include support for broadband services, but providers do not contribute to

11. *See* SCHOECHLE, *supra* note 9, at 17 ("The basic access network options include: Wired coaxial cable service (from local cable TV "head-end") to customer premises….Wired DSL landline telephone (from local phone company central office switch) to premises….Wired optical fiber (from local Internet service provider) to premises….Wireless (from cellular provider's local cell site [e.g., 4 G LTE]) directly to the users' devices.").

12. *See generally* SCHOECHLE, *supra* note 9.

13 *See* Telecommunications Act of 1996, 47 U.S.C. § 254 (2012).

14. *Id.*

15. *Universal Service*, FEDERAL COMMUNICATIONS COMMISSION, https://www.fcc.gov/general/universal-service [https://perma.cc/8BEV-6MVG] (last visited Aug. 8, 2019); *Universal Service Fund*, FEDERAL COMMUNICATIONS COMMISSION, https://www.fcc.gov/general/universal-service-fund [https://perma.cc/P22A-3BPY](last visited Jan. 13, 2019) [hereinafter *Universal Service Fund*, FEDERAL COMMUNICATIONS COMMISSION]; *Do I Qualify?*, UNIVERSAL SERVICE ADMINISTRATIVE COMPANY, https://www.lifelinesupport.org/ls/do-i-qualify/default.aspx [https://perma.cc/EEU7-C8VS] (last visited Aug. 8, 2019).

16. *Universal Service, supra* note 15.

the Fund based on broadband service revenues.[17] Classifying broadband services under Title II allows the Commission to collect contributions from internet revenues, reducing the burden on telephone users and making contributions more equitable across consumers.[18] At the same time, the Commission has removed regulatory control over access fees from communities, which might have otherwise funded community-owned broadband efforts.[19]

The market is not addressing the Digital Divide crisis, and companies instead focus their resources on 5G development, which improves internet quality for those who can afford the best internet and does nothing to remedy the gap for people who still lack basic internet service.[20] 5G requires devices with compatible receivers, which leaves behind people who cannot frequently replace their devices.[21] Additionally, though Incumbent Local Exchange Carriers (ILECs) claim that 5G will help address the digital divide, this is far from true.[22] 5G requires high-capacity backhaul and is unlikely to ever serve rural areas.[23] With the market failing to address these problems on its own, and the lack of regulatory accountability for ISPs subsidizing underserved areas over the last two decades, a regulatory solution is warranted.

17. *See Universal Service Fund*, UNIVERSAL SERVICE ADMINISTRATIVE COMPANY, https://www.usac.org/about/about/universal-service/default.aspx [https://perma.cc/SN95-6AMK]; U.S. Dep't of Labor, Office of Federal Compliance Programs, Opinion Letter on Federal Communications Commission's Universal Service Fund (July 31, 2019), https://www.dol.gov/ofccp/regs/compliance/opinionletters/FCC.htm [https://perma.cc/D9LD-YZYZ].

18. *See USF Contribution Reform*, INCOMPAS, https://www.incompas.org/usfcontributionreform [https://perma.cc/6QF8-NRW7].

19. Lisa Gonzales, *FCC Stomps on Local Control in Latest Small Cell Decision*, MUNINETWORKS (Sept. 27, 2018), https://muninetworks.org/content/fcc-stomps-local-control-latest-small-cell-decision [https://perma.cc/75BE-K3D3].

20. Katie Collins, *5G Could Widen the Gap Between the Haves and the Have Nots*, CNET (Mar. 16, 2018), https://www.cnet.com/news/how-5g-could-widen-the-digital-divide/ [https://perma.cc/2HQF-J6KD].

21. *Id.*

22. *See* Chris Teale, *Could 5G Close the Digital Divide Between Urban and Rural Communities?*, SMARTCITIES DIVE (Jan. 7, 2019), https://www.smartcitiesdive.com/news/5g-digital-divide-urban-rural-communities/545211/ [https://perma.cc/8M94-3FLG]. *See also* Margaret Rouse, *ILEC (Incumbent Local Exchange Carrier)*, TECHTARGET (Mar. 2008), https://searchunifiedcommunications.techtarget.com/definition/ILEC [https://perma.cc/W355-4Z4S] ("An ILEC (incumbent local exchange carrier) is a telephone company in the U.S. that was providing local service when the Telecommunications Act of 1996 was enacted. ILECs include the former Bell operating companies (BOCs) which were grouped into holding companies known collectively as the regional Bell operating companies (RBOCs) when the Bell System was broken up by a 1983 consent decree.").

23. *See* Shara Tibken, *Why 5G is Out of Reach for More People Than You Think*, CNET (Oct. 25, 2018), https://www.cnet.com/news/why-5gs-out-of-reach-for-more-people-than-you-think/ [https://perma.cc/H4ZW-KDZG]; Teale, *supra* note 22 ("'The trouble is, when you get outside those [urban] areas, the cost to build [fiber] to each door within a rural area can be $4,000, $5,000, $6,000 per door,' Putnam said. 'As a carrier, I can't invest $5,000 to run fiber in a rural area knowing that I'm going to have 30-50% pay rate and I'm going to bill them $100 a month. My payback is a gazillion years, if I get it all.'").

Satellite internet is technically available across the United States, even in traditionally underserved areas; however, several limitations make satellite an unsuitable substitute to fiber broadband connections. Latency, which users often experience as slow speed of connection, causes a delay in satellite internet, which may limit the connection's potential uses.[24] Satellite internet users also experience delays and lost connections when the weather blocks satellite signals.[25]

All four Mobile Network Operators (MNOs) share their network infrastructure with Mobile Virtual Network Operators (MVNOs), which offer 3G, 4G, and LTE technology.[26] MVNOs lease capacity from MNOs, which own their own mobile infrastructure, resulting in highly concentrated competition for mobile broadband service.[27] All four MNO providers plan to roll out 5G, which might bring the technology closer to fixed broadband speeds.[28]

Mobile internet providers often impose data caps that limit the amount of data a user can consume in a period of time, restricting the amount of data the user may consume. When consumers exceed their data cap, they face high charges from the provider.[29] Starting in 2007, the FCC distinguished mobile broadband services from fixed broadband services for classification purposes, meaning the regulatory structures for the two services differ.[30] Another concern with mobile broadband is the device requirement. The user's device must be enabled with 3G, 4G, or LTE for the user to access mobile internet, which leads to practical concerns for people who do not have a device enabled for the service in their area.[31] These short-

24. Sam Mountstephens, *An In-Depth Comparison of Satellite v. Fixed Wireless Internet*, ONE RING NETWORKS (Sept. 15, 2017), https://blog.oneringnetworks.com/an-in-depth-comparison-of-satellite-v.-fixed-wireless-internet [https://perma.cc/M8GM-5JCX].

