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Net Neutrality from the Ground Up

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NET NEUTRALITY FROM THE GROUND UP

*Christopher Witteman**

In the long-running net neutrality debate, a key assumption has been that broadband and broadband Internet access service are “jurisdictionally interstate.” But are they really? And what does that mean? In practice, the interstate assumption has meant that important decisions about broadband law and policy—whether online content delivery will be akin to the common carrier model of the legacy phone network or the entertainment model of the cable television industry, for instance—are made almost exclusively by the federal government.

The “who decides” question took on new immediacy in 2017, when the Federal Communications Commission gutted federal net neutrality rules, and then attempted to preempt the states from adopting their own. Several states nevertheless enacted open network/non-discrimination laws; two of them (in California and Vermont) were promptly challenged on preemption grounds.

This article examines the interstate assumption “from the ground up.” It starts with wires in the ground and radio links to local cell towers, i.e., “last-mile” infrastructure without which there would be no broadband Internet access. It arrives at the conclusion that “jurisdictionally interstate” is more of a fictional construct than a factual description, one that expresses unexamined policy choices more than essential network attributes. It concludes by reflecting on alternate ways that federal, state, and local interests might more harmoniously be integrated in light of the network’s physical presence and the state laws that enable that presence.

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I. INTRODUCTION

The long-running battles around net neutrality—the principle of non-discrimination in the delivery of Internet traffic—can seem to the casual observer like a game. The line of scrimmage moves up and down the field, one team claims victory at the end of the day, only to see its triumph reversed when the teams meet again.

That might make for good entertainment, but not for effective law or policy. It is not healthy when every four to eight years the nation's approach to its essential communications network changes in such fundamental ways.¹

This article argues that law and policy around broadband access and net neutrality are as unstable as they are because—in addition to the many millions of dollars expended in lobbying and litigating these issues—the debate has strayed far from facts on the ground: the delivery of broadband Internet access over local networks consisting of wires, poles, conduit, and radio links.

Unmoored from this physical reality, the Federal Communications Commission (FCC) has classified broadband as “jurisdictionally interstate,”² a convenient fiction, which hides the fact that most online traffic is local. It also obscures the vital role of state and local governments in enabling and regulating last-mile utility infrastructure, including broadband providers' use of streets, backyard easements, and public rights-of-way. Without this local infrastructure and access, there is no broadband Internet access service (BIAS). The FCC's truncated field of vision affects the constitutionally important question of whether BIAS is best classified as an intrastate or interstate service.³

1. See Jessica Bulman-Pozen, *Administrative States: Beyond Presidential Administration*, 98 TEX. L. REV. 265, 270–77, 281, 323 (2019) (“regulatory whiplash”) (construing Elena Kagan, *Presidential Administration*, 114 HARV. L. REV. 2245, 2246 (2001)); see also Tony Romm, *Net Neutrality: A Lobbying Bonanza*, POLITICO (Feb. 23, 2015, 5:37 AM), <https://www.politico.com/story/2015/02/net-neutrality-a-lobbying-bonanza-115385> [<https://perma.cc/86YF-F8GF>] (describing intense opposition to the FCC's 2015 proposal to regulate broadband like a public utility, including early fundraising efforts and predicted litigation from the nation's largest telecom providers). While the Federal Communications Commission (FCC) is classified as an independent federal agency, it inevitably comes under the sway of the Administration in power, resulting in radical policy swings when power changes hands. See Bulman-Pozen, *supra*, at 279–80.

2. See, e.g., *Restoring Internet Freedom*, Declaratory Ruling, Report and Order, and Order, 33 FCC Rcd. 311, 429 para. 199 (2018) [hereinafter *RIFO*], <https://www.fcc.gov/document/fcc-releases-restoring-internet-freedom-order> [<https://perma.cc/4HL4-4FRV>].

3. The federal-state preemption conflict is not new, has occurred in other industries, and has existed in the telecommunications world both before and after its transition from a voice-only to an all-purpose broadband network. E.g., Jonathan Jacob Nadler, *Give Peace A Chance: FCC-State Relations After California III*, 47 FED. COMM'NS L.J. 457, 493 (1995).

In his book on constitutional factfinding, Dean David Faigman cracks wise about the frequent lack of empirical evidence in constitutional debate. Facts are “about as welcome as a sales pitch by a zipper salesman to a group of button manufacturers.”⁴ From both a constitutional and statutory perspective, the flight into abstractions like “jurisdictionally interstate” impedes the development of rational policy and law around network neutrality and broadband transport.

Recentering the net neutrality debate on the local access network is a decidedly contrarian endeavor in 2021. The notion that broadband access and transit are interstate services is well-embedded and widely accepted as necessary to ensure a cohesive national network. It, in turn, is used as the predicate for federal preemption of state and local laws and regulations across a wide field of broadband-related issues.

Preemption of state net neutrality rules moved center stage, when in 2017 the FCC eliminated all non-discrimination rules relating to BIAS delivery, in its *Restoring Internet Freedom Order (RIFO)*.⁵ The FCC went further, prohibiting states from adopting their own neutrality rules, arguing that such state initiatives were precluded by the established “jurisdictionally interstate” classification of broadband service.⁶

In defiance of the federal edict, a number of states passed their own versions of net neutrality laws, California’s SB 822 and Washington State’s HB 2282 being the most robust.⁷ California’s efforts

4. DAVID L. FAIGMAN, *LABORATORY OF JUSTICE: THE SUPREME COURT’S 200-YEAR STRUGGLE TO INTEGRATE SCIENCE AND THE LAW* xi (2004) (“[I]t is hard to find a constitutional subject that does not incorporate sundry empirical assumptions that either have been or could be tested scientifically.”).

5. *RIFO*, *supra* note 2.

6. *Id.* at 426–30, paras. 194–200.

7. See Cecilia Kang, *States Push Back After Net Neutrality Repeal*, N.Y. TIMES (Jan. 11, 2018), <https://www.nytimes.com/2018/01/11/technology/net-neutrality-states.html> [<https://perma.cc/8FAG-6QAP>]; see also Danielle Dean, *The Debate Over Net Neutrality*, NAT’L CONF. STATE LEGISLATURES (Apr. 2018), <https://www.ncsl.org/research/telecommunications-and-information-technology/the-debate-over-net-neutrality.aspx> [<https://perma.cc/E6W3-UKH8>] (providing an overview of state efforts in response to RIFO, including Washington’s new law prohibiting broadband providers from blocking lawful content and paid prioritization, among other regulations).

The California Internet Consumer Protection and Net Neutrality Act of 2018 was enacted as S.B. 822, 2017–2018 Leg., Reg. Sess. § 2 (Cal. 2018), approved and signed into law on September 30, 2018, and codified at CAL. CIV. CODE §§ 3100–3104 (2021) (unless noted otherwise, all citations are to the 2021 edition of the California Codes, available at <https://leginfo.ca.gov/>). Bill text, history, and analysis are available at *SB-822 Communications: Broadband Internet Access Service*, CAL. LEGIS. INFO. (Oct. 1, 2018), https://leginfo.ca.gov/faces/billNavClient.xhtml?bill_id=201720180SB822 [<https://perma.cc/F2MC-FANV>].

were immediately requited with double-barreled lawsuits by a coalition of Internet Service Providers (or “ISPs,” the large telecommunications and cable carriers offering broadband access) and the U.S. Department of Justice; Vermont’s rather more modest net neutrality bill also attracted ISP litigation.⁸ In both cases, the primary allegation was that the state laws are preempted by a federal “light touch” policy, cemented in place by the “jurisdictionally interstate” rubric.

Although the U.S. dismissed its complaint against California on February 8, 2021, and the District Court ruled against the ISPs on February 23, 2021, the question left on the table is whether “jurisdictionally interstate” is an appropriate label for broadband services. This leads to broader questions of whether and how the law in this area could be stabilized by a re-look at the local, physical substrate over which Internet access is actually delivered, and a re-think about how state and federal interests around BIAS might be better balanced.

Section II of this Article provides a short explanation of what net neutrality is, how it became so controversial, how certain states reacted when the federal rules were eliminated, and how two states then defended their laws in court.⁹ Section III.A recounts states’

8. Brian Fung, *Internet Providers Are Joining Trump’s DOJ in Suing California over Net Neutrality*, WASH. POST (Oct. 3, 2018), <https://www.washingtonpost.com/technology/2018/10/03/internet-providers-are-joining-trumps-doj-suing-california-over-net-neutrality/> [https://perma.cc/DNA6-N9VY]; David Shepardson, *Internet Provider Groups Sue Vermont over Net Neutrality Law*, REUTERS (Oct. 18, 2018, 12:48 PM), <https://www.reuters.com/article/us-usa-internet/internet-provider-groups-sue-vermont-over-net-neutrality-law-idUSKCN1MS2ZU> [https://perma.cc/MHS3-34S2].

9. The article takes a particularly close look at the defense of the California net neutrality statute in the U.S. District Court in Sacramento. *United States v. California*, No. 2:18-CV-02660 (E.D. Cal. Sept. 30, 2018) (co-defendants were Governor Newsom and Attorney General Becerra, dismissed prior to hearing); *Am. Cable Ass’n v. Becerra*, No. 2:18-CV-02684 (E.D. Cal. Oct. 3, 2018). The District Court upheld the statute; the matter is now on appeal in the Ninth Circuit. *ACA Connects v. Bonta*, No. 21-15430 (9th Cir., argued Sept. 14, 2021), *appeal docketed, sub nom. ACA Connects v. Becerra*, No. 21-15430 (9th Cir., Mar. 11, 2021). As this article was going to print, the Ninth Circuit issued a decision upholding the statute. *ACA Connects v. Bonta*, No. 21-15430, 2022 WL 260642, at *11 (9th Cir. Jan. 28, 2022) (common carrier provision in the federal statute “is a limitation on the FCC’s regulatory authority and does not affect the states’ authority”); *id.* at *13 (rejecting field preemption without reference to the FCC’s “jurisdictionally interstate” construct, finding that the “Communications Act itself reflects a federal scheme that leaves room for state regulation that may touch on interstate services”). For links to the relevant District Court pleadings *see infra* notes 65–67; for a useful selection of pleadings in both the District Court and Ninth Circuit (including the latter’s January 28, 2022 Opinion), see *California Net Neutrality Cases*, ELEC. FRONTIER FOUND., <https://www EFF.org/cases/californias-net-neutrality-cases> [https://perma.cc/WTA3-JMS2].

While this article was being edited for publication, a parallel article appeared which also takes *American Cable Association v. Becerra* as the starting point for a more general consideration of state jurisdiction over broadband. Tejas N. Narechania & Erik Stallman, *Internet Federalism*, 34

historic exercise of police power over a range of public safety and welfare issues related to broadband, using California as a case study. Section III.B analyzes the “jurisdictionally interstate” categorization of broadband access, and the factually questionable “impossibility exception” on which it is based. Dismantling this orthodoxy opens up new law and policy perspectives, which are described in Section III.D. Before getting there, however, Section III.C takes a final look at the physical and economic reality of local and last-mile broadband networks.

Net neutrality rules are a bellwether for other issues related to broadband access, including public safety, universal service, and competition.¹⁰ Indeed, this Article could have been titled “*Broadband from the Ground Up*.” The FCC’s recent insistence that BIAS regulation is exclusively within its jurisdiction, while failing to proactively occupy that space, left a vacuum that almost commanded states to act.¹¹ Even during the Obama administration, the FCC had endorsed the “jurisdictionally interstate” BIAS classification, while stopping short of claiming exclusivity.¹²

The unsettled taxonomy has encouraged broadband carriers’ resistance to state authority. Even in matters of public safety, ISPs object that their broadband services are interstate and therefore beyond the reach of state jurisdiction.¹³ Such objections, if accepted, put the

HARV. J.L. & TECH. 547, 555 (2021). The papers share an emphasis on the local access network and state jurisdiction, while offering different perspectives and particulars. *Id.* at 559.

“Broadband” is commonly understood to be electronic transport over “any circuit significantly faster than a dial-up phone line.” HARRY NEWTON, NEWTON’S TELECOM DICTIONARY 177 (24th ed. 2008). Currently, the FCC benchmarks broadband speeds at “25 megabits per second (Mbps) for downloads and 3 Mbps for uploads.” 2015 *Broadband Progress Report*, FED. COMM’NS COMM’N. (Feb. 4, 2015), <https://www.fcc.gov/reports-research/reports/broadband-progress-reports/2015-broadband-progress-report> [<https://perma.cc/4VQG-DSGX>].

10. See Catherine J.K. Sandoval, *Net Neutrality Repeal Rips Holes in the Public Safety Net*, 80 U. PITT. L. REV. 953, 958 (2019) (“Enforceable rules that prohibited ISPs from blocking, throttling, or engaging in paid prioritization encouraged our [CPUC] decisions to authorize Internet-enabled investments by energy and water ratepayers.” (alteration in original)).

11. See generally *RIFO*, *supra* note 2, at 541 (Clyburn, Comm’r, dissenting) (reacting to the FCC’s evisceration of neutrality rules and insistence on federal preemption with the expectation that states and localities will move into the vacuum—“when the FCC has refused to act in the past, states and localities often move on their own”).

12. *Protecting and Promoting the Open Internet*, Report and Order on Remand, Declaratory Ruling, and Order, 30 FCC Rcd. 5601, 5722 para. 278, 5803 para. 431 & n.1276 (2015) [hereinafter *Open Internet Order*].

13. When the CPUC required backup power at cell sites in high fire threat areas, AT&T, Verizon, T-Mobile, and other carriers objected, citing *RIFO*: “The FCC has determined . . . that broadband is an interstate information service. . . . [O]bligations to provide services at particular times and of particular service levels specified by the Commission are classic forms of common carriage

states' primary communications networks at risk when they are needed most. As service quality declines, prices for this essential service rise and access remains inequitably distributed.¹⁴ The immediate question is what the states can do in this definitional quagmire. The long-term problem is developing a sustainable and balanced regulatory approach to the electronic network that is ever more central in our lives.

II. BACKGROUND

A. *What Is Net Neutrality?*

In lay terms, net (or network) neutrality “is the principle that the company that connects you to the internet does not get to control what you do on the internet.”¹⁵ This means that individuals and businesses “should be free to access all content and applications equally, regardless of the source, without [ISPs] discriminating against specific

and public utility regulation that are incompatible with the FCC’s classification” Application of CTIA, AT&T Mobility, Cellco Partnership and T-Mobile for Rehearing of Decision 20-07-011, Rulemaking 18-03-011, at 19 (filed Aug. 19, 2020) [hereinafter Application for Rehearing], <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M345/K151/345151556.PDF> [<https://perma.cc/UXH9-3R54>]. When the CPUC proposed similar backup requirements for landline remote terminals, AT&T responded in kind. AT&T’s Opening Comments, at 3, *Order Instituting Rulemaking Regarding Emergency Disaster Relief Program*, Rulemaking 18-03-011 (filed Aug. 12, 2020) [hereinafter AT&T’s Opening Comments], <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M345/K150/345150228.PDF> [<https://perma.cc/3WKN-89BS>] (“It would unlawfully impose state regulation on broadband service, a well-established interstate information service.”). When the CPUC sought to address digital divide issues in the *Order Instituting Rulemaking Regarding Broadband Infrastructure Deployment and to Support Service Providers in the State of California*, Rulemaking 20-09-001, slip op. at 8–11, (Cal. Pub. Utils. Comm’n Sept. 18, 2020), <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M347/K278/347278341.PDF> [<https://perma.cc/4T5A-7N6E>], the carriers again objected. *E.g.*, Comments of Comcast Phone of Cal., LLC, at 18, *Order Instituting Rulemaking Regarding Broadband Infrastructure Deployment and to Support Service Providers in the State of California*, Rulemaking 20-09-001 (Cal. Pub. Utils. Comm’n Oct. 12, 2020), <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M348/K579/348579845.PDF> [<https://perma.cc/SLZ2-JDPJ>] (Governor’s “Executive Order does not (and cannot) grant the Commission any new regulatory authority [T]he FCC has classified broadband as an interstate information service subject to a federal policy of non-regulation”); *see also* Cox Cable, Frontier, and AT&T Comments in this docket (same).

14. *See infra* notes 221–223 and accompanying text (discussing declining service quality); *see also* discussion *infra* Sections III.C.2.b–c, III.C.4.b (discussing lack of competition and digital divide issues).

15. *Net Neutrality*, PUB. KNOWLEDGE, <https://perma.cc/S47N-39PH>. For an excellent introduction to both sides of the net neutrality debate, see Tim Wu & Christopher S. Yoo, *Keeping the Internet Neutral?: Tim Wu and Christopher Yoo Debate*, 59 FED. COMM’NS L.J. 575 (2007), available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=953989.

online services or websites,”¹⁶ including “content, applications, and services that are provided by unaffiliated third parties.”¹⁷ The concept has global ramifications, being “the principle that every point on the network can connect to any other point on the network.”¹⁸

Such non-discrimination principles have been understood as an extension of centuries-old common carrier obligations originating with ferries, grain elevators, railroads, and other essential businesses¹⁹ “affected with a public interest” and tending toward monopoly.²⁰ The D.C. Circuit found that the FCC had initially treated broadband as such a service,²¹ and that anti-discrimination rules were *de jure* common carrier regulations (only permissible if the FCC forthrightly declared BIAS to be a telecommunications service).²²

16. PUB. KNOWLEDGE, *supra* note 15. California’s S.B. 822 does not contain a definition of network neutrality per se, although its prohibitions (on blocking, impairing, or degrading Internet traffic, requiring edge providers to pay extra to reach consumers, etc.) may be said to constitute a definition of sorts. California’s Opposition brief offers this definition: “[I]nternet openness—commonly known as net neutrality—[is] the principle that broadband providers must treat all internet traffic the same regardless of source.” Defendants’ Opposition to Preliminary Injunction Motions at 3, *United States v. California*, No. 2:18-cv-02660 (E.D. Cal. Sep. 16, 2020) [hereinafter California Opposition], <https://oag.ca.gov/sites/default/files/%5B27%5D%20Opp%20to%20Mot%20for%20Prelim%20Inj.pdf> [<https://perma.cc/TZ9B-XPFD>].

17. *Open Internet Order*, *supra* note 12, at 5755. The *conduit* or transport functions at the heart of net neutrality should not be conflated with the *content* moderation issues on private online platforms. Conduit issues are rooted in physical network realities while platform content disputes are more often a function of social mores and digital rights management, although there are hybrid cases where the platform owner also owns transport facilities. See GOOGLE FIBER, <https://fiber.google.com/> [<https://perma.cc/YNU2-3NRZ>]; Global Infrastructure, AMAZON WEB SERVS., <https://aws.amazon.com/about-aws/sites/global-infrastructure/> [<https://perma.cc/CU9T-W5XR>]; see *generally infra* note 225 (content/transport cross-ownership).

18. KIRSTEN FIEDLER & JOE McNAMEE, NET NEUTRALITY 2 (2013), https://edri.org/files/paper08_netneutrality.pdf [<https://perma.cc/8PLZ-VUBZ>].

19. *Verizon v. Fed. Commc’ns Comm’n*, 740 F.3d 623, 651 (D.C. Cir. 2014) (“[T]he principles of the common law applicable to common carriers . . . demanded little more than that they should carry for all persons who applied, in the order in which the goods were delivered at the particular station, and that their charges for transportation should be reasonable.” (quoting *Interstate Com. Comm’n v. Balt. & Ohio R.R. Co.*, 145 U.S. 263, 275 (1892) (omission in original))).

20. *Munn v. Illinois*, 94 U.S. 113, 127–29 (1876) (“[I]f he will take the benefit of that monopoly, he must, as an equivalent, perform the duty attached to it on reasonable terms.”).

21. *Verizon*, 740 F.3d at 638–39 (noting “Commission’s long history of subjecting to common carrier regulation the entities that controlled the last-mile facilities over which end users accessed the Internet” (citing *Deployment of Wireline Services Offering Advanced Telecommunications Capability*, Memorandum Opinion and Order, and Notice of Proposed Rulemaking, 13 FCC Rcd. 24012, 24029–30 para. 35 (1998) [hereinafter *Advanced Services Order*])). The Communication Act’s definition of common carrier is circular and not particularly helpful, thus the *Verizon* Court’s reliance on pre-Act common law. *Compare* 47 U.S.C. § 153(11) (2018) (“[C]ommon carrier . . . means any person engaged as a common carrier . . .”), with *infra* note 62.