25. *Id.*

26. FCC, Communication Marketplace Report, 33 FCC Rcd. 12558, 12561-62 (2018).

27. DONG HEE SHIN & TAE YANG KIM, ANALYSIS OF MVNO DIFFUSION 1-2 (2011).

28. Catherine Sbeglia, *Where do the Major US Carriers Stand in Deploying 5G?*, RCR WIRELESS NEWS (Aug. 6, 2019), https://www.rcrwireless.com/20190806/5g/major-us-carriers-5g [https://perma.cc/9GMJ-WGEF].

29. Reese, *infra* note 31; Ethan Wolff-Mann, *Alert! Verizon's Data Alert Email Can Push You Into a $15 Overage Fee*, MONEY (Mar. 28, 2016), http://money.com/money/4264510/verizon-data-overage-alert-email/ [https://perma.cc/W23P-MGRL] ("With Verizon, exceeding the limit results in a $15 charge, which buys you 500 MB of padding."); *see also* Jason Plautz, *Brownsville, TX and Detroit Top List of Cities with Least Broadband Access*, SMART CITIES DIVE (June 11, 2018), https://www.smartcitiesdive.com/news/brownsville-tx-and-detroit-top-list-of-cities-with-least-broadband-access/525359/ [https://perma.cc/D8N2-B9CE].

30. *See* Julia Tanner, *Mobile Internet Access: Technology, Competition, and Jurisdiction*, 23 B.U. J. SCI. & TECH. L. 123, 143-45 (2017).

31. *See* Nick Reese, *Mobile Wireless Internet in the United States*, BROADBAND NOW, https://broadbandnow.com/Mobile-Broadband [https://perma.cc/XM3C-RUZA] (last updated Sept. 25, 2018).

comings, as well as the national scope of mobile service, make mobile broadband a poor choice for communities in unserved and underserved areas.

Wireless internet is not synonymous with mobile internet.[32] While mobile internet is a type of wireless internet and mobile devices can access wireless networks, mobile internet is only accessible to devices designed for the specific mobile network.[33] Fixed wireless services can provide nearly equivalent speeds to fixed wireline, and have lower latency than satellite internet, but are more expensive, experience deteriorated service quality in the rain, and only serve about half of the United States.[34] All wireless connections in the United States require a wired connection at some level.[35] These limitations make fixed wireless a poor substitute for fixed wireline connections in most areas.[36] Still, some hard to reach communities are better serviced by wireless service and policymakers must do everything they can to ensure that spectrum and infrastructure financing are available in those circumstances.[37]

Fixed wireline internet is provided through fiber, often in addition to copper wireline, which connects a set location (like a home or business) to a data center or local exchange center. Alternatively, users can access the internet using mobile, wireless, and satellite connections.[38] Fixed connections are generally faster than mobile connections, as long as there are not too many packets of data flowing at any given time.[39] Among fixed connections, fiber to the home (FTTH) allows for the fastest internet speeds.[40] Fixed connections

32. *What is Wireless Internet?*, PLUG THINGS IN, http://www.plugthingsin.com/internet/wireless/what-is-wireless-internet/ [https://perma.cc/4VZG-QSB8] (last visited Oct. 11, 2019, 7:05 AM).

33. *Id; What is the difference between mobile and wireless?*, TECHOPEDIA, https://www.techopedia.com/7/29693/networking/what-is-the-difference-between-mobile-and-wireless [https://perma.cc/EY8T-HN33] (last visited March 24, 2019).

34. Duane Anderson, *Terrestrial Fixed Wireless in the United States*, BROADBAND NOW (last updated June 13, 2019), https://broadbandnow.com/Fixed-Wireless [https://perma.cc/QS97-NLRF].

35. SCHOECHLE, *supra* note 9, at 9 ("[d]espite the spectacular growth and popularity of wireless devices over the past two decades, none of them could exist but for the wired infrastructure and technology that underlies the wireless network. At the end of the day, wireless communication can never approach the speed and reliability of wired networks.").

36. *Id.*

37. *See, e.g.*, *Our Wireless Future: Building a Comprehensive Approach to Spectrum Policy Before the Subcom. on Communications & Technology*, 116th Cong. 10-11 (2019) https://energycommerce.house.gov/sites/democrats.energycommerce.house.gov/files/documents/2_Testimony_Triggs%20%28update%29_0.pdf [https://perma.cc/34WD-JSQK] (written testimony of Mariel Triggs, CEO, MuralNet).

38. *Id.*

39. *Id.*

40. Duane Anderson, *Fiber-Optic Internet in the United States*, BROADBAND NOW (July 10, 2019), https://broadbandnow.com/Fiber [https://perma.cc/ZXJ4-YBMP].

also provide greater upgrade potential and produce less environmental waste.[41]

At this time, fixed wireline is the best option for the federal government to invest in because it is the most reliable, helps ensure a competitive landscape, and is economically and environmentally feasible when deployed in conjunction with future infrastructure advancements. Though there are inherent tradeoffs to each type of broadband access, accessing the internet is not entirely a zero-sum game. These various offerings each provide important links between people and internet access. Factors like household density and stage of development impact the determination of which broadband technology is the best option for a given area.[42] Once the fixed fiber infrastructure is built out, the federal government may have room to consider investing in adjacent wireless technology to a greater extent.

B. Community-owned broadband options can improve adoption rates, promote net neutrality, and improve network privacy practices

Over the past two decades, broadband has become an increasingly important part of American jobs, community-building, healthcare, and democratic participation.[43] Despite its importance, access is far from ubiquitous.

Co-ops, originally started as electricity providers in rural areas, are both ready and willing to expand to broadband service provision.[44] In contrast to private ISPs, customers own co-ops, which operate as nonprofits.[45] Across the United States, around 893 co-ops provide electric service serving 42 million people.[46] Ninety co-

41. SCHOECHLE, s*upra* note 9, at 67.

42. Daniel Grossman, *Is 5G Fixed Wireless vs. FTTH a Cage Fight or a Toolkit?*, LIGHT READING (April 3, 2018), https://www.lightreading.com/heavy-reading-research/is-5g-fixed-wireless-vs-ftth-a-cage-fight-or-a-toolkit/a/d-id/741950 [https://perma.cc/W9F2-DMST].

43. *The Crucial Intersection of Broadband and Democracy*, CALIFORNIA EMERGING TECHNOLOGY FUND (Dec. 7, 2016), http://www.cetfund.org/files/LTBB_1609.pdf [https://perma.cc/5BZX-5ABZ]; Brian Whitacre, *Broadband Internet Can Help Rural Communities Connect – If They Use It*, THE CONVERSATION (Feb. 22, 2017), http://theconversation.com/broadband-internet-can-help-rural-communities-connect-if-they-use-it-72941 [https://perma.cc/K6CK-SE4V]; *see, e.g.,* Brittney Crock Bauerly, *Broadband Access as a Super-Determinant of Health*, THE NETWORK FOR PUBLIC HEALTH LAW (July 17, 2018), https://www.networkforphl.org/the_network_blog/2018/07/17/1017/broadband_access_as_a_super-determinant_of_health [https://perma.cc/VF8Z-HELE].