22. *Verizon*, 740 F.3d at 651 (“[T]he basic characteristic that distinguishes common carriers [is] . . . ‘holding oneself out to serve the public indiscriminately.’”) (quoting Nat’l Ass’n Regul. Util. Comm’rs v. Fed. Commc’ns Comm’n (*NARUC I*), 525 F.2d 630, 642 (D.C. Cir. 1976)); see

An understanding of broadband as common carriage attached to the “broadband communications grid” from the beginning, described in the 1970s as a “two-way” and primarily “intrastate” network that offered end-users the ability to “transmit intelligence of their own design and choosing.”²³

Although the Internet is global in scale, its delivery is decidedly local: copper, coaxial and fiber cables, or radio (cell) transmission bringing broadband over the last mile into the home or business.²⁴ Economic realities dictated that this capital-intensive local grid would tend toward monopoly. Control of these last-mile facilities, often referred to as the “physical layer” of Internet access,²⁵ puts the ISP in a position to manipulate consumers’ access to Internet content and

also NANOG, *Open Internet Order*, YOUTUBE (June 2, 2015), <https://youtu.be/KKAa3HgbVyI> [<https://perma.cc/PL6K-N75N>] (the author describes the history of telecommunications common carriage in his talk “A Regulator’s Read of the FCC’s Open Internet Order, and Related Regulatory Proceedings”); San Diego Supercomputer Center, *The Death of Common Carriage*, YOUTUBE (Mar. 5, 2019), <https://www.youtube.com/watch?v=shK7jasyeow> [<https://perma.cc/DJ2H-L3WB>] (common carriage as protection of consumers from carrier/ISP interference).

This article uses the terms “carrier” and “ISP” interchangeably, as ISPs in the context of the current net neutrality debate are simply last-mile carriers; similarly, backbone, transport and transit providers may all also be considered carriers, inasmuch as they transmit “information of the user’s choosing, without change in the form or content of the information as sent and received.” See 47 U.S.C. § 153(50)–(51); see also *infra* note 173 and accompanying text (relating to the changing and sometimes ambiguous use of the term ISP).

23. Nat’l Ass’n Regul. Util. Comm’rs v. Fed. Comm’n Comm’n (*NARUC II*), 533 F.2d 601, 606, 609 (D.C. Cir. 1976) (rejecting FCC regulation that required cable companies to develop “two-way communications capability” while purporting to preempt state and local government oversight of same). The court found this two-way service to be a form of common carriage and primarily the states’ domain.

24. Joint Comments of Internet Engineers, Pioneers, and Technologists on the Technical Flaws in the FCC’s Notice of Proposed Rule-making and the Need for the Light-Touch, Bright-Line Rules from the Open Internet Order, *Restoring Internet Freedom*, WC Docket No. 17-108, at 3, 7 (filed July 17, 2017) [hereinafter Joint Technologists’ Comments], <https://ecfsapi.fcc.gov/file/1071761547058/Dkt.%2017-108%20Joint%20Comments%20of%20Internet%20Engineers%2C%20Pioneers%2C%20and%20Technologists%202017.07.17.pdf> [<https://perma.cc/YWL4-JJDS>].

25. *Id.* at 7 (“[T]he ‘physical layer’ is responsible for physically transmitting and receiving bits. It can do so over fiber optic cable, copper telephone lines, radio signals, etc., as long as it provides a way for the layer above it to access the ‘transmit and receive bits’ function.”). While “physical layer” in engineer’s parlance refers specifically to the data bits travelling over the wire or radio interface, as used herein it refers primarily to the physical media themselves (wires and radio waves) and the structures that support such transmission media (poles, conduit, and cellular antennae). See also *infra* discussion in Sections III.B.3 (“end-to-end” issues) and III.C.1 (“lower layer control”). The physical media are predominantly *local*. Olivier Sylvain, *Broadband Localism*, 73 OHIO ST. L.J. 795, 797 (2012) (“Local broadband providers’ network management practices, the grounded towers that loom over neighborhoods, and the cables that run under city streets determine the quality of users’ Internet experiences.”); Narechania & Stallman, *supra* note 9, at 548 (the Internet is not a “cloud, floating off into cyberspace”).

services.²⁶ ISPs have availed themselves of this gateway control through various blocking, filtering, and priority schemes.²⁷

The consumer or small business owner has little meaningful choice among broadband providers, and the content or service provider typically has no other way to reach the consumer.²⁸ It is in part a competition and antitrust problem. Every consumer or business email, 911 call, or Amazon order—as well as the sophisticated interactions required by energy demand-response software, just-in-time

26. This is not to denigrate the importance of upstream discrimination/interconnection issues, which are addressed in SB 822. *See* CAL. CIV. CODE §§ 3101(a)(3), (a)(9) (2021) (addressing ISP demands for extra compensation from edge providers, and related interconnection issues). The Netflix/Comcast interconnection dispute discussed below is illustrative, and can be seen as a byproduct of the ISP's (Comcast's, in this instance) last-mile terminating access monopoly. *Infra* notes 227–228; *see also infra* notes 223–224 (emphasizing the exclusivity of last-mile BIAS providers over subscribers' internet access); “*Beyond Frustrated*”: *The Sweeping Consumer Harms as a Result of ISP Disputes*, OPEN TECH. INST. (Nov. 2014), <https://ecfsapi.fcc.gov/file/10221539522488/OTI%20Beyond%20Frustrated%20Interconnection%20Report.pdf> [<https://perma.cc/VW7N-UJXC>] (highlighting the consumer and business costs of inter-carrier/ISP disputes). Discrimination issues can also occur further upstream, for instance between backbone providers. *See* Narechania & Stallman, *supra* note 9, at 567–70.

27. Declaration of Scott Jordan in Support of Opposition to Preliminary Injunction Motions at paras. 6–10, 13, 46–47, *United States v. California*, No. 2:18-cv-02660 (E.D. Cal. Sep. 16, 2020) [hereinafter *Jordan Declaration*]. Mr. Jordan's Declaration is one of twelve filed by defendant California on September 16, 2020, in opposition to plaintiffs' motions for preliminary injunction. In the aggregate, they provide a detailed picture of how Internet connectivity is used today and how non-neutral carrier practices threaten that connectivity. *See, e.g.*, Declaration of Angie Kronenberg in Support of Opposition to Preliminary Injunction Motions, *United States v. California*, No. 2:18-cv-02660 (E.D. Cal. Sept. 16, 2020) (addressing the ISPs' “terminating access monopoly” and other interconnection and traffic delivery issues); Declaration of Andrew McCollum in Support of Opposition to Preliminary Injunction Motions, *United States v. California*, No. 2:18-cv-02660 (E.D. Cal. Sept. 16, 2020) (describing the challenges of a small independent streaming content provider); Declaration of Fire Chief Anthony Bowden in Support of Opposition to Preliminary Injunction Motions, *United States v. California*, No. 2:18-cv-02660 (E.D. Cal. Sept. 16, 2020) (detailing Verizon's throttling of the fire department's internet access during fire emergencies); Declaration of Laura Blum-Smith in Support of Opposition to Preliminary Injunction Motions, *United States v. California*, No. 2:18-cv-02660 (E.D. Cal. Sept. 16, 2020) (describing the competitive disadvantages of small carrier/ISPs); Declaration of Thomas Nakatani in Support of Opposition to Preliminary Injunction Motions, *United States v. California* No. 2:18-cv-02660 (E.D. Cal. Sept. 16, 2020) (describing threat to his alarm services company posed by ISP/carrier interference); Declaration of Dave Schaeffer in Support of Opposition to Preliminary Injunction Motions, *United States v. California*, No. 2:18-cv-02660 (E.D. Cal. Sept. 16, 2020) (detailing demands of large ISPs for payment to deliver content requested by end users); Declaration of Margaret Dolgenos in Support of Opposition to Preliminary Injunction Motions, *United States v. California*, No. 2:18-cv-02660 (E.D. Cal. Sept. 16, 2020) (explaining the leverage of large ISPs generally) [hereinafter individually and as State's Opposition Declarations, available at <https://media-alliance.org/2021/01/net-neutrality/> [<https://perma.cc/3M2E-5FSL>]].

28. *See* discussion *infra* Section III.C.2.

production, or remote video monitoring of fire-prone hillsides—necessarily goes over and relies on this connection.²⁹

Common carriage is a hallmark of public utility service, with its attendant consumer protections. Former FCC advisor Gigi Sohn and others have emphasized that common carrier designation has ramifications in many related areas, from competition and affordability to privacy and consumer protections.³⁰

B. *How Did We Get Here?*

As discussed above, common carriage was the norm in telecommunications regulation both before and after the 1996 Telecommunications Act amendments to the Communications Act of 1934. The 1996 Act addressed the relationship between the then-burgeoning data processing services (“information services”) and the underlying electronic transport (“telecommunications service”); these are addressed in Title I and Title II respectively, with Title II containing the telecommunications common carriage provisions.³¹

29. S.B. 822, 2017–2018 Leg., Reg. Sess. § 1(a)(2) (Cal. 2018) (“Almost every sector of California’s economy, democracy, and society is dependent on the open and neutral Internet that supports vital functions regulated under the police power of the state.”). Within the scope of its protection, the bill recognizes police and emergency services, health services, utility services and infrastructure, transportation infrastructure, educational access, business operations, and other sectors. *See also* Jonathan Sallet, *The Creation of Value: The Value Circle and Evolving Market Structures*, 11 J. ON TELECOMMS. & HIGH TECH. L. 185, 193 (2013) (“‘Lean manufacturing’ and ‘just in time’ inventory improved the efficiency of production. . . . [T]he arrival of mass computing and the Internet introduced powerful new tools for efficiency.”).

30. Gigi B. Sohn, *A Policy Framework for an Open Internet Ecosystem*, 2 GEO. L. TECH. REV. 335, 349–57 (2018). Also included in the bundle of Title II protections are service quality and resiliency standards necessary for public safety. *See* discussion *infra* Section III.A.3; *cf.* Christopher Wittman, *Information Freedom, a Constitutional Value for the 21st Century*, 36 HASTINGS INT’L & COMPAR. L. REV. 145, 233–43, 251 (2012) (finding a “positive” right to information access in First Amendment’s free speech principles, which access would be ensured under common carrier principles).

31. Title 47 of the U.S. Code is dedicated as a whole to “Telecommunications,” although only a small portion of it addresses “telecommunications” as used in the net neutrality debate (where “telecommunications” means “common carriage” and “information services” does not). *See* 47 U.S.C. §§ 151–624 (2018) (labelled “Wire or Radio Communication”), particularly Subchapters I and II. “Title I” is understood to refer to the more general provisions for “information services,” while “Title II” contains the specific common carriage provisions applicable to telecommunications carriers.

That said, Title I (47 U.S.C. §§ 151–161) contains three provisions critical to the interpretation of Title II: (i) statement of purpose in section 151 (“to make available . . . without discrimination . . . a rapid, efficient, Nation-wide, and world-wide wire and radio communication service . . . for the purpose [*inter alia*] of promoting safety of life and property . . .”); (ii) the separation in section 152 of subject matter jurisdiction into two realms, interstate and intrastate; and (iii) a series of definitions in section 153, including “common carrier,” “telecommunications,” “telecommunications service,” and “information service.” *Id.* at §§ 151–153. *Title I does not*

In 2002, the FCC abandoned the status quo ante, deciding that broadband was no longer a “telecommunications” utility service, and placing it instead in the lightly or completely unregulated category of “information service.”³² Accordingly, net neutrality became the issue it is today.

It was not until early 2015, after a years-long struggle and compilation of a deep factual record, that the Obama FCC corrected the classification error of the 2002 Order and stated the obvious: BIAS is (or should be) a transport service that allows subscribers to go where they will and receive the content of their choice.³³ The FCC’s 2015 *Open Internet Order* adopted a comprehensive set of rules, including no blocking, no throttling (subject to “reasonable network management”), and no paid prioritization.³⁴

command the FCC to do anything in particular with regard to this universe, except to collect certain fees and to “forbear” from enforcing sections of Title II when competition provides a market that is “just and reasonable and . . . not unjustly or unreasonably discriminatory,” that protects consumers, and is “consistent with the public interest.” *Id.* at § 160.

Title II (47 U.S.C. §§ 201–276) contains the substantive elements of common carrier regulation, including section 202 (prohibiting “unreasonable discrimination in charges, practices, classifications, regulations, facilities, or services”). It also contains the sections related to competition on the network. *See* discussion *infra* Section III.C. In *RIFO*, the FCC chose to disavow *all* Title II or “common carrier” authority over broadband, rather than “forbear” under Section 160, as the latter would imply that Title II applied to broadband in the first instance. *RIFO*, *supra* note 2, at 407 para. 160, 416–17 para. 174.

32. The FCC reasoned that there was no severable transport element in what they saw as a bundle of services making up broadband Internet access. *Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities*, GN Docket No. 00-185, Declaratory Ruling and Notice of Proposed Rulemaking, 17 FCC Rcd. 4798, 4870 (2002) [hereinafter *Cable Modem Order*] (Copps, Comm’r, dissenting), *aff’d sub nom.* Nat’l Cable & Telecomms. Ass’n v. Brand X Internet Servs. (*Brand X*), 545 U.S. 967 (2005).

When this issue finally reached the Supreme Court, it punted. The Court deferred to the FCC’s strained definition of broadband as a hybrid of transport and “information” services that could not be teased apart, leaving it to Justice Scalia to point out the patent absurdity of this position. The FCC’s logic was “too-clever-by-half,” he wrote, akin to a pizza parlor answering whether the parlor offers delivery with “No, even though we bring the pizza to your house, we are not actually ‘offering’ you delivery, because the delivery that we provide . . . is ‘part and parcel’ of our pizzeria-pizza-at-home service and is ‘integral to its other capabilities.’” *Brand X*, 545 U.S. at 1007 (Scalia, J., dissenting).

For an exhaustive technical discussion of broadband as a telecommunications service, see Scott Jordan, *Broadband Internet Access Service Is a Telecommunications Service*, 71 FED. COMM’NS L.J. 155 (2019).

33. *See Open Internet Order*, *supra* note 12, at 5682–83 para. 188, 5751–52 para. 346.

34. “Throttling” refers to the ISP practice of slowing a subscriber’s connection speeds, particularly when an ISP-imposed data cap is exceeded. *See infra* note 121.

These prohibitions were part of a fuller spectrum of protections, including a “general conduct rule” (“no unreasonable interference or unreasonable disadvantage”) and an enhanced transparency rule. *See Open Internet Order*, *supra* note 12, at 5915, 5659 para. 135, 5669 para. 155. This Order was dubbed “*Title II Order*” by the later *RIFO* decision and accompanying text, in

In December 2017, the Trump administration's FCC rejected this logic, completely undoing the 2015 rules.³⁵ The FCC rationalized the rejection of its previous rules by declaring that the Title II "telecommunications" provisions of the Communications Act did not apply to broadband, and therefore the Obama FCC had no authority to issue the rules it did.³⁶ The *coup de grace* was the Preemption Directive, invoking the "jurisdictionally interstate" meme to claim that the FCC has exclusive jurisdiction over BIAS, and to preempt the states from adopting their own rules going forward.³⁷ The FCC claimed any contrary state legislation (such as SB 822) would be incompatible with its policy of, and the 1996 Telecommunication Act's alleged preference for, "light touch" regulation of the Internet.³⁸

recognition of the prior order's reclassification of BIAS as a telecommunications or Title II service. See discussion and sources cited *supra* note 31.

35. The FCC repealed the non-discrimination rules of the 2015 decision *in toto*, adding back a significantly diminished transparency rule. It released its final order on January 4, 2018, reclassifying fixed (service to a known address) and mobile BIAS as a Title I "information service," (and reclassifying mobile broadband as a "private mobile service"). See *RIFO*, *supra* note 2, at 320–52, paras. 26–64, 352–62 paras. 65–85, 466–80 paras. 263–83. The Dissenting Statement of Commissioner Clyburn derided it as the "Destroying Internet Freedom Order." *Id.* at 533.

36. *RIFO*, *supra* note 2, at 312, para. 2. *RIFO* was just the FCC's latest about-face on this issue. A rough and incomplete summary of that back and forth might include:

- 1998 (and before): Broadband access is a telecommunications service (with a segregable transport element). See *Advanced Services Order*, *supra* note 21, at 24029–30, para. 35 ("packet-switched services are . . . pure transmission services"); John Blevins, *The FCC and the "Pre-Internet,"* 91 IND. L.J. 1309, 1314–15 (2016) (distinguishing information from telecommunications services).
- 2002: The FCC decides that broadband access is an information service because it is not possible to separate the transmission element from the information service element, a variation on the "impossibility" theme. See *Cable Modem Order*, *supra* note 32.
- 2015: The FCC decides that broadband access contains a segregable transport component, therefore BIAS is now a telecommunications common carrier service. *Open Internet Order*, *supra* note 12, at 5610, para. 29.
- 2017: Broadband access is returned to its 2002 status, as an integrated information service with no segregable transport component. See *RIFO*, *supra* note 2, at 312, para. 2.

Although the FCC puts a good face on these repeated reversals, e.g., in 2015, by pointing to different stages of the network's development, the cynic might observe that nothing really changed in those years other than the administration in power.

37. *Mozilla Corp. v. Fed. Comm'n's Comm'n (Mozilla)*, 940 F.3d 1, 18 (D.C. Cir. 2019) (labelling the preemption provisions of *RIFO*, *supra* note 2, at 426–32, paras. 194–204, as a "Preemption Directive").

38. *RIFO*, *supra* note 2, at 432, 434–90, paras. 203, 207–303. By contrast, the 2015 *Open Internet Order* only prohibited states from "inconsistent" rules which it said it would evaluate on a case-by-case basis. *Open Internet Order*, *supra* note 12, at 5804, para. 433; see also discussion *infra* Section III.C.1.

The D.C. Circuit Court, ruling in late 2019 (in *Mozilla Corp. v. Federal Communications Commission*³⁹) on various challenges to *RIFO*, rejected the Preemption Directive:

By reclassifying broadband as an information service, the Commission placed broadband *outside* of its Title II [common carrier] jurisdiction. . . . Nor did Congress statutorily grant the Commission freestanding preemption authority to displace state laws even in areas in which it does not otherwise have regulatory power.

Neither can the Commission house the Preemption Directive in its ancillary authority under Title I. “Title I is not an independent source of regulatory authority”⁴⁰

[I]f the Commission cannot tether a rule of preemption to a relevant source of statutory authority, courts “simply cannot accept [the] argument that the [Commission] may nevertheless take action which it thinks will best effectuate a federal policy.”⁴¹

In other words, if the FCC (as it claimed) had no authority to *enact* net neutrality regulations in the first place, then it had no authority to *preempt* the states’ adoption of similar regulations. In the California litigation (now at the Ninth Circuit),⁴² this means that the industry plaintiffs/appellants must convince the court that SB 822 conflicts with what appears to be a small and general set of statutes, i.e., the FCC’s statutory authority to regulate information services. California’s defense of the statute rests in large part on this lack of specific authority.

This paper seeks to go beyond the defensive case, arguing that the FCC’s abdication—coming at a moment of environmental, health, and public safety crises—is also a moment of opportunity, revealing underlying facts in a new light and allowing a reassessment of previous legal conclusions. From (roughly) 2002 through 2017, the focus of net neutrality debate was at the federal level, and the argument

39. 940 F.3d 1 (D.C. Cir. 2019).

40. *Mozilla*, 940 F.3d at 75–76 (quoting *State of Cal. v. Fed. Commc’ns Comm’n*, 905 F.2d 1217, 1241 n.35 (9th Cir. 1990)).

41. *Id.* at 80 (quoting *La. Pub. Serv. Comm’n v. Fed. Commc’ns Comm’n (Louisiana PSC)*, 476 U.S. 355, 368 (1986)).

42. *ACA Connects v. Bonta*, No. 21-15430 (9th Cir., argued Sept. 14, 2021); *see* chronology, *supra* note 9.

turned on whether broadband Internet access service providers were telecommunications common carriers or mere information services.⁴³

With the FCC's disavowal of jurisdiction in its 2017 *RIFO* decision, the focus shifted to the states. The primary axis of argument was/is no longer telecommunications vs. information service, but rather who gets to make this call, i.e., the relative authority of state and federal regulators in this policy space.

C. Crafting State Net Neutrality Legislation

After the FCC disassociated itself from effective authority over broadband, state governors, legislators, and regulators began to more actively articulate their visions for a broadband future.⁴⁴ States drafted their own net neutrality rules.⁴⁵ The bills signed into law fall into

43. See chronology, *supra* note 36.

44. E.g., Cal. Exec. Ord. N-73-20 (Aug. 14, 2020), <https://www.gov.ca.gov/wp-content/uploads/2020/08/8.14.20-EO-N-73-20.pdf> [<https://perma.cc/TVW5-3KZQ>] (recognizing the disparity in internet access or “digital divide,” and directing state agencies to submit plans aimed at providing internet access to all Californians); Frontier California Inc. Opening Comments, *Order Instituting Rulemaking Regarding Broadband Infrastructure Deployment and to Support Service Providers in the State of California*, Rulemaking 20-09-001, at 9–11, (Cal. Pub. Utils. Comm’n Oct. 12, 2020) <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M348/K580/348580051.PDF> [<https://perma.cc/BP4G-T25J>].

45. See Heather Morton, *Net Neutrality Legislation in States*, NAT’L CONF. OF STATE LEGISLATURES (Jan. 23, 2019) <https://www.ncsl.org/research/telecommunications-and-information-technology/net-neutrality-legislation-in-states.aspx> [<https://perma.cc/YEP4-PWHD>]; see also later collections of state statutes, Heather Morton, *Net Neutrality 2019 Legislation*, NAT’L CONF. OF STATE LEGISLATURES (Dec. 21, 2019), <https://www.ncsl.org/research/telecommunications-and-information-technology/net-neutrality-2019-legislation.aspx> [<https://perma.cc/DWC3-XNJB>]; Heather Morton, *Net Neutrality 2020 Legislation*, NAT’L CONF. OF STATE LEGISLATURES (Jan. 19, 2021), <https://www.ncsl.org/research/telecommunications-and-information-technology/net-neutrality-2020-legislation.aspx> [<https://perma.cc/WH64-SEKG>] [hereinafter collectively Morton, *State Net Neutrality Legislation*]; Steve Blum, *The State of Washington Takes on Washington, DC with Its Own Net Neutrality Law*, TELLUS VENTURE ASSOCS. (Mar. 8, 2018), <https://www.tellusventure.com/the-state-of-washington-takes-on-washington-dc-with-its-own-net-neutrality-law/> [<https://perma.cc/E8G2-XK5U>] (“The State of Washington is the first to enact a network neutrality law.”) Daniel A. Lyons, in his article *State Net Neutrality*, 80 U. PITT. L. REV. 905, 921–28 (2019), provides a useful summary of the state initiatives, both executive orders and legislation. Harold Feld’s canvas of state efforts anticipates the *Mozilla* Court’s reversal of the Preemption Directive, and the Dormant Commerce Clause issues which might ensue:

[I]t’s not enough to simply say that broadband is interstate. So are apples shipped from Washington State to Maryland. That doesn’t stop Maryland from having a lot of say in how apples get sold in Maryland, so long as Maryland doesn’t discriminate against apples grown outside the state and as long as Maryland regulation of the sale of apples doesn’t contradict any federal law on the sale of apples.

Harold Feld, *Can the States Really Pass Their Own Net Neutrality Laws? Here’s Why I Think Yes*, WETMACHINE (Feb. 6, 2018, 7:50 AM), <https://wetmachine.com/tales-of-the-sausage-factory/can-the-states-really-pass-their-own-net-neutrality-laws-heres-why-i-think-yes/> [<https://perma.cc/JRD7-JXRN>].

several categories: (i) disclosure laws;⁴⁶ (ii) laws requiring adherence to the 2015 rules as a condition of receiving universal service subsidies⁴⁷ or a qualification for the award of state contracts;⁴⁸ and (iii) two laws—in California (SB 822) and Washington State (SB 2282)—that recast the prohibitions of the 2015 *Open Internet Order* as state law.⁴⁹

The number of state bills that died on the vine, however, greatly outnumbered those actually enacted.⁵⁰ Any legislative attempt to regulate broadband communications seems to touch a third rail. As state legislatures met to cobble together their own versions of net neutrality legislation, it was inevitable that a lobbying “mosh pit” would break out.⁵¹

The industry attacked—as it had at the federal level—any attempt to “regulate the Internet,”⁵² although it was not the “Internet”

46. Disclosure of network practices is implicit in most of the states’ laws, and explicit in the *Washington* and *California* statutes referenced below. See *infra* note 49 and accompanying text.

47. *Colorado* S.B. 78, 71st Leg., Reg. Sess. (Colo. 2019), http://leg.colorado.gov/sites/default/files/documents/2019A/bills/sl/2019a_sl_210.pdf [https://perma.cc/UE2Z-N8Y6] (renders carrier ineligible for high cost support or other deployment subsidies if it engages in discriminatory practices).

48. *Oregon* H.B. 4155, 79th Leg. Assemb., Reg. Sess. (Or. 2018), <https://olis.oregonlegislature.gov/liz/2018R1/Downloads/MeasureDocument/HB4155/Enrolled> [https://perma.cc/R58T-F6P4]; *Vermont* S.B. 289, 289th Gen. Assemb. (Vt. 2018), <https://legislature.vermont.gov/Documents/2018/Docs/ACTS/ACT169/ACT169%20As%20Enacted.pdf> [https://perma.cc/K9ZS-NDRG] (incorporating a previous Executive Order requiring attorney general to review the network management practices of ISPs in Vermont and determine whether they are in compliance with the 2015 FCC net neutrality rules and to disclose those findings); *Maine* Legis. Doc. 1384, 129th Leg., Reg. Sess. (Me. 2019), <http://www.mainelegislature.org/legis/bills/getPDF.asp?paper=HP0986&item=9&snum=129> [https://perma.cc/TX8U-LB5N].

49. *Washington* Substitute H.B. 2282, 65th Leg., Reg. Sess. (Wash. 2018), <https://lawfilesexternal.wa.gov/biennium/2017-18/Pdf/Bills/Session%20Laws/House/2282-S.SL.pdf> [https://perma.cc/7VPR-A24M]; *California* S.B. 822, 2017–2018 Leg., Reg. Sess. (Cal. 2018) (enacting Internet Consumer Protection and Net Neutrality Act of 2018, as described in footnote 7).

Of the state laws, California’s is the “most aggressive,” codifying the *Open Internet Order*’s unreasonable interference/disadvantage standard where Washington did not; it arguably also goes further than the FCC’s in adopting bright-line rules on zero-rating and interconnection issues, explicitly prohibiting payment from an edge provider in exchange for an ISP’s delivery of content to end-users. See Lyons, *supra* note 45, at 927–28 (discussing CAL. CIV. CODE § 3101(a)(3), (6), (9) (2021)); see also *Open Internet Order*, *supra* note 12, at 5648–49 para. 113, 5651–52 para. 120, 5685–87 paras. 193, 195, 5695–96 para. 206 (practices may be prohibited under the no-blocking, no-throttling rules, and/or general conduct rule).

50. See Morton, *State Net Neutrality Legislation*, *supra* note 45.

51. See Susan P. Crawford, *The Communications Crisis in America*, 5 HARV. L. & POL’Y REV. 245, 261 (2011) (imagining a “mosh pit of stakeholders” if and when Congress attempts a rewrite of the Communications Act).

52. *E.g.*, Press Release, Verizon, Title II Regulations a ‘Net’ Loss for Innovation and Consumers (Feb. 26, 2015), https://www.verizon.com/about/sites/default/files/VZ_NR_-_2-26-15_VZ_Statement_on_Open_Internet_Order_FINAL_1.pdf [https://perma.cc/83GD-U46S]. Headlined “FCC’s ‘Throwback Thursday’ Move Imposes 1930s Rules on the Internet,” the press release wins points for humor, with antique typewriter font and a *faux* 1934 date. *Id.* It purported

that was at issue but the operation of its broadband substrate. This distinction was lost on many legislators.

The battle around the word “utility” was particularly pitched in California. The State had suffered through several years of wildfires and power-shutoffs, during which broadband connectivity had proven to be essential. In January 2018, then California Attorney General Xavier Becerra called for state regulation of Internet access as a utility (as it was in the FCC’s 2015 *Open Internet Order*): “Internet access is a utility—just like water and electricity. And every consumer has a right to access online content without interference or manipulation by their internet service provider. In repealing the net neutrality rules, the FCC ignored consumers’ strong support for a free and open Internet.”⁵³

The large carrier ISPs and their allies predictably derided state neutrality initiatives as an effort to fit broadband into a traditional utility framework, warning that 1930s (or nineteenth century in the more hyperbolic telling) regulation of a twenty-first century industry was inappropriate; most particularly, the industry did not want the California Public Utilities Commission involved in any way.⁵⁴ Only two months after Attorney General Becerra opined that ISPs needed to be regulated as utilities, State Senator Scott Wiener asserted that there would be no place for CPUC regulation of broadband providers in his bill: “The one thing that a lot of people agreed on, from the ISPs to the Electronic Frontier Foundation to a number of my colleagues, was that we don’t want the [CPUC] to become the ground regulator of the

to challenge “an order urged by President Obama that imposes rules on broadband Internet services that were written in the era of the steam locomotive and the telegraph.” *Id.*

53. *Net Neutrality Battle in California*, DIGIT. WEST (Jan. 17, 2018), <https://perma.cc/RG7M-2LR2>.

54. *E.g.*, Mike Montgomery, *Why Give Power Over Net Neutrality to CPUC?*, SACRAMENTO BEE (Apr. 18, 2018, 2:26 PM), <https://www.sacbee.com/opinion/op-ed/soapbox/article209244504.html> (claim by Montgomery, as representative of a coalition of tech groups including AT&T, that CPUC is unfit to regulate); *see* Press Release, Verizon, *supra* note 52; *infra* note 55.

Internet.”⁵⁵ The specific semantics of “ground regulation of the Internet” were unclear, but the politics were not.⁵⁶

A similar dynamic appears to have played out in Washington State. Its law also adopts non-discrimination rules⁵⁷ but explicitly states they “may be enforced solely by the attorney general under the consumer protection act,”⁵⁸ leaving the State Utilities and Transportation Commission with only ministerial responsibility.⁵⁹

Vermont’s bill (S.B. 289) is similarly limited. It applies neutrality requirements exclusively to ISPs contracting with the State.⁶⁰ It assigns the task of “ensur[ing] that any State government contract for broadband Internet access service . . . contains terms and conditions requiring that the Internet service provider certify that it is in

55. *California Super Net Neutrality Bill*, DIGIT. WEST (Mar. 19, 2018, 9:30 AM), <http://web.archive.org/web/20210117121009/https://blog.digitalwest.com/blog/super-net-neutrality-bill> (alteration in original). There was indeed reason to question whether the CPUC was sufficiently resourced to alone draft and enforce net neutrality laws, as the California Senate Energy, Utilities and Communications Committee analysis had noted:

[I]n recent years there have been questions raised concerning whether the CPUC is spread too thin and handling too many varied areas. Just last year, the legislature passed SB 19 (Hill, 2017) which removed some of the transportation-related functions away from the CPUC to other agencies. This bill would expand to [sic] the CPUC’s existing responsibilities. While it is not immediately clear whether it is feasible for the CPUC to take on these responsibilities, in terms of staff and resources, the responsibilities are potentially consistent with the CPUC’s role in regulating utility-style services.

S. COMM. ON ENERGY, UTILS. & COMMC’NS, ANALYSIS OF SENATE BILL NO. 460, 2017–2018 Leg., Reg. Sess. (Cal. 2018) [hereinafter S. UTILS. COMM. ANALYSIS].

While this analysis is not incorrect, the CPUC is not unique; other enforcement agencies, including the FCC and state attorneys general, face resource constraints and are subject to industry capture and information asymmetry. *See infra* notes 272–313 and accompanying text.

56. The final version of S.B. 822 does not address how the law is to be enforced, nor does it mention the CPUC. While the CPUC had a leading role in the initial version of the legislation, *see* S. UTILS. COMM. ANALYSIS, *supra* note 55, the Legislature ultimately eliminated the agency’s regulatory and enforcement functions under the bill; a decision had reportedly been made that enforcement would be in the hands of the Attorney General. *See* Steve Blum, *Prosecutors in, CPUC Out as California’s Net Neutrality Enforcer*, TELLUS VENTURE ASSOCS. (Jan. 19, 2018), <https://www.tellusventure.com/prosecutors-in-cpuc-out-as-californias-net-neutrality-enforcer/> [<https://perma.cc/J5A4-N3SJ>].

57. *Washington Substitute H.B. 2282*, 65th Leg., Reg. Sess. § 1(2) (Wash. 2018), <https://lawfilesexxt.leg.wa.gov/biennium/2017-18/Pdf/Bills/Session%20Laws/House/2282-S.SL.pdf> [<https://perma.cc/7VPR-A24M>].

58. *Id.* § 2(2).

59. *Compare id.* § 4(2) (utility regulator’s only responsibility is giving notice “to affected parties”), with *Telecommunications*, WASH. UTILS. & TRANSP. COMM’N, <https://www.utc.wa.gov/regulated-industries/utilities/telecommunications> [<https://perma.cc/XE75-7KL3>] (Washington’s Utilities & Transportation Commission “regulates the rates and services of telephone companies operating in the state of Washington”).

60. *Vermont S.B. 289*, 289th Gen. Assemb. (Vt. 2018), <https://legislature.vermont.gov/Documents/2018/Docs/ACTS/ACT169/ACT169%20As%20Enacted.pdf> [<https://perma.cc/K9ZS-NDRG>].

compliance with the consumer protection and net neutrality standards” to the State Secretary of Administration and Agency of Digital Services; the only role accorded the State’s Public Service Commission is to consult with the Attorney General on a “study” of net neutrality best practices going forward, to be drafted by the Attorney General.⁶¹

The omission of any reference to common carriage or role for state utility commissions leads to a contradiction. The new state laws fit the mold of the FCC’s 2015 non-discrimination rules. Such non-discrimination laws have traditionally been considered common carriage, as the *Verizon* court recognized.⁶² Even though the state legislatures were arguably writing on a clean slate post-*Mozilla*, the new laws eschew the common carriage label and with it (apparently) a meaningful role for state utility agencies.

The contradiction has consequences. As explained below, regulation of telecommunications carriers’ last-mile and local access networks has historically been the province of state commissions. Avoiding a state utility commission role and common carriage label compromises state authority over these networks and disregards the physical reality of BIAS delivery.⁶³

D. *Defending State Net Neutrality Legislation*

Even with such concessions, the U.S. Department of Justice filed a complaint within hours of the Governor’s signature.⁶⁴ The ISP industry quickly followed suit in California,⁶⁵ and added a parallel

61. *Id.* §§ 3–4, 8–9.

62. *Verizon v. Fed. Comm’n Comm’n*, 740 F.3d 623, 650–51 (D.C. Cir. 2014) (courts have “resorted to the common law to come up with a satisfactory definition” of common carriage); see *supra* notes 14–18 and accompanying text.

63. See discussion *infra* Sections III.A.1, III.A.3, and particularly III.C.3.

64. Complaint for Declaratory and Injunctive Relief, *United States v. California*, No. 2:18-at-01539 (E.D. Cal., Sept. 30, 2018), <https://www.justice.gov/opa/press-release/file/1097306/download> [https://perma.cc/8WP6-FCBT]; *Justice Department Files Net Neutrality Lawsuit Against the State of California*, U.S. DEP’T OF JUST. (Sept. 30, 2018), <https://www.justice.gov/opa/pr/justice-department-files-net-neutrality-lawsuit-against-state-california-0> [https://perma.cc/4NGE-4M5P].

65. Complaint, *Am. Cable Ass’n v. Becerra*, No. 2:18-at-01552 (E.D. Cal. Oct. 3, 2018), <https://acaconnects.org/wp-content/uploads/2018/10/ISP-lawsuit.pdf> [https://perma.cc/DWP3-767U]. The American Cable Association (ACA) was joined by a number of other carriers. The ACA filed an Amended Complaint and renewed its Motion for Preliminary Injunction in August 2020. First Amended Complaint, *Am. Cable Ass’n v. Becerra*, No. 2:18-cv-02684 (E.D. Cal. Aug. 5, 2020) [hereinafter First Amended Complaint], https://www.fff.org/files/2020/09/25/first_amended_complaint_8.5.2020.pdf [https://perma.cc/9RX8-Q3KV]; Memorandum of Points and Authorities in Support of Plaintiffs’ Renewed Motion for Preliminary Injunction, *Am. Cable Ass’n v. Becerra*, No. 2:18-cv-02684 (E.D. Cal. Aug. 5, 2020) [hereinafter Plaintiffs’ Renewed

complaint two weeks later in Vermont (months after Vermont's bill had become law).⁶⁶ The United States dismissed its action after the 2021 change in administration,⁶⁷ leaving the ISP complaints in California and Vermont as the only active challenges to state net neutrality laws.⁶⁸

The parties in both states agreed to a stay while the D.C. Circuit considered challenges to *RIFO* in the *Mozilla v FCC* docket, including petitions filed by the CPUC and other state and local government entities asking for review of *RIFO*'s broad preemptive provisions.⁶⁹ The California litigation resumed after the court in *Mozilla* ruled and the time for appeal had run. The Vermont parties agreed to a second stay, making *American Cable Association v. Becerra* the lead case in the country.⁷⁰ On July 30, 2020, California District Court Judge John Mendez issued an order setting dates for hearing the motions to enjoin enforcement of SB 822.⁷¹

This was in some respects perfect timing for the bill's prospects. The D.C. Circuit, while upholding the FCC's decision to remove broadband from the telecommunications rules, rejected the

Motion], https://www.eff.org/files/2020/09/25/plaintiffs_memorandum_for_preliminary_injunction_8.5.2020.pdf [https://perma.cc/A3Q6-2ZP6].

66. Complaint, *Am. Cable Ass'n v. Scott*, No. 2:18-cv-167 (D. Vt. Oct. 18, 2018), <https://aca-connects.org/u-s-district-court-for-the-district-of-vermont-complaint-w-ctia-ncta-necta-and-ustelecom-re-vermonts-senate-bill-289-and-vermont-executive-order-no-2-18/> [https://perma.cc/M7HJ-WH8D].

67. Plaintiffs' Notice of Dismissal, *United States v. California*, No. 2:18-cv-02660 (Feb. 8, 2021), https://storage.courtlistener.com/recap/gov.uscourts.caed.344015/gov.uscourts.caed.344015.44.0_1.pdf [https://perma.cc/GH78-CVVJ]; Jon Reid, *Justice Department Drops California Net Neutrality Fight (1)*, BLOOMBERG L. (Feb. 8, 2012, 1:23 PM), <https://news.bloomberglaw.com/tech-and-telecom-law/justice-department-drops-suit-against-california-net-neutrality-law> [https://perma.cc/N83U-WKK3].

68. Vermont's opening gambit was a motion to dismiss for lack of standing, arguing the ISPs had not alleged that any specific ISP suffered identifiable injury by the law, nor could they. Defendants' Motion to Dismiss and Partially Consented to Motion to Stay or Phase Discovery at 1–2, *Am. Cable Ass'n v. Scott*, No. 2:18-cv-167 (D. Vt. Dec. 24, 2018), ECF No. 24. Many of the ISPs had publicly advertised that they followed net neutrality principles; accordingly, Vermont argued they could not be harmed by codification of such principles. *Id.* at 2. This argument became moot (at least for the time being) in Vermont as the California litigation proceeded to the Ninth Circuit (the argument was not raised in California).

69. See, e.g., Proof Brief for Government Petitioners, *Mozilla Corp v. Fed. Comm'n's Comm'n*, No. 18-1051 (D.C. Cir. Aug. 20, 2018) (filed by and relating to the separate Petitions for Review of the State of New York, Santa Clara County and Santa Clara County Fire Dept., and the CPUC) ("The Commission May Not Preempt Absent Statutory Authority.").