44. *See Broadband*, NATIONAL RURAL ELECTRIC COOPERATIVE ASSOCIATION, https://www.electric.coop/issues-and-policy/broadband/ [https://perma.cc/6QR3-MQFE].

45. *See Fact Sheet,* NATIONAL RURAL ELECTRIC COOPERATIVE ASSOCIATION (Feb. 2019), https://www.cooperative.com/programs-services/bts/Documents/Data/Electric-Co-op-Factsheet-Update-February-2019.pdf [https://perma.cc/U3MW-Z7RK].

46. *Id.*

ops across the country have expanded to provide broadband as well as electric service.[47] In 2018, the National Rural Electric Cooperative Association released the results of a study that shows that collectively, Americans lacking access and living in areas served by co-ops could receive $12 billion in economic benefits from broadband access.[48]

Community-owned broadband networks can enforce net neutrality and privacy practices that protect consumers, regardless of federal policies.[49] The ACLU advocates for municipal broadband as one way to ensure that people can exercise their rights to speak and receive information.[50] At the same time, community-owned options help drive down prices offered by private ISPs, while offering higher quality service.[51] Under current policies, one ISP marking an area as served precludes another ISP from funding, despite the price and quality benefits competition can provide.[52]

Overbuilding is one myth preventing community-owned networks from reaching their full potential. For example, in the 2019 Broadband Mapping Order, the Commission asks "Can the maps and datasets derived from the Digital Opportunity Data Collection be used in connection with the other universal service programs, in particular E-Rate and Rural Health Care, to the extent they provide support for infrastructure build-out, to promote efficiency, minimize waste, and *help avoid duplicative funding within the Fund*?,"[53] but this question is improper since the government does not mandate fiber sharing.[54] Under the current model, ILECs can leverage

47. *Cooperatives Build Community Networks,* INSTITUTE FOR LOCAL SELF-RELIANCE, https://muninetworks.org/content/rural-cooperatives-page [https://perma.cc/B7AJ-PB86] (last visited Sept. 15, 2019).

48. *Broadband, supra* note 44.

49. *The Public Internet Option: How Local Governments Can Provide Network Neutrality, Privacy, and Access for All*, AMERICAN CIVIL LIBERTIES UNION (March 2018), https://www.aclu.org/sites/default/files/field_document/aclu_municipal_broadband_report.pdf [https://perma.cc/C7LT-XRXM].

50. *Id.* at 6.

51. *See generally* David Talbot, Kira Hessekiel, & Danielle Kehl, *Community-Owned Fiber Networks: Value Leaders in America Pricing Review Shows They Provide Least-Expensive Local "Broadband"*, RESPONSIVE COMMUNITIES (Jan. 2018), https://cyber.harvard.edu/sites/cyber.harvard.edu/files/2018-01-10-Pricing.Study_.pdf [https://perma.cc/9DPN-UZJA].

52. *See id.* (showing competition can provide price and quality benefits); *Broadband Internet: FCC's Data Overstate Access on Tribal Lands*, GOVERNMENT ACCOUNTABILITY OFFICE (Sept. 2018) ("FCC provides broadband funding for unserved areas based on its broadband data. Overstatements of access limit FCC's and tribal stakeholders' abilities to target broadband funding to such areas.").

53. Broadband Mapping Order, 34 FCC Rcd 7505 (9) ¶ 84.

54. *See* Marguerite Reardon, *FAQ: What is Brand X Really About?*, ZDNET (June 27, 2005), https://www.zdnet.com/article/faq-what-is-brand-x-really-about/ [https://perma.cc/S96X-H7Q8]; *Supreme Court Rules for Cable in Brand X Case*, CARL KANDUTSCH LAW OFFICE (Aug. 2005), https://www.kandutsch.com/articles/supreme-court-rules-for-cable-in-brand-x-case [https://perma.cc/3KST-XKKV].

their position as network operators to raise costs for Competitive Local Exchange Carriers (CLECs), which lack bargaining power.[55] Open access is one principle community owned networks follow, which means that all ISPs can build out from their networks, providing "an essential check on monopoly power."[56]

C. Collaborating with the DOT could improve the efficiency of broadband projects and provide a touchpoint for funding decisions

The DOT offers several block grants which may be used with wide discretion as long as the project fits within the goals of the program.[57] Block grants are federally funded programs that provide financial assistance for broadly defined functions.[58] The United States Department of Housing and Urban Development similarly offers infrastructure development grants.[59] Additionally, the DOT

55. *Id.* ("Unable to rely on an 'open access' regulatory regime, these companies will be forced to negotiate broadband carriage deals with cable operators and ILECS, negotiations in which unaffiliated ISPs lack significant bargaining power."); *see also* Competitive Local Exchange Carrier (CLEC), BANDWIDTH, https://www.bandwidth.com/glossary/competitive-local-exchange-carrier-clec/ [https://perma.cc/N2QY-9QKJ] ("CLECs arose as a result of the Telecommunication Act of 1996, which was intended to promote competition among long distance and local phone service providers. The term is used to differentiate between new or potential competitors and established local exchange carriers. The Telecommunication Act of 1996 permits companies with CLEC status to use the incumbent local exchange carrier (ILEC) infrastructure in two ways: access to unbundled network elements and resale. The availability of unbundled network elements is an important factor for CLEC telecommunication. These include the equipment used and the function, capabilities and features provided by the equipment. The most important unbundled network elements available for CLEC are local loops, which connect ILEC switches to ILEC present customers.").

56. Jase Wilson, *Principles for Open Access Community Broadband Networks*, NEIGHBORLY (Aug. 9, 2018), https://medium.com/neighborly/principles-for-open-access-community-broadband-networks-fa4f4dfe893e [https://perma.cc/W8H5-UFDB].

57. *Highway Funding*, UNITED STATES DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION, (Sept. 14, 2017), https://www.fhwa.dot.gov/resources/topics/funding.cfm [https://perma.cc/S9XT-MK22] (showing a list of highway grant programs); *The Fixing America's Surface Transportation Act*, UNITED STATES DEPARTMENT OF TRANSPORTATION (April 8, 2016), https://www.transportation.gov/fastact [https://perma.cc/WD67-SRUT] (describing the FAST Act); *BUILD Discretionary Grants*, UNITED STATES DEPARTMENT OF TRANSPORTATION https://www.transportation.gov/BUILDgrants [https://perma.cc/7PND-9PU7] (last updated Apr. 25, 2018) (describing BUILD discretionary grants).

58. *What is a Block Grant?*, GRANTS.GOV (June 15, 2016), https://blog.grants.gov/2016/06/15/what-is-a-block-grant/ [https://perma.cc/5ECC-VAAY].