70. See chronology set forth in footnote 9, *supra*.

71. Order Regarding Resumption of Litigation and Scheduling (as Modified by the Court), *Am. Cable Ass'n v. Becerra* No. 2:18-cv-02684 (E.D. Cal. July 30, 2020), ECF No. 51.

FCC's *Preemption Directive*.⁷² Things had also changed on the ground. Nationwide, pandemic stay-at-home orders ushered in a new level of reliance on broadband. Natural disasters in California and other states—wildfires, windstorms, and public safety power shutoffs to protect against both—added to the realization that broadband Internet access was essential, although not always reliable.⁷³ It had become clear that “network neutrality” was no longer just a question of the consumer’s access to entertainment, but an urgent public safety and welfare concern.

The removal of the CPUC from SB 822, however, had put California in a difficult position—how to defend the law without referencing what had been taken out of it, namely the history of the State’s telecommunications oversight and enforcement (and the common carriage regime that implies). Closely related was the State’s apparent acceptance—at least for the sake of argument—of “interstate information services” as the appropriate classification for broadband Internet access.⁷⁴

California’s defense relied on the ruling in *Mozilla* that the FCC had no ability to preempt state BIAS rules after it found it had no authority to propound such rules.⁷⁵ The State appeared to argue that it has police power to regulate BIAS *even if* it were an “interstate information service” (while rejecting reference to SB 822 as “common carrier regulation”).⁷⁶ Without federal preemptive authority, the limits to

72. *Mozilla v. Fed. Commc’ns Comm’n*, 940 F.3d 1, 78–80 (D.C. Cir. 2019).

73. Jenna Leventoff, *The California Wildfires Show Why We Need a National Backup Power Mandate to Keep Americans Connected During Disasters*, PUB. KNOWLEDGE (Oct. 1, 2020), <https://www.publicknowledge.org/blog/the-california-wildfires-show-why-we-need-a-national-backup-power-mandate-to-keep-americans-connected-during-disasters/> [https://perma.cc/K3KU-7TM2].

74. Although California never explicitly embraces the “interstate” or “information service” categories for broadband service, it never rejects them either, all the while distancing itself from the notion that S.B. 822 might constitute common carrier regulation. *See infra* note 76.

75. California Opposition, *supra* note 16, at 18 (“Such an ‘abdication of authority’ is of ‘dubious preemptive effect.’” (quoting *ACA Connects – Am.’s Commc’ns Ass’n v. Frey*, 471 F. Supp. 3d 318, 326 (D. Me. 2020))).

76. *Id.* at 28 n.25 (California “Defendants do not concede that SB 822 enacts common carrier regulations”); *id.* at 32 (no congressional intent “to preempt the field of all ‘interstate communications services’” (emphasis omitted)); *id.* at 35 (“[T]he Act affirmatively prohibits implied preemption—including field preemption—with respect to information services.”); *id.* at 36 (“Under Plaintiffs’ Sweeping Theory of Field Preemption, All State Regulation of Information Services Would Be Preempted, but That Is Not the Law.”); *see also infra* note 78 (describing State’s response to court’s question about BIAS as common carriage). California’s defense is consistent with 47 U.S.C § 152(b), which preserves states’ jurisdiction over intrastate “communications,” a broader category than *telecommunications services*—an argument not pursued in the Opposition.

California's action are not in the Telecommunications Act but (if at all) in the dormant commerce clause.⁷⁷ Public utility law was not mentioned.

That defense has been successful to date. On February 23, 2021, Judge Mendez denied the ISPs' renewed motion for a preliminary injunction, rejecting the allegation that broadband's classification as an interstate information service was sufficient to put it beyond the reach of state government.⁷⁸ The matter is on appeal at the Ninth Circuit.⁷⁹

The long-range problems remain, however. With utility common carriage eliminated from the discourse, empirical casualties follow. Missing from the defense of SB 822, for example, was the state's ongoing (albeit contested) exercise of police power over BIAS providers—to ensure public health and welfare,⁸⁰ to manage competition in

77. *Id.* at 47 & n.49 (“[T]he purported harm that SB 822 will allegedly have an effect beyond California is more properly considered under ISP Plaintiffs’ dormant commerce clause claim, which is not raised in their preliminary injunction motion.”).

78. See Cecilia Kang, *California Wins Court Victory for Its Net Neutrality Law*, N.Y. TIMES (Feb. 25, 2021), <https://www.nytimes.com/2021/02/23/technology/california-net-neutrality.html> [<https://perma.cc/2BXC-PE33>].

When Judge Mendez, at the preliminary injunction hearing, asked whether the State was reclassifying BIAS as common carriage “without calling it a reclassification,” the State’s attorney answered in terms of California’s “plenary authority to . . . protect health and safety,” without addressing the reclassification question *per se*. Transcript of Proceedings at 37–38, *Am. Cable Ass’n v. Becerra*, No. 18-CV-2684 (E.D. Cal. Feb. 23, 2021) (adding that federal law limiting which entities are subject to common carrier regulation by the FCC does not have “any effect on what the States can do”).

A New York District Court criticized its California counterpart for having the jurisdictional question “backwards,” finding instead that FCC “jurisdiction writ large, over interstate communications transmitted by information services” survived the FCC’s disowning its specific statutory authority under Title II. N.Y. State Telecomms. Ass’n v. James, 2021 U.S. Dist. LEXIS 110127, at *24 n.10 (E.D.N.Y. June 11, 2021). Aside from ignoring the localized nature of broadband delivery and accepting uncritically its “jurisdictionally interstate” classification, the New York Court also appears to confuse subject matter jurisdiction with specific statutory authorization to act. See *Comcast Corp. v. Fed. Commc’ns Comm’n*, 600 F.3d 642, 648 (D.C. Cir. 2010) (action must be “reasonably ancillary to the Commission’s effective performance of its statutorily mandated responsibilities”).

79. See *supra* note 9; Opening Brief of Plaintiffs-Appellants Broadband Provider Associations, *ACA Connects – Am.’s Commc’ns Ass’n v. Becerra*, No. 21-15430 (9th Cir. Apr. 6, 2021) [hereinafter Appellants’ Opening Brief], https://www.eff.org/files/2021/04/14/american_cable_association_et_al_v_becerra_-_9th_circuit_opening_brief_of_aca_et_al_2021.04.06_.pdf [<https://perma.cc/R7EE-4A4F>]. Appellants filed their Opening Brief shortly before Attorney General Bonta succeeded Attorney General Becerra and before Bonta was substituted as the Appellee. The appeal is now captioned *ACA Connects v. Bonta*.

Oral argument in the Ninth Circuit was held on September 14, 2021 (video at <https://www.ca9.uscourts.gov/media/video/?20210914/21-15430/>).

80. The CPUC has taken a number of emergency measures to address both climate and coronavirus crises. See discussion *infra* Sections III.A, III.C.

the last-mile bottlenecks (acknowledged and incorporated in the 1996 Act),⁸¹ to promote broadband deployment and bridge the digital divide,⁸² and to referee access to rights-of-way and utility infrastructure enabling BIAS delivery.⁸³ When the Opposition brief states that “SB 822 is a classic exercise of state police power to protect consumers, public health, and public safety,”⁸⁴ the reader has little idea what that specifically means.

The omission of the state’s history of telecommunications regulation, including broadband, can be seen as a constraint built into SB 822’s elimination of a role for the CPUC. The acceptance of “interstate” and “information service” as descriptions of broadband can be read as conceding the current legal consensus, an apparently winning tactic on the immediate preemption question.⁸⁵ Such omissions and concessions are, however, problematic in terms of a medium- and long-range broadband law and policy.

A threshold concern is that the state’s history of regulating telecommunications might become relevant to application of the “presumption against pre-emption” on appeal; California conceded that the application of the presumption turns on “the historic presence of state law” rather the historic “absence of federal regulation,”⁸⁶ without further describing that history.

81. See discussion *infra* Sections III.C.3, III.C.4.a.

82. See discussion *infra* Section III.C.4.b; see also *supra* note 13.

83. See discussion *infra* Sections III.A.2, III.C.4.a.

84. See California Opposition, *supra* note 16, at 13. The State’s Opposition Declarations, *supra* note 27, provide insight into various BIAS use cases, and the harms that businesses and government entities might suffer if broadband connectivity is left unregulated. They collectively build a compelling narrative of the growing importance of the broadband to all aspects of society but reveal little of the ongoing and historical state broadband-related interventions referenced *supra* notes 80–83.

85. See discussion *infra* Section III.B.; cf. Brief of Professors of Communications Law as Amici Curiae in Support of Petitioners at 12 n.8, *Mozilla Corp. v. Fed. Commc’ns Comm’n*, 940 F.3d 1 (D.C. Cir. Aug. 27, 2018) (No. 18-1051) (“[W]hen a service falls within the Commission’s interstate jurisdiction—as broadband internet access *likely* does, at least to some extent . . . —the Commission must still demonstrate that it has statutory authority to preempt state regulation of that service.” (emphasis added)) (signed by at least one of the amici in the California litigation).

86. California Opposition, *supra* note 16, at 13–14, 13 n.10:

Any preemption analysis must “start with the assumption that the historic police powers of the States were not to be superseded by the Federal Act unless that was the clear and manifest purpose of Congress.” *Wyeth v. Levine*, 555 U.S. 555, 565 (2009); see also, e.g., *Medtronic, Inc. v. Lohr*, 518 U.S. 470, 485 (1996) (describing the “presumption against the pre-emption of state police power regulations” (internal quotation marks and citation omitted)). “[I]t is a state’s historic police power—not preemption—that [courts] must assume, unless clearly superseded by federal statute.” *United States v. California*, 921 F.3d 865, 887 (9th Cir. 2019) (citation omitted).

In the context of broader public debate, such omissions reflect the fact-light approach to constitutional questions,⁸⁷ serve to perpetuate legal fictions such as “jurisdictionally interstate,” and prolong the generally unstable nature of net neutrality discourse.

Lastly, a factually deracinated discussion of preemption does not convey the real-world problems California and other states face. The exercise of state police power to meet COVID-19 and climate emergencies, detailed below, depends in large part on states’ ability to assert jurisdiction over broadband connectivity. The states could win the battles in California and Vermont, but lose the war. The ISPs have argued that California has no jurisdiction to ensure public safety by requiring backup power in broadband networks,⁸⁸ no jurisdiction to safeguard a functioning “Next Generation” 911 system,⁸⁹ and no jurisdiction to meaningfully promote broadband competition.⁹⁰ The ISPs’ rejection of state jurisdiction affects a number of related issues; what is missing is a state response that connects the dots.

III. THE STATES’ ROLE, FROM THE GROUND UP

A. State Regulation of BIAS: California—a Case Study

As the California litigation is now the *de facto* lead case in the country, this Article focuses in significant part on California to illustrate the extent of state police power involved in the delivery of broadband connectivity.

California also cites *New Cingular Wireless PCS LLC v. Picker*, 216 F. Supp. 3d 1060 (N.D. Cal. 2016), a preemption dispute growing out of the CPUC’s 2016 competition investigation. California Opposition, *supra* note 16, at 13 n.10. The court in *New Cingular* acknowledged that “states have long had a role in regulating local communications,” creating “at least a fair argument that the presumption [against preemption] applies.” 216 F. Supp. 3d at 1070 n.7.

California offers citation to California privacy, false advertising, and criminal laws, California Opposition, *supra* note 16, at 9–10, but no mention of the state’s Public Utilities Code or history of telecommunications regulation. See discussion *infra* Sections III.A and III.C.

87. FAIGMAN, *supra* note 4.

88. See history cited *supra* note 13.

89. *Id.*; see also *Order Instituting Rulemaking Regarding Emergency Disaster Relief Program*, Rulemaking18-03-011, AT&T California’s (U 1001 C) and AT&T Corp.’s (U 5002 C) Verified Response to Administrative Law Judge’s Ruling Regarding Order to Show Cause, at 30 (Cal. Pub. Utils. Comm’n Jan. 6, 2020) (“[N]o state statute expressly authorizes the [CPUC] to regulate IP-enabled services, including NG911.”).

90. See *supra* note 13; see also *infra* Sections III.C.2–3.

1. State Police Power in Response to Climate Emergency and Public Health Crises

The Tenth Amendment to the U.S. Constitution provides that “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.”⁹¹ “[T]he protection of the lives, limbs, health, comfort, and quiet of all persons . . . within the State” has long been considered part of the retained states’ “police power.”⁹²

For over a year, people across the country sheltered in their homes because of a virus.⁹³ In California, Oregon, and other states, climate change also hit home, with wildfires and flooding part of the new normal.⁹⁴ In these compounding crises, broadband Internet access has proven to be a crucial interconnection point, allowing emergency warning systems, telemedicine, online shopping (particularly for at-risk individuals), online judicial, legislative, and administrative functions, telework, online education, and online supply chain and manufacturing processes.

These crises have brought long-standing structural problems to the fore—lack of competition for broadband access and resulting affordability issues, uneven deployment of fiber and other high-speed transport systems, and the documented decline in service quality, as described below. Where connectivity is inequitably distributed, the digital divide rears its head. Those with ample bandwidth—often well-educated digital nomads—work from home; those with financial resources travel to destinations where broadband access is robust; those without connectivity or the means to travel are consigned to work from

91. U.S. CONST. amend. X.

92. *Slaughter-House Cases*, 83 U.S. (16 Wall.) 36, 62 (1873) (quoting *Thorpe v. Rutland & Burlington R.R. Co.*, 27 Vt. 140, 149 (1855)). The states’ inherent police power unquestionably includes authority to protect the health and safety of their citizens. *Medtronic, Inc. v. Lohr*, 518 U.S. 470, 475 (1996) (“Throughout our history the several States have exercised their police powers to protect the health and safety of their citizens. Because these are ‘primarily, and historically, . . . matter[s] of local concern,’ the ‘States traditionally have had great latitude under their police powers to legislate as to the protection of the lives, limbs, health, comfort, and quiet of all persons.’” (omission and alteration in original) (citation omitted) (first quoting *Hillsborough Cnty. v. Automated Med. Lab’ys, Inc.*, 471 U.S. 707, 719 (1985); and then quoting *Metro. Life Ins. Co. v. Massachusetts*, 471 U.S. 724, 756 (1985))).

93. Sarah Mervosh et al., *One Year, 400,000 Coronavirus Deaths: How the U.S. Guaranteed Its Own Failure*, N.Y. TIMES (Oct. 26, 2021), <https://www.nytimes.com/2021/01/17/us/covid-deaths-2020.html> [<https://perma.cc/MQK8-MKPX>].

94. See Cameron Peters, *The West Is Burning. Climate Change Is Making It Worse*, VOX (July 25, 2021, 4:26 PM), <https://www.vox.com/2021/7/25/22592004/wildfires-climate-change-reconciliation-bill> [<https://perma.cc/534S-RMB9>].

library parking lots or abandon online employment- and education-related opportunities altogether.

Plaintiff ISPs and their amici argue that market competition alone will solve these problems, provide for emergency communications, and produce the neutral “last mile” required by first responders, health professionals, consumers, and businesses.⁹⁵ The market, however, has failed, and states and local governments across the country have stepped in to remedy that failure.⁹⁶

2. State Police Power, Grounded in Property Law and Embedded in the State Constitution

While not as topical as public health and safety regulation, state property, public utility, and public works laws also embody the exercise of state police power, and make BIAS delivery possible in the first instance.

The broadband wire (or radio signal) must reach the subscriber. California Government Code section 53066 gives cable television providers the right, per municipal franchise or ordinance, to string their coaxial cable (and other transmission media including fiber) along public streets and over private “backyard” easements.⁹⁷ Other state laws give similar rights to traditional telephone providers, allowing use of public rights-of-way and “any public road or highway” subject to some local oversight.⁹⁸ Although enacted to ensure cable

95. The FCC itself continued to take this position through the end of 2020. *See Restoring Internet Freedom*, WC Docket No. 17-108, Order on Remand, 35 FCC Rcd. 12328, 12344–69 paras. 32–67 (2020) [hereinafter *RIFO Remand Order*], https://docs.fcc.gov/public/attachments/FCC-20-151A1_Rcd.pdf [<https://perma.cc/5GDD-C37M>].

96. *See, e.g., State Broadband Policy Explorer: Laws Governing High-Speed Internet Access*, THE PEW CHARITABLE TRS. (Apr. 12, 2021), <https://www.pewtrusts.org/en/research-and-analysis/data-visualizations/2019/state-broadband-policy-explorer> [<https://perma.cc/TS72-LAXL>] (cataloguing 845 state broadband-related statutes as of January 1, 2020); *see also* discussion *infra* Sections III.A.3, III.B.3, III.C.2.b–c (discussing the application of state police power to correct broadband market failure).

97. CAL. GOV'T CODE § 53066 (enacted 1963). Section 53066 was promulgated long before cable systems began offering broadband connectivity. It provides that cities “may authorize the grantee . . . to place wires, conduits and appurtenances for the community antenna television system along or across such public streets, highways, alleys, public properties, or public easements of said city or county or city and county.” *Id.* The Cable Act of 1984 sought to federalize this right of access. *See* 47 U.S.C. § 541(a)(2) (2018) (right to access easements “dedicated for compatible uses”).

98. CAL. PUB. UTILS. CODE § 7901 (enacted 1951). It provides “Telegraph or telephone corporations may construct lines of telegraph or telephone lines along and upon any public road or highway, along or across any of the waters or lands within this State, and may erect poles, posts, piers, or abutments . . .” *Id.*

and telephone access, such laws have been re-functionalized to allow broadband providers *de facto* entrée to the same routes, as discussed below under the rubric of “regulatory arbitrage.”

The broadband wire’s path from the cable headend or telephone central office to the end user also depends on access to support structures—poles and conduits—owned at least in part by other utilities. In California and other states, access to those facilities is regulated under state law and enforced by state commissions,⁹⁹ which regulation has been acknowledged and ratified by federal statute.¹⁰⁰ The state also regulates the safety of electric and telecommunications lines, their clearances from, and non-interference with, one another, and seeks to harmonize wireless cell siting with environmental and local concerns.¹⁰¹

Upstream from the central office or headend, broadband carriers need to interconnect with other carriers in order to deliver subscribers’ voice and online content requests to their intended addressees, and to carry voice and content back to the subscriber; carriers rely on state regulatory agencies to compel or arbitrate physical interconnection agreements with other carriers.¹⁰²

State police power also comes to the fore in property disputes relating to carriers’ access to the rights of way described above, e.g., when a property owner challenges the right of non-utility cable companies, or regulated entities deploying non-utility services, to use easements dedicated for utility purposes.¹⁰³ While these challenges have

99. In 1951, the California Legislature assigned to the CPUC the task of resolving support structure access rights *among* utilities. CAL. PUB. UTILS. CODE § 767. In 1980, the state extended that right to cable television corporations. *Id.* § 767.5; *see* discussion *infra* Section III.C.4.a.

100. 47 U.S.C. § 224(c) (“Nothing in this section shall . . . give the Commission jurisdiction . . . for pole attachments in any case where such matters are regulated by a State.”); *id.* § 253(c) (“Nothing in this section affects the authority of a State or local government to manage the public rights-of-way . . .”).

101. *See* discussion of CPUC General Orders particularly those dealing with public safety, *infra* Section III.C.4.a.

102. Interconnection obligations under state law were codified in CAL. PUB. UTILS. CODE § 558 and later partially federalized by the 1996 Telecommunications Act. *See* 47 U.S.C. §§ 251–252; discussion *infra* Section III.C.4.a; *see also* discussion of regulatory arbitrage *infra* Section III.C.1.

103. *See generally* *Salvaty v. Falcon Cable Television*, 212 Cal. Rptr. 31, 32, 165 Cal. App. 3d 798, 800 (Ct. App. 1985) (appellant’s property was subject to an easement “for the stringing of telephone and electric light and power wires thereon”); *Witteman v. Jack Barry Cable TV*, 228 Cal. Rptr. 584, 586, 192 Cal. App. 3d 1619 (Ct. App. 1986) (plaintiff’s predecessor(s) granted two easements, one to the City of Los Angeles “for the transmission of electrical energy over and across” the property, and one to General Telephone “for the transmission of electrical energy and for telephone lines”) (the author represented his parents on appeal). Plaintiffs in both cases argued that

most often been rejected by state courts, the salient fact is that these cases are adjudicated, in large part, under “ancient” doctrines of property law, and are thus governed by the “*local action*” doctrine, which holds that disputes over property rights *must* be tried in the state or locality where the property is held.¹⁰⁴

Since achieving statehood in 1850, California has authorized and regulated “the construction and maintenance of telegraph lines in the roads, highways and other public places in the state,” further evidence of its historic and “sovereign” role as property rights arbiter.¹⁰⁵ Such state law provisions are preserved by section 414 of the Communications Act: “Nothing in this chapter contained shall in any way abridge or alter the remedies now existing at common law or by statute, but the provisions of this chapter are in addition to such remedies.”¹⁰⁶ The system of state laws that structure BIAS delivery is discussed further in Section III.C.4 below.

The protection of telephone, telegraph, and other utility networks is written into the California Constitution, which designates the CPUC as the primary utility enforcement body in the state.¹⁰⁷

cable television (as then constituted) was an entertainment service outside the scope of the public utility easements.

A variation on this theme appears in *Koponen v. Pacific Gas & Electric Co.*, 81 Cal. Rptr. 3d 22, 24, 165 Cal. App. 4th 345, 348 (Ct. App. 2008), where the servient property owner challenged PG&E’s right to install unregulated commercial fiber, intended in part for resale, in an easement granted for “furnishing and supplying electricity, light, heat and power to the public.” *Id.*

The fact that electric utilities are now effectively offering commercial fiber transport also points to the need for inter-sectoral state utility agencies. *See infra* Sections III.C.4.a, III.D, notes 276–283 and accompanying text.

As to broadband carriers’ use of public utility easements, see Benjamin W. Cramer, *Right Way Wrong Way: The Fading Legal Justifications for Telecommunications Infrastructure Rights-of-Way*, 40 TELECOMMS. POL’Y 996, 1004 (2016) (“[E]ven though [telecom] firms are shedding their common carrier responsibilities, they are likely to continue insisting that they should receive [utility easement] benefits.” (alteration in original)). A version of this article is available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2580017.

104. *See Eldee-K Rental Props., LLC v. DIRECTV, Inc.*, 748 F.3d 943, 946, 948, 953 (9th Cir. 2014) (affirming trial court’s denial of certification of nationwide class of landowners because the “ancient” local action principles of common law require that “actions directly operating on real estate or personal actions closely connected with real property” be tried in the locality where the real property lies, and noting that “the federal district courts’ jurisdiction over actions concerning real property is generally coterminous with the states’ political boundaries”).

105. *Pac. Tel. & Tel. Co. v. City & Cnty. of San Francisco*, 17 Cal. Rptr. 687, 690, 699, 197 Cal. App. 2d 133, 142, 153 (Ct. App. 1961) (“The state was acting in its sovereign capacity when it adopted [the predecessor of Cal. Pub. Utils. Code § 7901].”).

106. 47 U.S.C. § 414.

107. CAL. CONST. art. XII.

3. Application of State Police Power to Correct Broadband Market Failure

Record wildfires, windstorms, power outages, and a world-wide pandemic have pushed states' integrated telephone and broadband infrastructure to the brink. The competitive market has been insufficient to ensure network resiliency.¹⁰⁸

In 2007, an overloaded utility pole with an unauthorized fiber line on it failed during a windstorm in Malibu canyon, leading to a catastrophic fire and millions of dollars in damages.¹⁰⁹ "Windstorms in 2011 knocked down a large number of poles in Southern California, many of which were later found to be weakened by termites, dry rot, and fungal decay," causing three deaths in one instance.¹¹⁰ In 2014, one cut fiber cable on AT&T's network in Mendocino took down all emergency 911 broadband communications for western Mendocino County at a time when major wildfires were burning, largely because of the lack of redundant routing; similar incidents occurred the following year.¹¹¹ In the 2018 Paradise Fire, cell phone towers failed not

108. See ECONS. & TECH., INC., EXAMINATION OF THE LOCAL TELECOMMUNICATIONS NETWORKS AND RELATED POLICIES AND PRACTICES OF AT&T CALIFORNIA AND FRONTIER CALIFORNIA (2019) [hereinafter NETWORK EXAM], <https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/communications-division/documents/network-exam-documents/network-exam-report-april-2019-compressed.pdf> [<https://perma.cc/P72M-NYMJ>]; see also *Network Exam of AT&T and Frontier/Verizon*, CAL. PUB. UTILS. COMM'N [hereinafter *Network Exam Summary*], <https://www.cpuc.ca.gov/industries-and-topics/internet-and-phone/service-quality-and-etc/network-exam-of-att-and-frontier-verizon> [<https://perma.cc/D5FR-LHKM>] (providing particularly helpful executive summaries). This CPUC-ordered report on the incumbent telecommunications providers' service quality found a network suffering from chronic underinvestment—particularly in poorer and rural areas with less competition—and poor management. See NETWORK EXAM, *supra*, at 1–3 (further noting overall service quality decline over 8-year study period, disinvestment, and deteriorating infrastructure); see also discussion of the NETWORK EXAM, *infra* Section III.C.2.c.

109. Order Instituting Investigation into the Creation of a Shared Database or Statewide Census of Utility Poles and Conduit in California, Investigation 17-06-027; Order Instituting Rulemaking into Access by Competitive Communications Providers to California Utility Poles & Conduit, Consistent with the Commission's Safety Regulations, Rulemaking 17-06-028, slip op. at 2, 9 (Cal. Pub. Utils. Comm'n July 10, 2017) [hereinafter *Poles and Conduit Proceeding*], <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M191/K656/191656519.PDF> [<https://perma.cc/XF6W-UB2C>].

110. *Id.* at 2; see also *id.* at 9–10.

111. See CNTY. MENDOCINO, INCIDENT REPORT DETAILS PUBLIC SAFETY ISSUES FROM NON-REDUNDANT BROADBAND NETWORKS 1, 4 (2014), <http://www.mendocinobroadband.org/wp-content/uploads/Incident-Report-from-county-website.complete.pdf> [<https://perma.cc/SZ2F-ZMWY>]; see also N. BAY/N. COAST BROADBAND CONSORTIUM & BROADBAND ALL. MENDOCINO CNTY., SEPT. 2015 TELECOMMUNICATION OUTAGE AND THE IMPACTS ON RESIDENTS OF MENDOCINO CNTY. 1–2 (Dec. 2015), <http://www.mendocinobroadband.org/wp-content/uploads/Outage-Report-as-approved-11216-by-BoS.pdf> [<https://perma.cc/S38E-J9LQ>] (recounting further outages on AT&T's network).

because they burned but because the power supply failed and the carriers had no backup power.¹¹² A 2019 planned Public Safety Power Shutoff (PSPS) highlighted this issue, when it caused over 50 percent of cell sites in affluent Marin County to fail when the power went off.¹¹³

These are the sort of local and state “retail” issues for which the FCC often lacks resources. The exercise of state police power to address public safety is not only protected by the Tenth Amendment but is also a practical necessity.¹¹⁴ Courts have consistently upheld the state’s police power in matters involving public welfare.¹¹⁵

112. See Lisa M. Krieger, *Camp Fire Created a Black Hole of Communication*, MERCURY NEWS (Dec. 16, 2018), <https://www.mercurynews.com/2018/12/16/camp-fire-created-a-black-hole-of-communication/> [<https://perma.cc/QD32-D9WR>]:

County logs from Nov. 8 show that messages reached 16,683 phones but failed to reach another 10,869 despite repeated attempts. . . . In the eastern Paradise neighborhoods first hit by fire, about 56 percent of the 4,272 emergency alert calls failed due to what CodeRED manufacturer OnSolve calls “operator intercept” or “timed out,” meaning that the phone has been disconnected, the number changed or no longer in service, or—most likely—the network didn’t find sufficient signal strength or bandwidth to make the call work, due to cell tower failure.

113. *Order Instituting Rulemaking Regarding Emergency Disaster Relief Program*, Rulemaking 18-03-011, Decision Adopting Wireless Provider Resiliency Strategies, Decision No. 20-07-011, slip op. at 123, Finding of Fact 8 (Cal. Pub. Utils. Comm’n July 16, 2020), <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M344/K021/344021480.PDF> [<https://perma.cc/P7A5-BPPZ>] (“According to the FCC Disaster Information Reporting System reports, . . . 57 percent of cell sites in Marin County alone were out of service between October 26–27, 2019.”).

114. *E.g.*, *Order Instituting Rulemaking Regarding Emergency Disaster Relief Program*, Rulemaking 18-03-011, Decision Adopting an Emergency Disaster Relief Program for Communications Service Provider Customers, Decision 19-08-025, slip op. at 35 (Cal. Pub. Utils. Comm’n Aug. 15, 2019) (“[S]tate police power . . . is what we exercise here, in adopting measures to ensure public safety through a functioning communications network”); *Mozilla v. Fed. Commc’ns Comm’n*, 940 F.3d 1, 61 (D.C. Cir. 2019) (“[T]he California Department of Forestry and Fire Protection ‘depends on broadband access, speed, and reliability’ in order to ‘track fire threats, fires, and manage forests and vegetation’ to prevent fires.”); *cf.* *Pac. Gas & Electric Co. v. Pub. Utils. Comm’n (PG&E)*, 188 Cal. Rptr. 3d 374, 382, 416, 237 Cal. App. 4th 812, 824 (Ct. App. 2015) (upholding \$14.35 million penalty under section 451, for failure to keep essential gas safety records). The CPUC’s public safety authority is further reflected in the Commission’s oversight of 911 service. CAL. PUB. UTILS. CODE § 742 (2021) (911 for public telephones); § 2883 (911 service and “warm lines”); § 2889.6 (information to customers regarding 911); § 2892 (repealed 2017) (required wireless carriers to provide access to 911 service). (Unless otherwise noted, all statutory citations herein are to statutes enrolled and effective as of the publication of this article.)

115. See Tenth Amendment cases cited *supra* note 92; *PG&E*, 188 Cal. Rptr. 3d at 378–79, 237 Cal. App. 4th 812; *Commc’ns Telesystems Int’l v. Cal. Pub. Utils. Comm’n*, 14 F. Supp. 2d 1165, 1171 (N.D. Cal., 1998) (upholding State’s police power, citing 47 U.S.C. § 253(b) to impose “requirements necessary to . . . protect the public safety and welfare”), *aff’d* *Commc’ns Telesystems Int’l v. Cal. Pub. Utils. Comm’n*, 196 F.3d 1011, 1019 (9th Cir. 1999); see also *Pac. Bell Wireless, LLC v. Pub. Utils. Comm’n*, 44 Cal. Rptr. 3d 733, 740, 746, 140 Cal. App. 4th 718, 728, 736 (Ct. App. 2006) (noting “[t]he commission is a state agency of constitutional origin with far-reaching

In order to mitigate the safety issues of overloaded poles and promote access to those poles by competitive providers, the CPUC instituted an Investigation into the Creation of a Shared Database or Statewide Census of Utility Poles and Conduit in California, in an attempt to bring big data solutions to festering network problems.¹¹⁶

In response to the Paradise Fire and other network failures, and more generalized concerns about the emergency preparedness of the telecommunications network, the CPUC ordered wireless carriers to have backup power at their cell sites in high fire threat areas,¹¹⁷ and wireline carriers to have backup power in their remote terminals and “all facilities that carry 9-1-1 traffic.”¹¹⁸ In this instance, the CPUC was acting where the FCC had not¹¹⁹ (although the FCC’s Technological Advisory Council had stressed the need for greater network resiliency¹²⁰).

duties, functions and powers,” upholding \$12.1 million fine and restitution for deceptive sales and business practices under § 451).

California Public Utilities Code section 451 articulates a “just and reasonable” standard which guides the state’s assertion of authority over services *and* facilities of telephone, electricity, gas, water, and other utilities (the operations of which often overlap and reach into other states): Every public utility shall furnish and maintain such adequate, efficient, just, and reasonable service, instrumentalities, equipment, and facilities, including telephone facilities, as defined in Section 54.1 of the Civil Code, as are necessary to promote the safety, health, comfort, and convenience of its patrons, employees, and the public. CAL. PUB. UTILS. CODE § 451.

116. *Poles and Conduit Proceeding*, *supra* note 109, at 24 (exploring the possibility of a statewide pole & conduit database).

117. Decision Adopting Wireless Provider Resiliency Strategies, *supra* note 113, at 2, 83–84 (“72-Hours of Backup Power, with Flexible Procurement and Deployment . . .”).

118. *Order Instituting Rulemaking Regarding Emergency Disaster Relief Program*, Rulemaking 18-03-011, Decision Adopting Wireline Provider Resiliency Strategies, Decision 21-02-029, slip op. at 14–15 (Cal. Pub. Utils. Comm’n Feb. 11, 2021), <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M366/K625/366625041.PDF> [<https://perma.cc/YZ7C-L4BY>]. See also *infra* note 125 and accompanying text (911 services provided over broadband).

119. The apex of the FCC’s effort was its Order on Reconsideration, requiring backup power at cell sites. *Recommendations of the Independent Panel Reviewing the Impact of Hurricane Katrina on Communications Networks*, EB Docket No. 06-119, WC Docket No. 06-63, Order on Reconsideration, 22 FCC Red. 18013, 18024 para. 25 (2007), <https://www.fcc.gov/document/recommendations-independent-panel-reviewing-impact-hurricane-0> [<https://perma.cc/G7HG-KDCU>]. An industry consortium appealed the post-Katrina backup power requirements, ultimately leading the FCC to abandon them. *CTIA-The Wireless Ass’n v. Fed. Commc’ns Comm’n*, 530 F.3d 984, 986, 989 (D.C. Cir. 2008) (stay issued). The case was dismissed in 2009 because the Office of Management and Budget had—at industry’s request—refused to approve the FCC regulations. OFF. OF INFO. & REGUL. AFFS., OFF. OF MGMT. & BUDGET, EXEC. OFF. OF THE PRESIDENT, NOTICE OF OFFICE OF MANAGEMENT AND BUDGET ACTION, ICR Reference No. 200802-3060-019 (Nov. 28, 2008), https://www.reginfo.gov/public/do/PRAViewICR?ref_nbr=200802-3060-019# [<https://perma.cc/WSY6-KPZK>]. The FCC did not pursue the issue further. See *CTIA-The Wireless Ass’n*, 530 F.3d at 990.

120. FCC TECH. ADVISORY COUNCIL: COMMC’NS RESILIENCY WORKING GRP., POST-PSTN PUBLIC COMMUNICATIONS RESILIENCY 9, 15 (2013) [hereinafter FCC TECH. ADVISORY

The California Legislature has also acted to insulate emergency broadband access from the well-documented and repeated throttling of county fire equipment *during* major wildfire incidents in 2018–19.¹²¹ Enacted in October 2019, AB 1699¹²² seeks to ensure essential wireless communications facilities remain available during emergencies¹²³ by prohibiting carrier throttling or interfering with broadband channels used by first responders:

Notwithstanding any other provision of this part, upon receiving a request pursuant to subdivision (b), the mobile internet service provider shall not impair or degrade the lawful internet traffic of the first response agency’s identified account until the earlier of either the account no longer being used by the agency in response to the emergency or the end

COUNCIL], https://transition.fcc.gov/oet/tac/tacdocs/reports/2013/Resiliency_White_Paper-FCC_TAC-2013-FINAL_working_group_paper.pdf [https://perma.cc/XJA5-NNMQ] (noting dependence of communications networks on electric power networks).

121. Verizon’s throttling of emergency fire communications, while it might not have been a net neutrality violation *per se* (as purportedly based on a generally applicable offering), demonstrates what happens when emergency communications are consigned to an unregulated market without common carrier protections. See *RIFO Remand Order*, *supra* note 95, at 12336–70 paras. 19–69. The throttling of the Santa Clara Fire Department’s mutual aid communications equipment while it was combatting the Mendocino Complex Fire (then the largest wildfire in California history) is documented in emails. Declaration of Fire Chief Anthony Bowden in Support of Opposition to Preliminary Injunction Motions, *supra* note 27, at 2, Ex. A. The June 29, 2018, emails of Fire Captain Justin Stockman describe Verizon’s earlier throttling of Fire Department electronic communications, after which Verizon assured the Department that it “had properly re-categorized the device as truly ‘unlimited,’” which was how it had been sold (reflected in Deputy Chief Prziborowski’s incorporated email). *Id.* at Ex. A.

Exhibit A contains a Verizon representative’s July 9, 2018 email, asserting “Verizon has always reserved the right to limit data throughput on unlimited plans.” *Id.* After Stockman reports continued throttling, Verizon responds that the Department will have to pay over twice the previous rate in order to get the required data capacity (referenced as a special offer, for “Government Subscribers Only”) (July 30, 2018 email). *Id.*

The unreliable nature of Verizon’s quotes to the Fire Department appears not unique to that company. See *Order Instituting Rulemaking Regarding Emergency Disaster Relief Program*, Rulemaking 18-03-011, Modified Presiding Officer’s Decision Sanctioning AT&T California (U1001C) and AT&T Corporation (U5002C) for Violations of Commission Rule 1.1, General Order 96-B, and Decision 19-08-025, Decision No. 20-08-037, slip op. at 1, 10, 18 (Cal. Pub. Utils. Comm’n Sept. 3, 2020) [hereinafter Decision Sanctioning AT&T], <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M346/K165/346165623.PDF> [https://perma.cc/5Q5L-AQTG] (AT&T assessed \$3.75 million for misleading statements and failure to file legally and factually adequate tariff descriptions for its Next Generation (NG) 911 broadband trunks; see also *infra* note 125 and accompanying text).

122. Assemb. B. 1699, 2019–2020 Leg., Reg. Sess. (Cal. 2019), https://leginfo.ca.gov/faces/billTextClient.xhtml?bill_id=201920200AB1699 [https://perma.cc/RA9U-KGW2] (including bill text, history, and committee bill analyses).

123. *Id.*; S. COMM. ON ENERGY, UTILS. & COMM’NS, ANALYSIS OF A.B. 1699, 2019–2020 Leg., Reg. Sess. (Cal. 2020).

of the emergency, subject to reasonable network management.¹²⁴

The California Governor's Office of Emergency Services' (Cal OES') development of a statewide Next Generation (NG) 911 system wholly based on broadband communications and Internet access also reflects state police power.¹²⁵ Local jurisdictions, like Santa Clara, have constructed their own emergency warning systems, which rely in part on the state system; the *Mozilla* court referred to these as "Internet-based services that depend on community members' speedy and unimpeded access to broadband Internet."¹²⁶ By virtue of AT&T and other ISPs' market dominance, Cal OES must contract with them for broadband transport services.¹²⁷ The ISPs objected to tariff requirements, however, claiming they are no longer bound to provide clear tariff descriptions of their transport offerings (product description, speeds, broken-out pricing), although historically required for 911 transport, because the broadband trunk service was now classified as "interstate information service."¹²⁸ It was only the CPUC's enforcement authority that compelled AT&T to provide this information.¹²⁹

Programs that affect the safety and reliability of the energy grid also depend on Internet access. In order to modernize the state's electricity distribution system, California has invested in Advanced Metering Infrastructure (AMI), an integrated array of IP-driven smart meters, IP communications networks, and data management systems that enables two-way communications between utilities and customers.¹³⁰ AMI, in turn, enables the energy utilities' demand response programs,

124. Cal. Assemb. B. 1699.

125. Cal OES' design for the NG 911 system is described at *CA 9-1-1 Technology*, CAL. GOVERNOR'S OFF. EMERGENCY SERVS., <https://caloes.ca.gov/cal-oes-divisions/public-safety-communications/ca-9-1-1-emergency-communications-branch/ca-9-1-1-technology> [<https://perma.cc/QE3W-7MGE>], and in Decision Sanctioning AT&T, *supra* note 121, at 22–25.

126. *Mozilla v. Fed. Comm'n. Comm'n.*, 940 F.3d 1, 60 (D.C. Cir. 2019); *see also* Declaration of Fire Chief Anthony Bowden in Support of Opposition to Preliminary Injunction Motions, *supra* note 27, at 2 para. 5 ("County Fire relies upon Internet-based systems to provide crucial and time-sensitive public safety services.").