59. *Community Development Block Grant Program-CDBG*, THE UNITED STATES DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT, https://www.hud.gov/program_offices/comm_planning/communitydevelopment/programs [https://perma.cc/4YJC-MYNF] (last visited Oct. 22, 2018) (explaining the purpose and broad discretion of the CDBG program).

offers guidance for technological innovations construction and project planning resources.[60] Both of these features could benefit the distribution of fiber grants. By looking at a number of factors provided in the application, such as project details and the applicant's demographics, communities may have an easier time pitching their plan than by using the FCC's broadband map as a sole determining factor. Similarly, by providing project management resources explaining how to advance broadband deployment, communities will be able to more efficiently improve their communities.

Block grants are distinct from grants designed for specific purposes: there is more discretion in the type of project the funding can compensate.[61] At the same time, some argue that the unpredictable nature of block grants allow corrupt community leaders to ignore social services programs while lining their own pockets.[62] Notwithstanding concerns about prudent spending, another less cynical criticism is that communities cannot consistently rely on funding provided by block grants. Since many projects are proposed for several years out, this inconsistency can hinder project planning.[63] Grantees submit detailed plans about their projects when applying for grants, which creates a risk for communities because it takes time and resources to develop plans, but there is no guarantee of funding.[64]

In 2017, the Government Accountability Office (GAO) published a report on the USDA's Rural Utilities Service (RUS), the agency within the USDA charged with managing a broadband infrastructure grant program and two loan programs.[65] The report offers useful critiques that can inform broadband grant offerings overall.[66] While their broadband policy discussions tend to focus on rural connectivity, the lack of backhaul competition causes higher prices and fewer high quality offerings in even the most urban parts of the United States.[67] In fact, many densely populated areas have

60. *Construction*, UNITED STATES DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION, https://www.fhwa.dot.gov/construction/ [https://perma.cc/EC4D-JNEH] (last updated July 25, 2018).

61. Ashley Archibald, *Doing More with Less: Block Grants Have Long Been Seen as a Way to Whittle Funding From Social Services*, REAL CHANGE NEWS (Sept. 5, 2018), https://www.realchangenews.org/2018/09/05/doing-more-less-block-grants-have-long-been-seen-way-whittle-away-funding-social-services [https://perma.cc/N2UY-RNSA].

62. *Id.*

63. *Id.*

64. *Id.*

65. *See generally*, *Rural Broadband Deployment: Improved Consistency With Leading Practices Could Enhance Management of Loan and Grant Programs,* GOVERNMENT ACCOUNTABILITY OFFICE (2017), https://www.gao.gov/assets/690/684093.pdf [https://perma.cc/QWY2-Q2NE].

66. *See generally id.*

67. *See* G.K. Butterfield, *Race and the Digital Divide: Why Broadband is More than an Urban vs. Rural Issue*, THE HILL (May 13, 2019), https://thehill.com/blogs/congress-

the lowest adoption rates due to a lack of affordable offerings.[68] The gaps in their programs could be addressed by a standardized system across the federal government. For example, GAO reports that the RUS lacks complete mapping information and could benefit from modernizing internal documentation to help employees retain institutional knowledge.[69] These challenges might be widespread among grant programs. While the GAO report discusses some steps RUS could take internally, the shortcomings of this program could provide an important policy guide for other federal agencies providing broadband grants.[70] A DOT grant program modelled on the RUS with the GAO's recommendations would help reduce the urban digital divide.

II. THE FEDERAL GOVERNMENT SHOULD ENCOURAGE CO-OPS AND LOCAL GOVERNMENTS TO DEPLOY AND REPAIR FIBER BY PROVIDING GRANTS SPECIFICALLY FOR COMMUNITY-OWNED NETWORKS BY BASING FUNDING ON CONCURRENT ROAD DEVELOPMENT PROJECTS

The National Telecommunications and Information Administration (NTIA) explains the framework of the current process local governments use when securing broadband funding.[71] This resource is a great tool for communities considering broadband because it educates local governments on consolidating infrastructure projects, and as a result these communities can take a more proactive approach to investing in broadband.[72] At the same time, more could be done for communities considering broadband infrastructure projects.

blog/technology/443336-race-and-the-digital-divide-why-broadband-access-is-more-than [https://perma.cc/6JGR-4DPZ]; Karl Bode, *Why Broadband Competition at Faster Speeds is Virtually Nonexistent*, VICE (Feb. 14, 2018), https://www.vice.com/en_us/article/mb57gx/no-broadband-competition-100-mbps [https://perma.cc/M8WW-HA87].

68. *See* Angela Seifer, *Worst Connected Cities 2016*, DIGITAL INCLUSION (June 7, 2018), https://www.digitalinclusion.org/blog/2018/06/07/worst-connected-cities-2016/ [https://perma.cc/FG8P-FBNX].

69. *Rural Broadband Deployment: Improved Consistency With Leading Practices Could Enhance Management of Loan and Grant Programs,* GOVERNMENT ACCOUNTABILITY OFFICE (2017), https://www.gao.gov/assets/690/684093.pdf [https://perma.cc/2SLY-VAP4].

70. *See id.*

71. *BroadbandUSA: Guide to Federal Funding of Broadband Projects*, NTIA (June 2017), https://broadbandusa.ntia.doc.gov/sites/default/files/resource-files/ntia_guidetofedfunding_062317.pdf [https://perma.cc/96KS-N985].

72. *See, e.g., California*, NTIA, https://www2.ntia.doc.gov/California [https://perma.cc/M29V-8LZ5] (last visited Nov. 3, 2019).

States have had mixed success in funding fiber deployment.[73] The DOT could help states overcome challenges when making broadband infrastructure decisions by centralizing resources that capitalize on what has worked well in some states, while minimizing the risk of policies that divert taxpayer dollars away from community-owned networks to private companies.

A common theme among state attempts to fund broadband development is a lack of cohesion. ILECs heavily lobby states and the federal government, dissuading them from making intentional, well-planned decisions that foster long-term investment in broadband infrastructure, instead preserving ILECs' monopolistic power.[74] Local governments in every state could benefit from a uniform approach in the deployment of broadband infrastructure. Rather than funneling public funds toward ILECs which make huge, and largely unregulated, profits, the FCC should utilize the Universal Service Fund as a tool to tax ISPs and invest in community-owned broadband.

In 2018, Colorado agreed to provide $100 million dollars to companies pursuing broadband development in underserved parts of the state.[75] This money comes from a fund previously used to subsidize phone service, which predominantly went directly to the state's largest telephone company.[76] Other states may find similar creative sources of broadband funding by updating similarly outdated programs.

Some communities are doing what they can to ensure their citizens have broadband access, even with increased state roadblocks. Chattanooga's government-owned provider offers higher-quality, lower-priced internet service than its private ISP competitors.[77]

73. *See, e.g.,* Christopher Teters, *Municipal Broadband in Kansas: The Fight for Community Manifest Destiny*, 25 KAN. J.L. & PUB. POL'Y 89, 94-104 (2015) (describing three instances of successful municipal broadband projects and two examples of failures).

74. *See, e.g.,* Karl Bode, *Big Telecom Lobby Says There's Too Much Broadband Competition, Pushes FCC to Harm Smaller ISPs*, VICE (July 16, 2018), https://www.vice.com/en_us/article/ev8n3e/big-telecom-lobby-says-theres-too-much-broadband-competition-pushes-fcc-to-harm-smaller-isps [https://perma.cc/L43Y-7XJA]; Jon Brodkin, *ISP Lobby has Already Won Limits on Public Broadband in 20 States*, ARS TECHNICA (Feb. 12, 2014), https://arstechnica.com/tech-policy/2014/02/isp-lobby-has-already-won-limits-on-public-broadband-in-20-states/ [https://perma.cc/5QGB-2V6F].

75. Greg Avery, *Colorado Law Finds 100 Million for Rural Broadband*, DENVER BUS. J. (Apr. 2, 2018), https://www.bizjournals.com/denver/news/2018/04/02/colorado-law-finds-100-million-for-rural-broadband.html [https://perma.cc/28AW-N5KS].

76. *Id.* ("Most money raised for rural landline phone subsidies will, starting next year, be put into a grant fund to reimburse companies for building rural high-speed internet infrastructure of at least 10 megabits per-second download speeds in unincorporated areas and small towns lacking high-speed internet. The funding comes from a 2.6 percent "high-cost support" fee on Colorado phone bills. It raises $33 million annually to offset costs of providing landline phone service in sparsely populated parts of the state.").

77. Caroline Craig, *Only in the USA: ISPs get Tax Dollars to Build Weak Broadband*, INFOWORLD TECH WATCH (Apr. 14, 2017), https://www.infoworld.com/article/

Tennessee's Electric Power Board ("EPB") requested state funding to expand to nearby underserved areas and high-cost areas.[78] Tennessee voters strongly supported this effort.[79] Instead, state legislators voted on funding that benefits private communication companies, to the exclusion of community-owned broadband companies.[80] Incumbent ISPs view community-owned broadband providers as a major threat.[81] Centralized rules that enable community-owned broadband providers to expand their networks are better than state laws that hinder expansion. The FCC can promulgate rules that facilitate the type of competition it saw as valuable when preempting Tennessee's law by enacting rules that enable community-owned broadband.[82]

"Dig Once" laws are one example of a successful state-level policy approach.[83] Dig Once laws require road development projects using government funding to include fiber conduit.[84] In 2018 a Dig Once bill made its way through Congress, but ultimately the requirement was not included in the final legislation.[85] While legislation was unsuccessful, agencies could collaborate on this effort through a rulemaking process with the DOT adding a fiber condition to road development grants and the FCC providing broadband funding.

3189828/internet/only-in-the-usa-isps-get-tax-dollars-to-build-weak-broadband.html [https://perma.cc/5V8M-HMVD].

78. Tennessee v. FCC, 832 F.3d 597, 599-600 (6th Cir. 2016).

79. *See id.* at 601 (stating that residents from surrounding communities have repeatedly requested expansions of the EPB's services to the surrounding areas).

80. *See id.* at 603 (suggesting that the present legislation was a barrier to community-owned broadband companies deploying their services and competing with private communications companies).

81. CHARLES H. FERGUSON, THE BROADBAND PROBLEM: ANATOMY OF A MARKET FAILURE AND POLICY DILEMMA 4-5 (2004) ("Between them, U.S. local telephone and cable television companies control the deployment of local broadband technology to both homes and businesses, and directly represent roughly $175 billion in annual revenues. These revenues would be deeply threatened by rapid, competitive local broadband deployment and more generally by the rise of internet-based telecommunications services. Consequently, through a combination of inefficiency, cartelistic conduct, and rational monopoly behavior given their current incentives, both ILEC and CATV (cable television) industries (particularly the former) are deploying broadband technology slowly and in ways designed to protect their established, increasingly obsolete, businesses.").

82. *Tennessee v. FCC*, 832 F.3d 597 (6th Cir. 2016).

83. Nicholas Kanakis, *Dig Once and Work Together: A Common Sense Solution to America's Failing Broadband Network*, 48 THE U. OF PAC. L. REV. 975, 991-997 (2017).

84. *Dig Once and Work Together*, 986.

85. *See generally* Jon Brodkin, *"Dig Once" Rule Requiring Fiber Deployment is Finally Set to Become US Law*, ARS TECHNICA (March 7, 2018), https://arstechnica.com/tech-policy/2018/03/dig-once-rule-requiring-fiber-deployment-is-finally-set-to-become-us-law/ [https://perma.cc/XBM2-Y53B].

Since the DOT's grant options are more flexible, as discussed above, a broadband block grant could provide funding without relying on the FCC's broadband maps, the challenges of which are discussed in Section III below.

Though evidence of community-owned broadband is scarce, communities entering the broadband market has positively impacted private competition. As identified by the court in *Tennessee v. FCC*,

> In response to the EPB's constructing its fiber network, Comcast stopped raising its rates—which had risen sharply for years—and subsequently reduced them. [citation omitted] Both of the private providers in the EPB's electric service area, Comcast and AT&T, have vastly improved their Internet download speeds since the EPB's entry. [citation omitted] This demonstrates the benefits of increased broadband competition and how a possible expansion for the EPB could promote such competition.[86]

Prior to the current administration, the FCC recognized community-owned broadband as a viable competitive alternative to private ISPs.[87] All of this changed when the political climate shifted in 2016, but the underlying belief should not be altered without the opportunity for public comment on the subject.

ISP competition provides a nexus of benefits to internet service. For one, communities will drive prices down and service quality up by increasing competition in areas that are already served by at least one other provider.[88] Additionally, community-owned broadband providers can create a meaningful check on private ISPs' threats to withdraw investment in infrastructure by providing substitute services in areas that only have one other provider.[89]

With the allure of 5G lurking in the background, it is important to consider why it is worth investing in fixed wireline connections over wireless.[90] As Schoechle observes, fixed wireline internet connections are a better investment in the long run than wireless connections.[91] While wireless technology has its advantages, such as

86. *Id.* at 603.

87. *Id.* at 611.

88. *See* Jonathan Sallet, *Better Together: Broadband Deployment and Broadband Competition*, THE BROOKINGS INSTITUTE (Mar. 15, 2017), https://www.brookings.edu/blog/techtank/2017/03/15/better-together-broadband-deployment-and-broadband-competition/ [https://perma.cc/CC3R-AUE6].

89. *Id.*

90. *See* Teale, *supra* note 22.