127. *See* Decision Sanctioning AT&T, *supra* note 121, at 26 n.52, 67 n.159, 73 n.177.

128. *See id.* at 11–13, 26–27 (summarizing AT&T's claim that because broadband is an IP-enabled service it falls outside of CPUC enforcement authority).

129. *Id.* at 81–84. For similar carrier objections, *see supra* note 13.

130. *See* OFF. OF ELEC. DELIVERY & ENERGY RELIABILITY, U.S. DEP'T OF ENERGY, ADVANCED METERING INFRASTRUCTURE AND CUSTOMER SYSTEMS: RESULTS FROM THE SMART GRID INVESTMENT GRANT PROGRAM 13 (Sept. 2016), https://www.energy.gov/sites/prod/files/2016/12/f34/AMI%20Summary%20Report_09-26-16.pdf [<https://perma.cc/LYT7-DZUJ>] (smart meters "leverage[] a variety of wired and wireless communications technologies").

which have become critical during heat waves that distressed the state's electric grid.¹³¹

Similarly, state water resources are measured, controlled, and protected at crucial junctures by telemetry transmitted over broadband Internet access.¹³² Earthquake and fire safety are also implicated. PG&E, for example, has “implemented a ‘gas detection box that uses readily available [GIS] platforms . . .’ in the wake of an earthquake to ‘quickly survey . . . damaged areas and identify and prioritize work to address gas leaks,’” and supports remotely controlled fire detection cameras.¹³³

The “jurisdictionally interstate” broadband classification and the deregulatory regime it seeks to protect cast a shadow over state-driven public safety measures that rely on broadband Internet access as an operational component. Any ruling that broadband connectivity is exclusively the province of the federal government would further vitiate state efforts. As the D.C. Circuit’s *Mozilla* decision recognized, the threat to public safety after *RIFO*, absent state intervention, is real:

[P]ublic safety officials explained at some length how allowing broadband providers to prioritize Internet traffic as they see fit, or to demand payment for top-rate speed, could imperil the ability of first responders, providers of critical

131. Christian Roselund, *The California Blackout that Wasn't*, RMI (June 28, 2021), <https://rmi.org/the-california-blackout-that-wasnt/> [<https://perma.cc/D6LE-WCMJ>] (“demand response played [a] role[] in keeping the lights—and AC—on in California”); see *Application of Southern California Edison Company (U338E) for Approval of Its Energy Savings Assistance and California Alternate Rates for Energy Programs and Budgets for Program Years 2015-2017*, Application 14-11-007, Decision on Large Investor-Owned Utilities’ California Alternate Rates for Energy (Care) and Energy Savings Assistance (ESA) Program Applications, Decision 16-11-022, slip op. at 314–15, (Cal. Pub. Utils. Comm’n Nov. 21, 2016) (“AMI technology was proposed by the IOUs to ‘offer residential customers the unique opportunity to participate in [demand response]’”).

132. *Order Instituting Rulemaking into Policies to Promote a Partnership Framework between Energy Investor Owned Utilities and the Water Sector to Promote Water-Energy Nexus Programs*, Rulemaking 13-12-011, Decision Updating the Water Energy Nexus Cost Calculator, Proposing Further Inquiry, and Next Steps, Decision No. 16-12-047, slip op. at 17 (Cal. Pub. Utils. Comm’n Dec. 20, 2016), <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M171/K495/171495551.PDF> [<https://perma.cc/7GM9-PSXJ>] (“Infrastructure and services to provide both voice and internet communications for data management, transportation, and analysis, including narrowband and broadband signals, are critical to water and energy management, the use of resources, and public safety.” (emphasis added)); Doug Dawson, *Broadband and Water Systems*, POTS AND PANS (Mar. 17, 2021), <https://potsandpansbyccg.com/2021/03/17/broadband-and-water-systems/> [<https://perma.cc/FY4U-98CM>] (smart grid technology to improve water systems).

133. *Mozilla v. Fed. Commc’ns Comm’n*, 940 F.3d 1, 60–61 (D.C. Cir. 2019); cf. *Fire Detection Cameras*, FIRE SAFE MARIN, <https://firesafemarin.org/remote-fire-detection-cameras> [<https://perma.cc/Q8TK-GG6U>] (online cameras used for fire prevention).

infrastructure, and members of the public to communicate during a crisis.

....

... “[E]ven if discriminatory practices might later be addressed on a post-hoc basis by entities like the Federal Trade Commission,” the harm to the public “cannot be undone.”¹³⁴

The D.C. Circuit remanded the issue back to the FCC, which again found that market competition eliminates the need for regulatory oversight, even on safety issues.¹³⁵

B. The Barely Explicable Fear of Talking Plainly About BIAS as an Intrastate Service

In each of the instances described above, the problem and the remedy are located primarily in the local access network. But, like California’s defense of its net neutrality statute, most of the discourse on the subject accepts (generally without question) the categorization of broadband and broadband Internet access as “jurisdictionally interstate,” sometimes with a wink and a nod to the fact that “jurisdictionally interstate” may not actually mean interstate.¹³⁶

1. The “Jurisdictionally Interstate” Categorization of BIAS—History of a Fiction

As described below, the premise that BIAS is “jurisdictionally interstate” has its genesis in a 1986 Supreme Court footnote, in a decision having nothing to do with broadband. Yet broadband’s interstate classification—whether in the telecommunications or information service category¹³⁷—has become the cornerstone of FCC claims to primacy in all things broadband-related.

The interstate-intrastate polarity is set forth in two sections of the Communications Act. Section 152(a) provides that its provisions “shall apply to all *interstate* and foreign communication by wire or radio and all interstate and foreign transmission of energy by radio, which originates and/or is received within the United States.”¹³⁸

134. *Mozilla*, 940 F.3d at 60–61 (second alteration in original) (quoting from Joint Appendix).

135. *RIFO Remand Order*, *supra* note 95, at 12329 para. 2, 12348–69 paras. 37–67.

136. See discussion *infra* Sections III.B.1, III.B.4.

137. The 2015 *Open Internet Order*, while classifying BIAS as a telecommunications service, added that it was “jurisdictionally interstate.” *Open Internet Order*, *supra* note 12, at 5803–04, paras. 431–33; see *infra* note 147 and accompanying text.

138. 47 U.S.C. § 152(a) (2018) (emphasis added).

Section 152(b) declares that intrastate communications services, like those delivered over a local access network, are the province of the states: “nothing in this chapter shall be construed to apply or to give the Commission jurisdiction with respect to . . . charges, classifications, practices, services, facilities, or regulations for or in connection with *intrastate* communication service by wire or radio of any carrier.”¹³⁹

Congress made no separate category for traffic that might turn out to be hybrid.¹⁴⁰

In 1986, a decade before the 1996 Act, the Supreme Court confronted the intrastate-interstate distinction in *Louisiana Public Service Commission v. Federal Communications Commission*,¹⁴¹ a case about the proper allocation of depreciation in joint plant (facilities used for both types of traffic).¹⁴² The Court held that the FCC (and industry) *could* distinguish between interstate and intrastate service and plant (as discussed in the following Section).¹⁴³ But it dropped a footnote to address cases cited by the FCC that found it impossible to separate intrastate from interstate telecommunications: “[C]ases [finding separation was possible] are readily distinguishable from those in which FCC pre-emption of state regulation was upheld where it was *not* possible to separate the interstate and the intrastate components of the asserted FCC regulation.”¹⁴⁴

From this one sentence of dicta in a footnote was born the “impossibility exception” on which the legal fiction of “jurisdictionally interstate” is based.¹⁴⁵ While this case involved not broadband but legacy telephone service, the FCC has adopted, adapted, and applied this principle to broadband Internet access ever since.

By the time of the FCC’s 2015 *Open Internet Order*, the impossibility exception had become accepted orthodoxy. The FCC used

139. 47 U.S.C. § 152(b) (emphasis added).

140. It now appears to be universally accepted that online packet flow is *de facto* a combination of interstate and intrastate traffic. See *infra* Section III.B.2.

141. 476 U.S. 355 (1986).

142. *Id.* at 375.

143. *Id.*

144. *Id.* at n.4 (citing *N.C. Utils. Comm’n v. Fed. Commc’ns Comm’n*, 537 F.2d 787 (4th Cir. 1976), *cert. denied*, 429 U.S. 1027 (1976); *N.C. Utils. Comm’n v. Fed. Commc’ns Comm’n*, 552 F.2d 1036 (4th Cir. 1977), *cert. denied*, 434 U.S. 874 (1977)) (emphasis in original).

145. See, e.g., *Mozilla v. Fed. Commc’ns Comm’n*, 940 F.3d 1, 77 (D.C. Cir. 2019). Although *Louisiana PSC* was decided ten years before the 1996 Act was adopted, the Act made no substantive changes to 47 U.S.C. § 152(b)’s reservation of state authority for intrastate service. See 47 U.S.C. § 152(b) (2018).

it to preempt any “inconsistent” state regulation, even while recognizing that BIAS is in fact a “mixed-jurisdiction” service:

Today, we reaffirm the Commission’s longstanding conclusion that broadband Internet access service is jurisdictionally interstate for regulatory purposes. As a general matter, mixed-jurisdiction services are typically subject to dual federal/state jurisdiction, except where it is impossible or impractical to separate the service’s intrastate from interstate components and the state regulation of the intrastate component interferes with valid federal rules or policies. With respect to broadband Internet access services, the Commission has previously found that, “[a]lthough . . . broadband Internet access service traffic may include an intrastate component, . . . broadband Internet access service is properly considered jurisdictionally interstate for regulatory purposes.” . . . The “Internet’s inherently global and open architecture” enables edge providers to serve content through a multitude of distributed origination points, making end-to-end jurisdictional analysis extremely difficult—if not impossible—when the services at issue involve the Internet.

....

. . . [W]e announce our firm intention to exercise our preemption authority to preclude states from imposing obligations on broadband service that are inconsistent with the carefully tailored regulatory scheme we adopt in this Order.¹⁴⁶

The footnotes in these paragraphs document the FCC’s repeated resort to the “impossibility exception” to cement its jurisdictional supremacy, yet woven into the text is the admission that BIAS is in fact a hybrid (“mixed-jurisdiction”) service, and that “impossibility” more likely means “impracticality.” There is no analysis of the actual mix of traffic, why it is “impractical” or “impossible” to separate interstate from intrastate, or what policy goals are served by “impossibility.” One might speculate that this language represented a political concession rather than a policy judgment as FCC Chairman Wheeler steered the contentious Order towards approval.

146. *Open Internet Order*, *supra* note 12, at 5803–04 paras. 431–33, 5803 nn.1275–80 (first alteration in original) (emphasis added).

The 2015 *Open Internet Order* was also incomplete in another sense. While citing its 2004 decision in *Vonage Holdings Corp.* to support the “impossibility” rationale, it omitted the distinction between “fixed” and “nomadic” VoIP services—those attached to a specific address and those not so locatable—and failed to mention that the Commission had in the interim corrected itself.¹⁴⁷ In its 2006 *Universal Service Contribution Methodology* decision (and elsewhere), the FCC found that it was, in fact, possible to separate interstate from intrastate VoIP services, at least as to fixed (“interconnected”) VoIP:

[A]n interconnected VoIP provider with the capability to track the jurisdictional confines of customer calls would no longer qualify for the preemptive effects of our *Vonage Order* and would be subject to state regulation. This is because the central rationale justifying preemption set forth in the *Vonage Order* would no longer be applicable to such an interconnected VoIP provider.¹⁴⁸

In its analysis of broadband as an interstate service, the *Open Internet Order* also did not mention relevant dicta on appeal of the *Vonage Order* in the Eighth Circuit, which in 2007 again anticipated advances in mapping technology that by the time of the *Open Internet Order* had come to pass: “Our review is limited to the issue whether the FCC’s determination was reasonable based on the record existing before it at the time. If, in the future, advances in technology undermine the central rationale of the FCC’s decision, its preemptive effect may be reexamined.”¹⁴⁹

147. *Id.* at 5803 n.1276 (citing *Vonage Holdings Corporation Petition for Declaratory Ruling Concerning an Order of the Minnesota Public Utilities Commission*, WC Docket No. 03-211, Memorandum Opinion and Order, 19 FCC Rcd. 22404, 22419 para. 17 (2004) [hereinafter *Vonage Order*], *aff’d* Minn. Pub. Utils. Comm’n v. Fed. Comm’n Comm’n (*Minnesota PUC*), 483 F.3d 570, 582–83 (8th Cir. 2007)). In his separate Concurring Statement, Chairman Michael Powell seemed unaware of fixed VoIP, stating that “VoIP services are nomadic . . . making identification of the end points of any given communications session completely impractical,” and therefore “unquestionably interstate.” *Vonage Order, supra*, at 22437. By 2006, this statement was no longer tenable, and by 2015 the FCC’s citation to its 2004 *Vonage Order* was highly problematic. *See infra* notes 148–149 and accompanying text.

148. *Universal Service Contribution Methodology*, WC Docket No. 06-122, Report and Order and Notice of Proposed Rulemaking, 21 FCC Rcd. 7518, 7546 para. 56 (2006) (discussing *Vonage Order*).

149. *Minnesota PUC*, 483 F.3d at 580. Three years later, with the growth of cable voice, there had been “dramatic” growth “in fixed networks, with 31 million Americans subscribing to interconnected VoIP service in 2010,” making much of the online traffic geo-locatable. *Universal Service Contribution Methodology*, WC Docket No. 06-122, Further Notice of Proposed Rulemaking, 27 FCC Rcd. 5357, 5368–69 para. 18 (2012) [hereinafter *Universal Service Contribution*

The *Open Internet Order* was also silent on how the FCC had, in fact, been applying a “separations process” to VoIP traffic in order to apportion universal service surcharges between interstate and intra-state jurisdictions (see following section).

Two years later, the administration in Washington D.C. had changed, and in 2017 the “jurisdictionally interstate” classification was re-functionalized to achieve precisely the opposite result. The FCC used it not to defend rules it had promulgated but to protect the absence of rules, and to preempt states from attempting to fill that vacuum.¹⁵⁰

On appeal of the 2017 Order, the D.C. Circuit in *Mozilla* drolly recited how the “jurisdictionally interstate” assumption traced back to a then thirty-one-year-old footnote, and glossed the “impossibility exception” in a more practical vein:

All the impossibility exception does is help police the line between those communications matters falling under the Commission’s authority (Section 152(a)) and those remaining within the States’ wheelhouse (Section 152(b)). Specifically, if the matter involves interstate communications or a mix of state and federal matters *and* it falls within the impossibility exception, then the Commission may regulate to the extent of its statutory authority.¹⁵¹

In this telling, the “impossibility exception” is less a description of fact than a declaration of law and policy. Its acceptance, however, can lead to absurd results, including the reluctance to discuss the network as a physical reality.¹⁵² The interstate assumption becomes “a

Methodology 2012], https://transition.fcc.gov/Daily_Releases/Daily_Business/2012/db0501/FCC-12-46A1.pdf [<https://perma.cc/4DTH-B9PJ>].

150. *RIFO*, *supra* note 2, at 426–32 paras. 194–204.

151. *Mozilla v. Fed. Comm’ns Comm’n*, 940 F.3d 1, 77 (D.C. Cir. 2019) (citations omitted). The court nevertheless adopted the “jurisdictionally interstate” categorization without further examining its underlying factual and policy assumptions. See *id.* at 78. The parties and amici in the California litigation followed suit. See California Opposition, *supra* note 16, at 45–46; Brief of the Chamber of Com. of the United States et al. as Amicus Curiae in Support of Plaintiffs’ Renewed Motions for Preliminary Injunctions at 11, *Am. Cable Ass’n v. Becerra*, No. 2:18-cv-02684 (E.D. Cal. Aug. 19, 2020) [hereinafter Chamber of Commerce Amicus], <https://www.eff.org/document/usa-v-ca-amicus-brief-chamber-commerce-et-al-support-motions-preliminary-injunctions> [<https://perma.cc/44ZZ-FK9S>].

152. See *supra* Section II.D.

sort of Procrustean bed, to which [they] forcibly adapt [their] designs.”¹⁵³

2. How Impossible Does “Impossibility” Have to Be?

The FCC’s repeated invocation of the “impossibility exception” notwithstanding, separating interstate from intrastate traffic is not something new; it has been done since before the inception of the Communications Act.¹⁵⁴

In 1976, at the dawn of the broadband era, the D.C. Circuit batted away the FCC’s claim that it would be too difficult to separate interstate from intrastate traffic of cable companies:

The allocation of regulatory duties along the lines of inter-versus intrastate activities is a problem with which the Commission and state agencies must frequently deal, and have dealt successfully. Nor can the involvement of cable operators with more than one regulatory body logically be the cause of the alleged unworkability, for the Commission itself has recognized the role of local authorities in granting franchises and rights of way for the cables used.¹⁵⁵

Nor was there any sudden break or sharp distinction between the legacy telephone network and the IP networks of today—both run in large part over the same wires and plant. Dynamic routing, usually associated with IP traffic, has been used in both the public-switched

153. Edgar Allan Poe, *The Purloined Letter*, POESTORIES.COM, <https://poestories.com/read/purloined> [<https://perma.cc/5DKE-YS5T>]. Procrustes was a rogue smith and bandit who invited people to stay in his iron bed, and then stretched them or cut off their legs to fit the size of the bed. *Procrustes*, BRITANNICA (Jan. 4, 2011), <https://www.britannica.com/topic/Procrustes> [<https://perma.cc/P2J6-SZE3>]; Commentary, *The Lesson of Procrustes*, POWER (Nov. 1, 2011), <https://www.powermag.com/the-lesson-of-procrustes/> [<https://perma.cc/XB4H-DNSF>].

154. See *Smith v. Ill. Bell Tel. Co.*, 282 U.S. 133, 148–52 (1930) (requiring the trial court to apportion joint-use telecommunications facilities between intrastate and interstate use). This case is generally understood as the genesis of a separations requirement in telecommunications law. See Nadler, *supra* note 3, at 468 n.50.

155. Nat’l Ass’n of Regulatory Util. Comm’rs v. FCC (*NARUC II*), 533 F.2d 601, 614 (D.C. Cir. 1976); see also *id.* at n.80 (“In reference to the significant local role provided under the Commission’s regulations, . . . [t]he Commission has stated its intention to create ‘a cohesive, cooperative program between federal and local authorities.’” (first citing *Amendments of Part 76 of the Commission’s Rules and Regulations*, Docket Nos. 20018–24, Clarification of the Cable Television Rules and Notice of Proposed Rulemaking and Inquiry, 46 F.C.C.2d 175, 188 para. 41 (1974); and then citing Nat’l Cable Television Ass’n v. United States, 415 U.S. 336, 339 (1974) (reinforcing the role of state and local governments in providing “permits or franchises . . . including rights of way for the cables used”))).

telephone network (PSTN) and in currently operating broadband networks:

Dynamic routing increases the capacity of the network by spreading load along popular links to less utilized pathways . . . [and] is a basic functionality that is an integral part of the system's structure.

Though the PSTN was originally constructed with fixed routes, dynamic routing was added in the 1980s to reduce network congestion. . . . With the growth of Voice over IP (VoIP), interchange between the Internet and the PSTN further blurred the line between the two.¹⁵⁶

The Supreme Court in *Louisiana PSC* ultimately rejected “impossibility,” notwithstanding its “impossibility” footnote four. In the text to which footnote four was appended, the Court emphasized the requirement to attempt separation even when it is difficult,¹⁵⁷ and pointed to solutions built into the Act:

The Communications Act not only establishes dual state and federal regulation of telephone service; it also recognizes that jurisdictional tensions may arise as a result of the fact that interstate and intrastate service are provided by a single integrated system. Thus, the Act itself establishes a process designed to resolve what is known as “jurisdictional separations” matters Because the separations process literally separates costs such as taxes and operating expenses between interstate and intrastate service, it facilitates the creation or recognition of distinct spheres of regulation.¹⁵⁸

Today, a “Federal-State Joint Board on Universal Service” facilitates the separations process necessary to apportion state and federal universal service contributions.¹⁵⁹ Traffic studies are one method sanctioned by the Board to separate interstate from intrastate traffic and revenue.¹⁶⁰

156. Joint Technologists' Comments, *supra* note 24, at 10–11.

157. La. Pub. Serv. Comm'n v. Fed. Commc'ns Comm'n, 476 U.S. 355, 375 (1986) (“[W]e reject the intimation—the position is not strongly pressed—that the FCC cannot help but pre-empt state depreciation regulation of joint plant.”).