91. Schoechle, *supra* note 9, at 83-86 ("Can wireless meet the public need? From a broad perspective, it seems clear that the answer is "no"—wireless cannot deliver the most basic foundation for communications and Internet access that the American public

mobility and convenience, it relies on a core system of fixed broadband connections, meaning wireless connections are only as fast as the fixed connections they rely on.[92] ISPs investment in wireless connections is driven by profit, rather than a desire to provide universal access.[93]

In discussing why policymakers have favored investments in wireless internet, Schoechle explains,

> While it is correct to suggest that demand for wireless has been to a large extent driven by convenience, it has also been driven by regulatory and policy directions that have disadvantaged wired networks in the marketplace, creating a wireless juggernaut that in many respects diminishes public access and convenience while wireless providers and their allies in business and government mislead the public about the adequacy and potential of their systems.[94]

Schoechle posits several theories for how and why ISPs captured the FCC.[95] Lobbying efforts play a major role, with millions of dollars from industry groups supporting meetings with FCC officials.[96] Another advantage ISPs have is the "revolving door" that comes as presidents appoint agency heads who contribute to their campaigns.[97]

III. THE FCC'S INACCURATE BROADBAND MAPS IMPOSE UNNECESSARY BARRIERS ON LOCAL AND STATE GOVERNMENTS INTERESTED IN FUNDING FIBER INFRASTRUCTURE IN UNDERSERVED AREAS

Congressional Research Service's report provides an overview of current efforts by the federal government to bridge the digital

needs. Public needs must be separated from the needs of incumbent providers and the budget priorities of short-sighted governmental agencies and politicians. Moreover, the price tag for a wired system may likely be mitigated by performance improvements associated with new and legacy copper wire and fiber. A hybrid solution may also be possible in many situations based on a fiber backbone with tails of copper wire, coax cable, and fixed wireless by synergies to be gained from increasingly-needed electric power system upgrades.").

92. *See id.* at 25-26.

93. *Id.* at 25.

94. *Id.* at 9.

95. *Id.* at 23.

96. Timothy B. Lee, *Entangling the Web*, N.Y. TIMES (Aug. 3, 2006), https://www.nytimes.com/2006/08/03/opinion/03lee.html [https://perma.cc/JH26-EQVV].

97. Schoechle, *supra* note 9, at 23-24 ("Money buys influence. For example, Thomas Wheeler, appointed as FCC Chairman by President Obama and formerly head of both the CTIA and the National Cable Television Association (NCTA), raised over $700,000 for President Obama's campaigns. . . With the Trump administration, a new Chair has been appointed, Ajit Pai, who hails from Verizon where he was formerly chief counsel, continuing the same pattern.").

divide.[98] The report proposes a balance policy-makers should strive for: ensuring that underserved areas have access to technology, while at the same time minimizing governmental interference in the marketplace in order to promote competition and private sector investment.[99] However, while the report provides aggregate information about the current state of policy, it also overstates the government's efforts to address broadband development. Alternate evidence suggests that even in areas where private ISPs serve an area, additional competition could provide lower-cost, higher quality service.[100]

The FCC overstates broadband access by setting the speed threshold low and using inaccurate reporting methods.[101] The report from the Government Accountability Office explains how the FCC calculates broadband availability: by measuring propensity for broadband service in a general area, rather than the number of consumers who have service.[102] This is the primary method in the FCC's broadband access calculation.[103] Additionally, this calculation is required for broadband infrastructure grants at both the state and federal level.[104] Since a location's broadband access is vital to obtaining grant funding, the FCC's overstatement limits broadband funding for areas that may have no access to quality, affordable broadband.[105] The FCC does not consider other important factors such as the cost to consumers for service and whether the ISP maintains quality connections.[106]

In August 2019, the FCC voted on an Order that will improve broadband data collection, requesting more granular data from providers and including a crowdsourced verification process.[107] While these changes will improve maps in the long run, this process will take time and billions of broadband funding dollars that will rely

98. LENNARD KRUGER & ANGELE A. GILROY, BROADBAND INTERNET ACCESS AND THE DIGITAL DIVIDE: FEDERAL ASSISTANCE PROGRAMS (2017), https://congressional-proquest-com.colorado.idm.oclc.org/congressional/docview/t21.d22.crs-2017-rsi-0242?accountid=14503 [https://perma.cc/9SNS-GZJJ].

99. *Id.* at 21.

100. Sallet, *supra* note 88.

101. U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-18-630, BROADBAND INTERNET: FCC'S DATA OVERSTATE ACCESS ON TRIBAL LANDS (2018), https://www.gao.gov/assets/700/694386.pdf?utm_campaign=Newsletters&utm_source=sendgrid&utm_medium=email&mc_cid=738f56229d&mc_eid=eb527a594e [https://perma.cc/V5BW-JRDA].

102. *Id.* at 14.

103. U.S. GOV'T ACCOUNTABILITY OFFICE, *supra* note 101, at 15.

104. Dawson, *supra* note 7.

105. Sallet, *supra* note 88.

106. *Id.*

107. *See generally* Report and Order and Second Further Notice of Proposed Rulemaking, *Establishing the Digital Opportunity Data Collection* & *Modernizing the FCC Form 477 Data Program*, WC Dkt. Nos. 19-195 & 11-10 (Aug. 6, 2019) [hereinafter 2019 Mapping Order], https://www.fcc.gov/document/fcc-improves-broadband-mapping [https://perma.cc/U7V2-ZBVE].

on the existing Form 477 data until the new process is implemented.[108] Furthermore, one major shortcoming of the item is the fact that it did not require collection of broadband pricing data, which could provide important information for improving adoption rates.[109] Even without updated maps, community-owned options are a low-risk investment that can push prices down and improve service quality.

The Order comes after Free Press revealed that at least one ISP falsely reported to provide fixed broadband coverage for the entirety of eight states.[110] The ISP does not actually provide any FTTH service, and only provides wireless internet to some of the census blocks in each of the eight states.[111] This misreporting is enough to skew overall broadband map data, meaning the FCC's recent claims that broadband deployment is happening are ungrounded in empirical fact.[112] Though the FCC ultimately did correct the map and aimed the August 2019 Order at preventing the problem from occurring in the future, the FCC will continue collecting Form 477 data.

The Rural Wireless Access Act charges the FCC with establishing a consistent methodology for calculating wireless mobile and data coverage access—including available speed tiers and performance measures.[113] As described above, fixed broadband does not define access in terms of speed or quality, but in terms of possible access.[114] Rather than this method of defining access, the FCC should look at the number of households and the number of subscribers, and consider competitive offerings (i.e. how many ISPs are available in each area), and the quality in terms of latency and service outages. By taking a more critical look at collecting data on broadband deployment, the FCC can more accurately identify communities that need the most support in developing a fiber infrastructure.

108. *See, e.g.,* Dissent of Commissioner Rosenworcel, *Rural Digital Opportunity Fund*, WC Docket No. 19-126; Connect America Fund, WC Dkt. No. 10-90, 2 (Aug. 2, 2019), https://www.fcc.gov/document/fcc-proposes-204-billion-rural-digital-opportunity-fund-0 [https://perma.cc/D7DF-YBP7] ("In fact, this rulemaking rushes past that effort and simply proposes a successor to our existing Connected America Fund, distributing $16 billion dollars before any new data comes before this agency. Before any new maps are developed.").

109. 2019 Mapping Order, 6.

110. Jon Brodkin, *Ajit Pai's Rosy Broadband Deployment Claim May be Based on Gigantic Error*, ARS TECHNICA (March 7 2019), https://arstechnica.com/tech-policy/2019/03/ajit-pais-rosy-broadband-deployment-claim-may-be-based-on-gigantic-error/ [https://perma.cc/N9JK-WP2A].

111. *Id.*

112. *Id.*

113. Rural Wireless Access Act, 115 U.S.C. § 1621 (2017).

114. *See generally* U.S. GOV'T ACCOUNTABILITY OFFICE, *supra* note 101.

ISPs do not make the investment necessary to maintain their fiber, meaning that fiber connections deteriorate over time.[115] Since the FCC uses a census block calculation for determining broadband access that does not account for deteriorating quality, this means that ISPs can effectively abandon an area while the annual broadband report reflects broadband access.[116]

Routine updates and maintenance are crucial to ensuring quality broadband access.[117] Scholars argue that a lack of technological maintenance is a primary reason for the digital divide.[118] Since, as stated above, the FCC's calculation does not accurately represent the state of broadband deployment in the United States, many places the FCC claims have access do not actually have access to quality or affordable broadband.[119] The FCC has no requirements for providers to continue investing in fiber once it is laid, so if an area becomes less profitable, internet subscribers may face deteriorated service. This means the FCC's data may be inaccurate and unfairly deter or preclude communities from funding essential to building community-owned broadband.

When the FCC improves their mapping standards to collect more accurate information about the state of broadband deployment, they should make the processes available to other agencies that are involved in the broadband funding process.

IV. BY CLASSIFYING THE INTERNET AS A TELECOMMUNICATIONS SERVICE SUBJECT TO COMMON CARRIER OBLIGATIONS, THE FEDERAL GOVERNMENT CAN PROVIDE MORE FINANCIAL ASSISTANCE TO COMMUNITIES SEEKING TO INVEST IN FIBER

The FCC's broadband classification does not accurately reflect access in the United States. The FCC can best serve the public interest by classifying broadband as a telecommunications service. The FCC's classification of the internet is inconsistent, but a common carrier regulatory approach more fairly represents the nature of the service and most favorably impacts the amount of funding available for fiber grants.

115. Falcon, *infra* note 145.

116. *See* U.S. GOV'T ACCOUNTABILITY OFFICE, *supra* note 101.

117. Amy Gonzales, *The Contemporary Digital Divide: From Initial Access to Technology Maintenance*, 19 INFO., COMM. & SOC'Y 234 (June 2, 2015).

118. *Id.*

119. *See generally* U.S. GOV'T ACCOUNTABILITY OFFICE, *supra* note 101.

A. The FCC Can, and Should, Classify the Internet as a Telecommunications Service

In *Brand X*, the Court reviewed the FCC's decision to classify the internet as an information service, concluding that the FCC properly exercised its discretion by changing its classification.[120] In Justice Scalia's famous dissent, he analogized the internet to a pizza delivery service, pointing to the fact that the internet includes both the content being transmitted and the technology transmitting the content, and explaining that the FCC overstepped its legal authority by classifying the internet as a telecommunications service, rather than an information service.[121]

Despite the FCC's reclassification, the internet remains analogous to public utilities.[122] Public utilities are deemed essential and ensuring low income people have access to them should be a top priority.[123]

ISPs seek the benefits of utility regulation, but not the burdens.[124] Mobile providers have a contradictory view of the internet as a public utility.[125] When it comes to common carrier regulations designed to protect consumers, ISPs want the internet to be classified as an information service (with light touch regulation).[126] However, ISPs argued in favor of public utility regulation when it meant additional access to cell sites or private subsidies.[127] On the other hand, their arguments can also be used to support the subsidization of community-owned broadband.[128]

Rather than succumbing to this form of agency capture, the FCC should collect ISP contributions to the USF. The Fund was originally developed as a regulatory tool to expand telephone access, but now subsidizes broadband development, though the country's largest ISPs do not contribute to the USF.[129] Rural Local Exchange Carriers (RLECs) already pay into the USF, and money

120. National Cable & Telecommunications Assn. v. Brand X Internet Services, 545 U.S. 967, 1002-03 (2005).

121. *Id.* at 1007-08 (Scalia, J., dissenting).

122. Jon Brodkin, *It's a Utility After All: ISPs Say They Can't Expand Broadband Unless the Gov't Gives Them More Money,* ARS TECHNICA (Aug. 16, 2018), https://arstechnica.com/tech-policy/2018/08/isps-want-to-be-utilities-but-only-to-get-more-money-from-the-government/ [https://perma.cc/L23G-A5DG].

123. *Id.*

124. *Id.*

125. *Id.*

126. *Id.*

127. *Id.*

128. *Id.*

129. Engebretson, *RLECs on USF Contributions*, TELECOMPETITOR (June 15, 2017), https://www.telecompetitor.com/rlecs-on-usf-contributions-we-shouldnt-be-the-only-ones-paying-on-broadband/ [https://perma.cc/VR4U-ENTL] ("Now that the traditional USF program has been reformed to emphasize broadband, RLECs have advocated a broad USF contribution base that would include all providers' broadband internet access

from the USF goes toward supplementing the costs of rural broadband.[130] RLECs argue that all ISPs should pay into the USF, and that the USF base should be expanded to provide larger subsidies for broadband, though this effort is hindered by the FCC's classification of the internet as an information service, which are not traditionally obligated to contribute to the USF.[131] Through common carrier classification, the FCC can expand the contributions it requires from ISPs and develop additional grant programs to help communities address unserved and underserved areas. Moreover, ISPs should have contributed to the USF for the last twenty years, and sensible public utility regulations are fully justified from a policy perspective.

By allowing communities to take on developing the physical fiber network, private ISPs can expand service from public networks and focus on innovations in other areas.

Under the FCC's 2018 Restoring Internet Freedom Order, the internet is once again classified as an information service.[132] This reverses the 2015 Protecting and Promoting the Open Internet Order (2015 Order), which classified the internet as a telecommunications service, citing the change in usage patterns between 2005 and 2015 and stating that a "virtuous cycle" is promoted by imposing net neutrality regulations on internet providers because a nondiscriminatory provision of edge providers encourages competition, which encourages ISPs to improve their infrastructure.[133] Since the 2015 Order was only in place for two years, it is difficult to determine whether this is empirically true.

Mozilla, joined by a group of other stakeholders, challenged the 2018 Order, bringing Communications Act and Administrative Procedures Act claims.[134] In Brand X, the Court held that the Communications Act uses "telecommunications" ambiguously, meaning the FCC is given Chevron deference.[135] This deference applied to

revenues. The current system requires them to charge more for broadband, contributing to a situation in which rural broadband service costs more than equivalent service in urban areas–and by a wide margin.").