158. *Id.* (citing 47 U.S.C. §§ 221(c), 410(c) (2018)).

159. See *Federal-State Joint Board on Universal Service*, FED. COMM'NS COMM'N, <https://www.fcc.gov/general/federal-state-joint-board-universal-service> [<https://perma.cc/2DFE-AHCH>] (last updated Jan. 6, 2021).

160. Carriers are required to provide precise inter/intrastate breakdowns, based on books and records, where possible. FED. COMM'NS COMM'N, 2020 TELECOMMUNICATIONS REPORTING

Nor is it impossible to track IP traffic. Although it seems that IP packets whiz around the world subject to some unknown algorithm, it *is* possible to trace packets, geolocate endpoints, and better understand the *actual* intrastate/interstate balance of broadband telecommunications traffic.¹⁶¹ Similar to voice calls transmitted with calling and called party information, each IP packet contains “source and destination IP addresses.”¹⁶² In fact, the FCC has collected numerous voice over IP traffic studies,¹⁶³ suggesting that 75–80 percent of this traffic is intrastate.¹⁶⁴

Additionally, content providers are increasingly using content distribution networks (CDNs) to move content closer to ISP head ends

WORKSHEET INSTRUCTIONS (FCC FORM 499-A), at 39 (2020), <https://docs.fcc.gov/public/attachments/DA-20-164A3.pdf> [<https://perma.cc/M6SC-VJKR>]. When a carrier claims this is impossible, it may use a “traffic study,” i.e., “statistical sampling to estimate the proportion of minutes [traffic] that are interstate and international” as opposed to intrastate, or resort to a “safe harbor” (weighted heavily toward interstate). *Id.* at 40–42.

161. See John Markoff, *Scientists Strive to Map the Shape-Shifting Net*, N.Y. TIMES (Mar. 1, 2010), <https://www.nytimes.com/2010/03/02/science/02topo.html> [<https://perma.cc/F8WT-6DLP>] (“[T]he majority of Internet traffic . . . flows directly between large content providers like Google and consumer networks like Comcast.”). Geolocation is clearly not an issue with most wireless broadband access, as any user of Google Maps can attest. See also TRACEROUTE, <http://traceroute.org> [<https://perma.cc/W2Y8-RGWT>] (traceroute aggregation site); CAIDA, www.caida.org [<https://perma.cc/VG6M-SVJ8>] (the extensive data mapping done by UCSD’s Center for Applied Internet Data Analysis); Ben Du et al., *RIPE IPmap Active Geolocation: Mechanism and Performance Evaluation*, 50 COMPUT. COMM’N REV. 3 *passim* (2020) (also discussing commercially available geolocation services NetAcuity and GeoIP2). While carriers have this data, researchers and regulators will not have it absent government intervention. See Scott Jordan, *Measurement to Inform Policy: Who Should Do It?*, CTR. APPLIED INTERNET DATA ANALYSIS, <https://www.caida.org/workshops/wombir/2101/slides/wombir2021-paper19.pdf> [<https://perma.cc/HZ6U-RTHM>] (ISPs, transit providers, and content providers have access to traffic data); David Clark & kc claffly, *Trust Zones: A Path to a More Secure Internet Infrastructure* (Nov. 2020) (working draft), https://www.caida.org/publications/papers/2021/trust_zones/trust_zones.pdf [<https://perma.cc/C5EP-F7VM>].

162. Jordan Declaration, *supra* note 27, at paras. 11–13 (“Each broadband provider assigns an IP address to each of its customers’ modems (e.g., cable modem, DSL modem, or smartphone) The routers and other network equipment used by broadband providers examine the destination IP address of each packet in order to determine where to route that packet.”).

163. *Universal Service Contribution Methodology 2012*, *supra* note 149, at 5409 n.254 (“VoIP [Voice over Internet Protocol] providers that file traffic studies on average report 21.5 percent interstate/international revenues . . .”).

164. See *id.* at 5406 para. 125:

VoIP providers have filed traffic studies showing interstate/international revenues ranging from zero to 59.9 percent. Forty-seven out of 243 VoIP providers have submitted traffic studies showing no interstate/international traffic. Overall, the average percentage for VoIP traffic studies is 22.1 percent interstate/international, with the median study reporting 14.7 percent interstate/international. Traffic studies on file thus report interstate/international usage significantly lower than the safe harbors for both wireless and interconnected VoIP.

and central offices, further tipping the balance of traffic in the intrastate direction even in the era of “global” networks.¹⁶⁵

The FCC and the courts occasionally recognize the hybrid intrastate/interstate nature of online traffic flow. “The FCC found that it had previously erred by trying to rigidly classify ISP-bound traffic as either local or long-distance for the purposes of [intercarrier compensation], and the Commission should instead have recognized that such traffic is a hybrid.”¹⁶⁶ Still, the jurisdictionally interstate fiction remains (as of this writing) the dominant paradigm.

3. Mapping the “End-to-End” Network Is Not Impossible

A final line of defense for the “jurisdictionally interstate” classification is the “end-to-end” meme. It is a phrase with different meanings, depending on context. For regulatory lawyers it seems to connote the Internet as a global network with inherently unknowable endpoints; for engineers, it means something else.

The *Open Internet Order* used it in the former sense: “The ‘Internet’s inherently global and open architecture’ enables edge providers to serve content through a multitude of distributed origination points, making end-to-end jurisdictional analysis extremely difficult—if not impossible—when the services at issue involve the Internet.”¹⁶⁷ *RIFO* adopts this logic to bolster its own findings of

165. See, e.g., Joint Technologists’ Comments, *supra* note 24, at 2 (“global communication”); *id.* at 13–15 (describing the evolution of CDNs from ISPs’ early creation of caches with a local copy of their subscribers’ favorite content, shortening the distance between the requesting subscriber and the requested content, and how this business was taken over by third party CDN services employed by content providers to move content close to the carrier/ISPs’ central office or head end).

One of the Joint Technologists, Tim Pozar, adds:

Most medium to large content providers will use a Content Delivery Network (CDN) in order to hand off content to customers. A CDN will have servers as close to the eyeballs as possible. If you are in the [San Francisco] Bay Area, likely most of your content is coming from servers in the South Bay hosted by folks like Amazon Web Services, Cloudflare, etc. So if you are just looking at the connection from the eyeball to say Netflix, then that traffic is likely not only completely contained in California, but likely doesn’t even leave the Bay Area.

E-mail from Tim Pozar, Co-Founder, Two P, to author (Jan. 29, 2021, 6:41 PM) (on file with author). An East Coast advocate points out that intrastate traffic might be less predominant in smaller states: “[H]ere in [D.C.] I might take the same device and even the same session with me across not one [but] two different state lines in just a few minutes . . . passing from Maryland into [D.C.] and then across the river to Virginia.” E-mail from Matt Wood, Vice President of Pol’y & Gen. Counsel, Free Press, to author (Feb. 12, 2021, 4:58 PM) (on file with author).

166. *AT&T Corp. v. Core Commc’ns, Inc (AT&T v. Core)*, 806 F.3d 715, 721 & n.30 (3d Cir. 2015).

167. *Open Internet Order*, *supra* note 12, at 5803 para. 431.

impossibility and interstate jurisdiction, citing the same “end-to-end” passage of the Commission’s earlier *Cable Modem Order*.¹⁶⁸ The latter devoted all of three sentences to the matter, concluding that “[t]he jurisdictional analysis rests on an end-to-end analysis, in this case on an examination of the location of the points *among* which cable modem service communications travel.”¹⁶⁹ Note the language is not “transmission, between or among points *specified by the user*,” the definition of “telecommunications” in the 1996 Act.¹⁷⁰

The other end-to-end precedent on which the *Open Internet Order* ultimately relied is the 1998 *GTE Order*.¹⁷¹ The assumption in the *GTE Order* was of one call to an ISP modem, with a second hop beyond the modem into an “international network of interconnected computers” with multiple (and potentially unknowable) termination points.¹⁷² Today the two-hop model is largely a thing of the past; one does not need a “dial-up” ISP because the ISP is itself the last-mile provider of connectivity.¹⁷³ Packets are sent from an end-user (subscriber) to a web address “specified by the user,” with both sender and

168. *RIFO*, *supra* note 2, at 429–30 para. 199 (citing *Cable Modem Order*, *supra* note 32, at 4832 para. 59). *RIFO* follows this with the unfounded assertion that BIAS is “predominantly interstate” based on carrier statements that a “substantial amount of Internet traffic begins and ends across state lines.” *Id.* at 430 para. 199 & n.743. This in turn apparently references a previous but largely abandoned “interstate” rationale that any traffic crossing a state line is *ipso facto* interstate, even if it begins and ends in the same state. Nadler, *supra* note 3, at 489 n.167. *But see Thrifty Call, Inc. Petition for Declaratory Ruling Concerning BellSouth Telecommunications, Inc.; Tariff F.C.C. No. 1*, CCB/CPD File No. 01-17, Declaratory Ruling, 19 FCC Rcd. 22240, 22246–47 para. 15 (2004) (“The fact that the calls at issue were routed through a switch in Georgia is immaterial to the jurisdiction of a call.”).

169. *Cable Modem Order*, *supra* note 32, at 4832 para. 59 (emphasis added).

170. 47 U.S.C. § 153(50) (2018) (emphasis added); *see also* Jordan Declaration, *supra* note 27, at 4–5 paras. 11–12 (each network user has an IP address, and every email or other Internet transmission by that user contains packets with the IP address of the addressee, i.e., the user is effectively specifying the end points of the transmission); *see also id.* at 3–4 para. 8 (illustrating the same principle in the context of a Skype call).

171. *Open Internet Order*, *supra* note 12, at 5803 n.1275 (citing *GTE Telephone Operating Cos.; GTOC Tariff No. 1; GTOC Transmittal No. 1148*, CC Docket No. 98-79, Memorandum Opinion and Order, 13 FCC Rcd. 22466 (1998) [hereinafter *GTE Order*]).

172. *GTE Order*, *supra* note 171, at 22468 para. 5; *see also* Pac. Bell v. Pac-West Telecomm, Inc., 325 F.3d 1114, 1121 (9th Cir. 2003) (“The FCC concluded that ISP traffic does not terminate at an ISP’s modem, and should not be considered as comprising two distinct calls. . . . The FCC instead used an ‘end-to-end’ analysis to conclude that, for jurisdictional purposes, ISP traffic was substantially interstate.”).

173. Lee L. Selwyn & Helen E. Golding, *Revisiting the Regulatory Status of Broadband Internet Access: A Policy Framework for Net Neutrality and an Open Competitive Internet*, 63 FED. COMM’NS L.J. 91, 96 (2010) (“[S]ubscribers to the major ISPs were required to provide their own ‘last mile’ connection, usually accomplished on a dial-up basis utilizing the subscriber’s home (or business) local telephone service. . . . [U]nlike today’s principal providers of broadband Internet access, dial-up ISPs did not provide last-mile telecommunications services . . .”).

addressee known to the carrier, even if the stray intrastate packet is “dynamically” routed out-of-state—in short, today’s traffic can be mapped and measured.¹⁷⁴

By contrast, engineers talk about end-to-end (“e2e”) as a design principle:

The e2e argument organizes the placement of functions within a network. It counsels that the “intelligence” in a network should be located . . . at its “ends,” where users put information and applications onto the network. The communications protocols themselves (the “pipes” through which information flows) should be as simple and as general as possible.¹⁷⁵

This design reflected the original democratic vision of the web, of a “dumb” or passive network carrying all applications and content without discrimination,¹⁷⁶ what Tim Wu first called “net neutrality.”¹⁷⁷ It is not an argument for FCC hegemony in broadband policy.

Advocates can either argue about the actual intrastate/interstate ratio of that traffic, or admit that the precise ratio is irrelevant. If this paper does nothing besides show that the “impossibility exception” and “jurisdictionally interstate” rubrics are, at root, constructs that stand in for administrative convenience, policy, or political calculation rather than empirical fact, it will have accomplished its essential

174. Jordan Declaration, *supra* note 27, at 4–5 para. 12 (discussing the correlation between geographical and Internet addresses); *see also supra* note 161 and accompanying text (discussing the extensive mapping done by San Diego’s Center for Applied Internet Data Analysis). Nadler’s 1995 article notes that carriers were even then acquiring the ability to track packets. Nadler, *supra* note 3, at 502 (“If it is not here already, there will soon come a time when technology makes it possible to determine the jurisdictional nature of any communication.”). *See also supra* notes 168, 173.

175. Mark A. Lemley & Lawrence Lessig, *The End of End-to-End: Preserving the Architecture of the Internet in the Broadband Era*, 48 UCLA L. REV. 925, 930–31 (2001) (citing the work of pioneering Internet engineer J. H. Saltzer et al., *End-to-End Arguments in System Design*, 2 ACM TRANSACTIONS ON COMPUT. SYS. 277 (1984)).

176. Christopher S. Yoo, *Would Mandating Broadband Network Neutrality Help or Hurt Competition? A Comment on the End-to-End Debate*, 3 J. ON TELECOMMS. & HIGH TECH. L. 23, 41 (2004). *But see id.* at 65 (objecting that engineers’ preference for “dumb” pipes with intelligence at the network edge ignores the potential benefits of situating intelligence in the middle of the network, allowing “differentiation”).

177. Tim Wu, *Network Neutrality, Broadband Discrimination*, 2 J. ON TELECOMMS. & HIGH TECH. L. 141 *passim* (2003). Although Wu first used the term “net neutrality” in this 2003 article, he situated it as an “end-to-end” principle in a subsequent article. Tim Wu, *Why Have a Telecommunications Law? Anti-Discrimination Norms in Communications*, 5 J. ON TELECOMMS. & HIGH TECH. L. 15, 26 (2006) (“The essence of the end-to-end principle is that the most valuable network is that which supports the broadest number of uses.”).

purpose. The analysis then becomes about policy choices, discussed in Sections III.C.4 and III.D below.

4. State and Local Jurisdiction over Access Networks Is Not Inimical to Federal Framework Authority and Jurisdiction Over Factually Interstate Network Elements

State oversight of local broadband networks does not mean building firewalls between states or disentangling California's broadband networks from those in other states—no more than the federal financing and construction of a national highway system has precluded the California Highway Patrol from policing the interstate highways in California. Nor is state jurisdiction over in-state infrastructure inimical to federal jurisdiction over factually interstate elements of the network, such as a good portions of the backbone and long-haul interconnection market, and spectrum allocation.

We are not faced with a binary choice of one national framework or many state frameworks; national principles do not necessarily have to oust state oversight. The 1996 Telecommunications Act, for example, set out principles for the unbundling and joint use of local network elements, which the states were then to apply and enforce (a reasonable plan primarily defeated by industry challenges).¹⁷⁸

Even when the interstate classification is accepted, courts have found ways to conclude that it does not necessarily exclude state jurisdiction. As the Third Circuit held in *AT&T Corp. v. Core Communications, Inc.*¹⁷⁹: “[T]he jurisdictional determination reflects only a finding about the Commission’s power to regulate under Section 201, not a view that its jurisdiction is exclusive. . . . The [Commission’s] analysis established the FCC’s power, but did not restrict or even address competing power from the states.”¹⁸⁰ The Court pointed to the fact that the FCC has two doctrines that can apply in this circumstance—“jurisdictionally interstate” and “jurisdictionally mixed”—and that the FCC itself does not always clearly distinguish between them:

178. See generally *infra* note 235 (describing incumbents’ challenges to unbundling and subsequent legal battles).

179. *AT&T Corp. v. Core Commc’ns, Inc* (*AT&T v. Core*), 806 F.3d 715 (3d Cir. 2015).

180. *Id.* at 726 (citing *Glob. NAPs, Inc. v. Verizon New England, Inc.*, 444 F.3d 59, 71 (1st Cir. 2006)); see also 47 U.S.C. § 201 (2018) (“It shall be the duty of every common carrier engaged in interstate or foreign communication by wire or radio to furnish such communication service upon reasonable request therefor.”).

By using the terms “interstate” and “jurisdictionally mixed” interchangeably in the *ISP Remand Order*, the FCC demonstrated that it could not have been ruling about exclusive jurisdiction. Based on the traditional understanding of the terms, purely interstate traffic is exclusively committed to the FCC, and jurisdictionally mixed traffic is subject to “dual federal/state jurisdiction.” If the FCC believed the [1996 Act] committed ISP-bound traffic to its exclusive jurisdiction, it would have distinguished between the two.¹⁸¹

When the interstate and intrastate components are *in fact* inseparable, “state jurisdiction over mixed use services such as ISP-bound local traffic is tied to conflict preemption.”¹⁸² Four years later, the Court in *Mozilla* endorsed this approach, redefining the “impossibility exception” as a “protect[ion of] a valid federal regulatory objective,” but not wholly abandoning alleged impossibility as a rationale to regulate intrastate communications, i.e., where “interstate aspects of the matter cannot be ‘unbundled’ from regulation of the intrastate aspects.”¹⁸³ This begs the questions of what would be needed to show that “aspects” cannot be unbundled, and what would in fact constitute a conflict. Every road in California feeds into highways that are part of an interstate system; this does not oust California from jurisdiction over (for example) public safety on those roads.¹⁸⁴

What an empirically rooted jurisdictional scheme would rule out is exclusive federal jurisdiction over network elements that are demonstrably local or intrastate.

The states could take a whistle-past-the-graveyard approach and hope that recognition of “mixed jurisdiction rules would not preclude states from enforcing requirements similar to those the Commission acknowledged as necessary to carry out the federal regime.”¹⁸⁵

181. *AT&T v. Core*, 806 F.3d at 726–27 (footnote omitted).

182. *Id.* at 727 (citing *La. Pub. Serv. Comm’n v. Fed. Commc’ns Comm’n*, 476 U.S. 355, 360 (1986)) (“A state is . . . preempted and lacking jurisdiction to regulate ISP-bound local traffic if and only if the state regulation conflicts with federal law.”).

183. *Mozilla v. Fed. Commc’ns Comm’n*, 940 F.3d 1, 77 (D.C. Cir. 2019) (quoting *Pub. Serv. Comm’n of Md. v. Fed. Commc’ns Comm’n*, 909 F.2d 1510, 1515 (D.C. Cir. 1990)).

184. See generally Narechania & Stallman, *supra* note 9, at 605–06 (“[T]he case for an exclusive federal role over broadband carriage is weak . . . in view of concerns for concentration in local access markets . . . [and] the power of local broadband carriers to intermeditate a relationship between . . . out-of-state [content] providers and local customers . . .”).

185. See Lyons, *supra* note 45, at 939 (citing *National Association of Regulatory Utility Commissioners Petition for Clarification or Declaratory Ruling that No FCC Order or Rule Limits State Authority to Collect Broadband Data*, WC Docket No. 09-193, Memorandum Opinion and Order,

This is an inherently unsatisfactory approach, however, as it does not recognize states as coequal partners with *shared jurisdiction* over a *hybrid* system, much less the primacy of states and local governments in matters involving local and last-mile networks.¹⁸⁶ For instance, could states impose higher resiliency standards in specified high fire threat areas? Could states enforce net neutrality rules as part of their traditional consumer protection functions? What about the “zero-rating” and interconnection provisions found in SB 822 but not in federal law?¹⁸⁷ Would the FCC share data with the states, subject to a coordinated confidentiality regime?¹⁸⁸

Balancing federal and state interests going forward is further discussed in Section III.D below.

C. *The Physical and Economic Reality of Local Access Networks—a Closer Look*

Having established that broadband carries a mix of interstate and intrastate *traffic*, and that it is possible to tease them apart when needed, let us return to where we started, the physical reality of local access *facilities*. Here the bottleneck, and the need for regulation, is patent.

1. Preface: Regulatory Arbitrage—Are We Regulating the Service, the Infrastructure, or the Corporate Entity, and Does It Matter?