130. *Id.*

131. *Id.*

132. *See* Restoring Internet Freedom, Declaratory Ruling, Report and Order, and Order, 33 FCC Rcd. 311, at 21-22 (Jan. 4, 2018), [hereinafter Restoring Internet Freedom Order].

133. *Id.* at 2-8.

134. Paul Werner & Imad Matini, *D.C. Circuit Hears Challenge to Federal Communications Commission's 2018 Restoring Internet Freedom Order*, FCC LAW BLOG (Feb. 4, 2019), https://www.fcclawblog.com/2019/02/articles/fcc/challenge-to-fcc-2018-order [https://perma.cc/KL9U-X43Q].

135. National Cable & Telecommunications Assn. v. Brand X Internet Services, 545 U.S. 967, 992 (2005).

the FCC's 2005 Order declaring the internet an information service.[136] The FCC's 2015 Order changed the classification back to a telecommunications service, reinstating the Title II common carrier obligations for ISPs, and the D.C. Circuit found that the FCC was within its authority to adopt those rules because the record supported its decision.[137] The 2018 Order does not expressly offer a rationale for the classification change; in contrast, the 2015 Order expressly states that the FCC is overturning the Court's holding in Brand X due to a changing market place.[138]

In October 2019, the D.C. Circuit decided Mozilla v. FCC, which challenged the 2018 Order on both Administrative Procedure Act (APA) and Communications Act grounds, arguing that the FCC ignored matters of public concern in making its decision to reverse the 2015 Order, in violation of the APA and Communications Act.[139] Ultimately, the court did not vacate the 2018 Order despite agreeing that the FCC did not adequately consider the impact of reclassification on public safety, pole attachments, and the Lifeline program, finding instead that the FCC could address the issues through reconsideration.[140] Whether the internet is an information or a telecommunications service has a huge impact on how and, ultimately whether, Americans have ubiquitous broadband access.

Regulatory flexibility allows agencies to address fiber deployment faster than its legislative counterparts. Still, agencies must be mindful about existing statutory mandates, which may limit the regulatory solutions available. The FCC is charged with measuring broadband access and reporting to Congress about the current state of broadband deployment.[141] As spectators have highlighted, the FCC's methods for measuring access are imperfect and paint the United States as a broadband access leader, when it is in fact missing the mark compared to other countries.[142] There is no legislation that explicitly delegates authority over the internet to any agency,

136. Appropriate Framework for Broadband Access to the Internet over Wireline Facilities, 20 F.C.C. Rcd 14852 (2005), https://apps.fcc.gov/edocs_public/attachmatch/fcc-05-150a1.pdf [https://perma.cc/X6QH-C2V8].

137. John Eggerton, *Court Upholds FCC's Net-Neutrality Rules*, MULTICHANNEL NEWS (June 14, 2016), https://www.multichannel.com/news/court-upholds-fccs-net-neutrality-rules-405650 [https://perma.cc/U4FF-73KE].

138. *Compare Restoring Internet Freedom Order*, *supra* note 132, at 2-8, with *Protecting and Promoting the Open Internet* 30 FCC Rcd 5601 (7), at 14 http://www.fcc.gov/document/fcc-releases-open-internet-order [https://perma.cc/H99K-H7TT].

139. Werner & Matini, *supra* note 134.

140. Mozilla Corp. v. Fed. Communications Commission, 940 F.3d 1, 18 (D.C. Cir. 2019).

141. 47 U.S.C. § 1302 (2016).

142. *See generally* Kieren McCarthy, *U.S. Broadband is Scarce, Slow and Expensive. 'Great!' Says the FCC*, THE REGISTER (Feb. 6, 2018), https://www.theregister.co.uk/2018/02/06/us_broadband_fcc_report [https://perma.cc/U63X-JXYZ].

and since the Restoring Internet Freedom Order, the FCC renounced regulatory controls over the internet. Given the FCC's lack of regulatory oversight, other federal agencies are better equipped to advance broadband development as a matter of good governance. The FCC's regulatory status over the internet has nearly returned to the approach taken at the internet's inception, despite the fact that empirical evidence shows a stark lack of competition for broadband provision.[143]

B. Congress Can, and Should, Permanently Classify the Internet as a Telecommunications Service

The United States Congress should pass legislation that classifies the Internet under Title II authority, so the FCC can collect Universal Service contributions from ISPs. While the FCC has gone back and forth with its classification of the internet, academics since the dawn of the internet have advocated for common carrier classification.[144] There is good reason to believe that ISPs are responsible for the deregulation of the internet.[145] By paying regulatory decision-makers and using scare tactics, ISPs have had the strongest voice in the decision to deregulate the internet.

Enabling municipal and state governments to deploy broadband will require changes in the way the FCC has classified the internet. By classifying the internet as a common carrier and imposing USF contributions on ISPs, the federal government can provide funding necessary to build out the fiber infrastructure and has the opportunity to rebuild roads and bridges along the way.

143. James B. Speta, *A Common Carrier Approach to Internet Interconnection*, 54 FED. COMM. L.J. 2 at 226 (2002) ("the FCC's general approach is to declare that the internet is competitive and that there is no need for comprehensive regulation."); *Restoring Internet Freedom* Order, *supra* note 132, (reversing the internet's Title II classification promulgated by the *Protecting and Promoting the Open Internet* Order and reclassifying the internet as an information service).

144. Verizon v. F.C.C., 740 F.3d 623, 628 (D.C. Cir. 2014) (authorizing the FCC's oversight of the internet under the FCC's 706 authority); United States Telecomm. Ass'n v. F.C.C., 825 F.3d 674, 689 (D.C. Cir. 2016) (ruling that the FCC has the authority to classify the internet as a telecommunication service); *see generally Restoring Internet Freedom Order*, *supra* note 132 (the FCC's reclassification of the internet, removing it from Title II authority); *see generally* Speta, *supra* note 143 (arguing for the importance of common carrier classification of the internet).

145. Ernesto Falcon, *Large ISPs Flushed with Capital Blame Consumer Protections for Their Disregard of Rural America*, ELEC. FRONTIER FOUND. (Aug. 9, 2018), https://www.eff.org/deeplinks/2018/08/large-isps-flushed-capital-blame-consumer-protections-their-willful-disregard [https://perma.cc/P2NC-XHKQ].

CONCLUSION

United States fiber deployment may always face limitations as the tensions between regulatory agencies, the public, and ISPs continue, but if policymakers keep technical and economic realities in mind, there is a clear path toward a well-developed, nationwide fiber network. Providing state and local governments with tools for fiber deployment through the DOT and increasing the funding available for infrastructure projects by including ISPs in USF contributions can help our country decrease the Digital Divide and eventually ensure that all Americans have access to the internet's vital services.