Some might object that the following discussion of physical network facilities is misplaced because SB 822 and other net neutrality rules regulate the *service* rather than the *infrastructure* (or the corporate *entity*). They might claim broadband access is a deregulated information service, even if the infrastructure on which it rides is regulated. This argument allows carriers continued access to rights-of-way, infrastructure, and state dispute resolution mechanisms (often through

25 FCC Rcd. 5051, 5054–55 para. 9 (2010) (“Classifying broadband Internet access service as an information service or finding that this service is jurisdictionally interstate, however, does not by itself preclude mandatory State data-gathering efforts.”).

186. See *infra* notes 232 and 243 and accompanying text discussing “cooperative federalism”; see also *supra* Sections III.A.2, III.A.3; *infra* Sections III.C.2–4 (state police powers and regulation of local networks).

187. See CAL. CIV. CODE § 3101(a)(9) (2021); *id.* § 3101(a)(3); Lyons, *supra* note 45, at 927–28; *supra* note 49; *infra* Section III.D.

188. As discussed below, data sharing (or rather the lack of it) has been one of the pain points in “cooperative federalism.” See, e.g., *infra* notes 276 and 283 and accompanying text (states’ attempts to gain access to information FCC has from the carriers).

separate affiliates), and eligibility for infrastructure deployment subsidies, while (arguably) shielding them from regulation of the services running on those facilities.¹⁸⁹

A high-stakes game of regulatory arbitrage ensues, playing off the balkanized regulatory categories of traditional telephone, VoIP telephony, cable television, and broadband—all of which flow over the same infrastructure.¹⁹⁰ The semantic trick in preserving “light touch” (or no touch) regulation seems to be isolating service regulation from facilities regulation.

The FCC, in its post-*Mozilla* Order on Remand, demonstrates how this is done. After declaring in *RIFO* that broadband was no longer a telecommunications service, commenters pointed out that broadband providers would then no longer be eligible for access to poles and conduit under 47 U.S.C. § 224, as that statute is limited to telecommunications and cable television providers, neither of which statutorily encompasses broadband.¹⁹¹ The D.C. Circuit remanded this issue to the FCC.¹⁹² On remand the FCC solved the problem by finding that if an entity offered “cable or telecommunications services over the same network,” it could bootstrap its broadband traffic into those categories.¹⁹³

189. For example, in Rulemaking 20-09-001 *In re Broadband Infrastructure Deployment*, Frontier and other carriers warn that “[w]hile the Commission has a role in fostering the deployment of broadband facilities, it does not regulate broadband services.” Frontier California Inc. Opening Comments, *supra* note 44, at 3; *see also supra* note 13 (broadband carriers’ objections to CPUC jurisdiction based on classification of broadband access as an “interstate” and/or “information” service).

190. As used herein, “infrastructure” means the physical facilities on which the network runs, what some have called the “physical layer.” *See* discussion of the physical layer *supra* note 25 and accompanying text; *infra* note 200. Narechania and Stallman also emphasize the “shared infrastructure” theme, beginning with inside wiring and moving out to local access networks. Narechania & Stallman, *supra* note 9, at 550–52, 562, 616 (“[C]ommunications infrastructure remains much the same: Internet data now runs through the wires that were once dedicated to telephone calls.”).

191. *Mozilla v. Fed. Comm’ns Comm’n*, 940 F.3d 1, 65 (D.C. Cir. 2019) (“[T]he Communications Act defines the ‘pole attachment[s]’ it subjects to regulation by reference to ‘telecommunications service[s]’ under Title II [and cable television services under Title III], not information services under Title I. 47 U.S.C. § 224(a)(4).” (second and third alterations in original))

192. *Id.* at 65–67.

193. *RIFO Remand Order*, *supra* note 95, at 12370–72 paras. 72–73 (citing Nat’l Cable & Telecomms. Ass’n v. Gulf Power Co., 534 U.S. 327, 339 (2002)) (“‘[W]here the same infrastructure would provide “both telecommunications and wireless broadband Internet access service,” the provisions of section 224 governing pole attachments would continue to apply to such infrastructure used to provide both types of service.’ . . . [A] majority of subscribers are served by ISPs that provide either cable or telecommunications services over their networks and therefore remain able to take advantage of the rights guaranteed by section 224 after the reclassification of broadband Internet access service as an information service.”).

State commissions follow suit,¹⁹⁴ giving utility certifications to companies whose primary business is clearly broadband,¹⁹⁵ and allowing wireless carriers to attach to poles even though their traffic is increasingly broadband.¹⁹⁶ Similarly, cable companies that need telecommunications carrier status to obtain upstream interconnection with other carriers regularly create telecommunications affiliates for that purpose, while offering their VoIP or broadband service through separate “IP” affiliates they claim to be unregulated.¹⁹⁷

194. Although the CPUC has itself relied on similar logic in the past, the CPUC was one of the petitioners that challenged *RIFO* on pole and safety issues. *Mozilla*, 940 F.3d at 60.

195. See *Application of Golden Bear Broadband, LLC for a Certificate of Public Convenience and Necessity in Order to Provide Full Facilities-Based and Resold Competitive Local Exchange Services*, Application 13-01-007, Decision Granting Golden Bear Broadband, LLC a Certificate of Public Convenience and Necessity in Order to Provide Full-Facilities Based and Resold Competitive Local Exchange Service, Decision No. 14-02-001, slip op. at 4 (Cal. Pub. Utils. Comm’n Feb. 7, 2014) [hereinafter *Application of Golden Bear Broadband*], <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M087/K885/87885070.PDF> [<https://perma.cc/A3ZA-6SCR>]. The Commission granted a certificate of public convenience and necessity to Golden Bear Broadband, notwithstanding a then-existing ban on any CPUC regulation of “IP enabled services,” based on the applicant’s assertion that it *might* offer “non-IP enabled special access” service if “required by some customers,” with no further discussion of what this “broadband” company’s core business would be. *Id.*

196. See *Poles and Conduit Proceeding*, *supra* note 109; Decision Amending the Right-of-Way Rules to Apply to Wireless Telecommunications Facilities Installed by Competitive Local Exchange Carriers, Decision 18-04-007, slip op. at 34–35 (Cal. Pub. Utils. Comm’n Apr. 27, 2018) [hereinafter *Decision Amending the Right-of-Way Rules*], <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M213/K609/213609261.PDF> [<https://perma.cc/Y45W-8MJG>]. This decision was a *de facto* attempt to address the rights of broadband providers to access utility poles, although the Commission appeared loathe to state that explicitly. Compare *id.* at 2 (amending pole attachment rules to “encourage widespread deployment of broadband wireless services”), with the Decision’s Conclusions of Law:

CLEC wireless telecommunications facilities may be used to provide services (e.g., wireless broadband service) besides the telecommunications services that CLECs may provide pursuant to their Commission-issued CPCNs.

CLECs’ nondiscriminatory access to public utility infrastructure under the ROW Rules is limited to facilities that are necessary or useful for the provision of the telecommunications services that CLECs may provide pursuant to their Commission-issued CPCNs. The ROW Rules do not apply to facilities that are wholly unrelated to the provision of such telecommunications services.

Id. at 34–35 (Conclusions of Law 2 and 3).

197. See *Investigation on the Commission’s Own Motion into the Operations, Practices, and Conduct of Comcast Phone of California, LLC (U-5698-C) and its Related Entities (Collectively “Comcast”) to Determine Whether Comcast Violated the Laws, Rules, and Regulations of this State in the Unauthorized Disclosure and Publication of Comcast Subscribers’ Unlisted Names, Telephone Numbers, and Addresses*, Investigation No. 13-10-003, Order Instituting Investigation into the Unauthorized Disclosure and Publication of Unlisted Telephone Numbers by Comcast, slip op. at 4, (Cal. Pub. Utils. Comm’n Oct. 8, 2013), <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M078/K432/78432340.PDF> [<https://perma.cc/N4H3-QMHY>]. In investigating Comcast’s leak of over 75,000 unlisted customer names, addresses, and phone numbers onto the Internet, the CPUC found that:

The use of separate affiliates for service provision and infrastructure access reflects a separation of service from infrastructure, what might be called the de-corporealization of the network. Contrary to popular belief, the Internet does not exist in a “cloud,”¹⁹⁸ but on wires connecting computers, with Internet addresses that can most often be associated with real places on a map.¹⁹⁹

Obviously, there is a continuity (and continuum) between infrastructure and service, just as there is a connection between the physical and IP layers in the protocol stack. Those who object that online differentiation and discrimination happens at the IP layer and not the physical layer ignore what Richard Whitt calls “lower layer control”—whoever controls the physical/infrastructure layer can exert control up through the protocol stack.²⁰⁰

SB 822 defines “Broadband Internet access service” as a service “that provides the *capability to transmit data to, and receive data from, all or substantially all Internet endpoints.*”²⁰¹ In other words, the service—at its core—is connectivity and transport, neither of which exists without a physical network.²⁰²

BIAS regulation is regulation of that connectivity and transport, i.e., the *operation* of the wires or local radio access

Comcast Phone of California, LLC (“Comcast Phone”) holds a certificate of public convenience and necessity (CPCN), U-5698-C According to Comcast, Comcast Phone is primarily a wholesale provider offering interconnection and other regulated services, of which Comcast IP Phone II, LLC [sic] (“Comcast IP”) receives through an interconnection agreement with Comcast Phone.

Id.

198. The “cloud” rhetoric of the Internet’s earlier days has now been supplanted by “software defined networks” and “infrastructure as a service,” terms which similarly obscure the fact that underlying networks and their infrastructure exist somewhere in the real world. *See, e.g.*, FCC TECH. ADVISORY COUNCIL, *supra* note 120, at 33 (describing “cloud infrastructure such as IaaS (Infrastructure as a Service)” (emphasis added)).

199. *See* Jordan Declaration, *supra* note 27, at 5 para. 12 (“[C]onsecutive IP addresses are clustered together geographically, and [that means] that the range of IP addresses assigned within one access network does not overlap with the range of IP addresses assigned within another access network. Thus, a broadband provider can easily identify the geographical location of an IP address”).

200. Richard S. Whitt, *A Horizontal Leap Forward: Formulating a New Communications Public Policy Framework Based on the Network Layers Model*, 56 FED. COMM’NS L.J. 587, 647 (2004) (“[A]n entity’s control over unique elements of the Physical Layer and its resulting control over higher layers in the protocol stack . . . [and leads to a situation where] he who controls the lower layers also can control the dependent upper layers.”).

201. CAL. CIV. CODE § 3100(b) (2021) (emphasis added).

202. S.B. 822 separately defines the “[c]ontent, applications, or services” that flow over that connection as “edge services,” whereas net neutrality’s central concern is what happens on the network. *Compare* CAL. CIV. CODE § 3100(d), *with* § 3100(e).

network.²⁰³ In that regard, net neutrality is little different than other regulation of local infrastructure which has been the focus of state utility commissions for over a century.²⁰⁴ The neutrality, safety, and service quality rules described in this Article address a continuum of infrastructure operation.²⁰⁵

2. Monopoly/Duopoly Control, from the Ground Up

a. Claims—the market will provide

Opponents of neutrality laws claim they are unnecessary because competition will discipline the market. Congress wrote support for this claim into the U.S. Code in 1996 (however ambiguously): “It is the policy of the United States . . . to preserve the vibrant and competitive free market *that presently exists for the Internet and other interactive computer services*, unfettered by Federal or State regulation.”²⁰⁶ Conflating transport and computer services, the ISPs and their supporting amici cite this section to argue that “competitive pressures in the market for Internet traffic exchange . . . undermine the need for regulatory oversight.”²⁰⁷ “[A]llowing market forces to discipline this emerging and competitive market is the better course.”²⁰⁸ These are

203. See, e.g., *Open Internet Order*, *supra* note 12, at 5609–10 paras. 21–22.

204. See NICK ZANJANI, CAL. PUB. UTILS. COMM’N, A BRIEF HISTORY OF THE CALIFORNIA PUBLIC UTILITIES COMMISSION: EXAMINING THE PAST TO HELP SHAPE THE FUTURE 21–22 (Aug. 15, 2014), https://www.cpuc.ca.gov/-/media/cpuc-website/files/uploadedfiles/cpuc_public_website/content/about_us/history/abriefhistoryofthecaliforniapublicutilitiescommission8152014final.pdf [<https://perma.cc/4FSA-JELE>].

205. See *infra* Section III.C.4. See generally 47 U.S.C. § 152(b) (2018) (confirming the concatenation of service and infrastructure, reserving to the states “jurisdiction with respect to . . . charges, classifications, practices, services, facilities, or regulations for or in connection with intrastate communication”).

206. 47 U.S.C. § 230(b)(2) (emphasis added). Neither “Internet” nor “interactive computer services” is defined in the Code. See 47 U.S.C. § 153. Precisely read, section 230(b)(2) refers only to the “information services” as understood at the time of the 1996 Act (computing services “at the end of the line”), see *supra* notes 32–37 and accompanying text, but the ISPs (and U.S. Department of Justice) cited this section to support their claims that competition exists in the broadband access market. See *infra* text accompanying following notes 207–208; see also John Blevins, *The Use and Abuse of “Light-Touch” Internet Regulation*, 99 B.U. L. REV. 177, 201 (2019) (“Data services were thus distinct—legally, technologically, and economically—from the physical access network itself.”).

207. E.g., First Amended Complaint, *supra* note 65, at 13 para. 28, 17 para. 35 (quoting *RIFO*, *supra* note 2, at 413 para. 170).

208. *RIFO*, *supra* note 2, at 411 para. 168; Plaintiffs’ Renewed Motion, *supra* note 65, at 29 (“status quo is a well-functioning interstate marketplace for broadband in which the 2018 Order, which protects Internet openness”). The U.S. Chamber of Commerce *et al.* concur that *RIFO* has “fostered competition and innovation that better serves low-income consumers by reducing prices,”

variations on the long-running theme that consumers will “vote with their feet,” i.e., choose an ISP that provides reliable service quality and does not block or throttle traffic.²⁰⁹

The problem with this theory, whether codified or not, is that the envisioned competition simply does not exist. In most instances, the consumer cannot walk across the street (or pick up the phone) and choose a comparable broadband alternative.²¹⁰ The 1996 Telecommunication Act’s promise of facilities-based competition always had an air of wish-fulfillment about it; it has never been fully realized (and, given the tendency of delivery infrastructure towards monopoly, likely never will).²¹¹ Wireless 5G service is touted as a solution to this, but it—like all wireless networks—relies on a wired substrate that the incumbent wireline providers still largely control (one reason their affiliates remain the largest providers of wireless services). For this reason among others, the CPUC found in 2016 that wireless broadband was not a substitute for wireline broadband.²¹²

California’s defense acknowledges that the hoped-for competitive environment has not materialized and has not prevented harmful practices; it does not discuss the historical role of states, usually state utility commissions, in addressing this lack of competition.²¹³

which has provided “competitive constraints on practices such as blocking and throttling.” Chamber of Commerce Amicus, *supra* note 151, at 6, 8.

209. See Sherry Lichtenberg, *Evaluating Telecommunications Service Quality: Can Consumers Really “Vote with Their Feet” or Do We Need Regulatory Oversight?*, NAT’L REGUL. RSCH. INST. 6–7 (Feb. 10, 2011), <https://pubs.naruc.org/pub/FA865CC1-A6CD-B84C-6F2E-D79ECDE4045B> [<https://perma.cc/JL2N-HDVH>].

210. See *infra* Section III.C.2.b (market dominance of incumbent carriers).

211. The 1996 Act envisioned a “ladder of investment,” whereby competitors could start by reselling the incumbent’s product, then combine “unbundled network elements” from the incumbent’s network with the new entrant’s own elements to create a unified service offering, allowing the new entrant to gradually build up its infrastructure, finally graduating to a stand-alone facilities-based network. Cf. Jerry A. Hausman & J. Gregory Sidak, *Did Mandatory Unbundling Achieve Its Purpose? Empirical Evidence from Five Countries*, 1 J. COMPETITION L. & ECON. 173, 176–77, 244–45 (2005) (describing “four major rationales for mandatory unbundling” including “enabl[ing] future facilities-based investment (‘stepping-stone’ or ‘ladder of investment’ hypothesis)”). The FCC declined to impose unbundling obligations on cable, fiber, or wireless networks. And even as to the legacy wired networks, the network sharing provisions were slowly peeled back. U.S. Telecom Ass’n v. Fed. Commc’ns Comm’n, 359 F.3d 554, 578–85 (D.C. Cir. 2004) (reversing the FCC’s unbundling program) (discussed in Rob Frieden, *From Bad to Worse: Assessing the Long-Term Consequences of Four Controversial FCC Decisions*, 77 BROOK. L. REV. 959, 993 (2012)).

212. See *infra* note 220 and accompanying text.

213. California Opposition, *supra* note 16, at 2–4; see *infra* Section III.C.3 (describing states’ role as competition umpires).

b. *Metrics—what the data show*

A comprehensive 2016 CPUC study found that California’s broadband market was “highly concentrated.”²¹⁴ Because this is largely a last-mile (bottleneck) problem, one finds today only marginally more competition in last-mile broadband delivery than there was in the legacy telephone network.²¹⁵ In San Francisco and Oakland, relatively well-served urban centers, the CPUC found that Comcast and AT&T provided 92 percent of the broadband lines in service to residences and small businesses (higher still if one includes the AT&T loops resold by competitors like Sonic).²¹⁶ As a practical matter there is little or no choice for consumers, first responders, businesses, or government agencies in the market for high-speed broadband Internet access. For most, their choices are at best one of the duopoly broadband providers: the cable or telephone company.²¹⁷

Measured by the industry standard HHI metric, 2016 market concentration in the largest urban areas of California was, on average, over twice what the Federal Trade Commission (FTC) defines as

214. *Order Instituting Investigation into the State of Competition Among Telecommunications Providers in California, and to Consider and Resolve Questions Raised in the Limited Rehearing of Decision 08-09-042*, Investigation 15-11-007, Decision Analyzing the California Telecommunications Market and Directing Staff to Continue Data Gathering, Monitoring and Reporting on the Market, Decision No. 16-12-025, slip op. at 3 (Cal. Pub. Utils. Comm’n Dec. 8, 2016), <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M171/K031/171031953.pdf> [https://perma.cc/DSP8-MAW2]; see also *Order Correcting Error*, Decision No. 17-03-014, (Cal. Pub. Utils. Comm’n Mar. 8, 2017), <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M176/K505/176505969.PDF> [https://perma.cc/USS5-JMFN] [collectively hereinafter *Competition Study*]. This was (to the author’s knowledge) the first public, data-driven investigation of broadband competition in California. It concluded that “[t]he residential high speed broadband market is highly concentrated throughout California.” *Id.* at 3. The *Competition Study* agreed with the FCC’s earlier finding that, as of 2016, most Americans had access to only one or no broadband provider at the 25/3 Mbps benchmark. *Id.* at 4, 93, 96.

215. See *id.* at 2–4. The CPUC’s *Competition Study* noted that legacy telephone and newer broadband services “utilize the same physical network, a network that was largely developed for legacy telephone service but now carries data and other Internet content as well,” a finding seconded by the Joint Technologists FCC filing. *Id.* at 3, 14, 187 (Finding of Fact 14); Joint Technologists’ Comments, *supra* note 24, at 10–11 (describing similarities between Internet and telephone call routing).

216. See *Competition Study*, *supra* note 214, at 93–94. The carriers’ Form 477 *subscription* (as opposed to *deployment*) data are key: “In the Oakland and San Francisco markets, all non-cable competitive carriers [i.e., excluding AT&T] together provide less than 8% of total fixed broadband lines.” *Id.*; see *id.* at 6 n.9, 169 n.429 (citing *New Cingular Wireless*, 216 F. Supp. 3d 1060, 1072 (N.D. Cal. 2016)) (incumbent providers’ attempt to limit access to subscription data).

217. See *id.* at 85. In certain urban areas, a third or even fourth provider is available—Sonic or Monkeybrains in San Francisco, for instance—but even though these alternatives may be technically *available*, subscription data shows that they command a small fraction of the actually *subscribed* broadband lines in California. *Id.* at 82–83, 86–89.

“highly concentrated.”²¹⁸ A subsequent 2018 CPUC study confirmed these results.²¹⁹

Nor is wireless service an alternative. The CPUC study reported that *no* mobile provider in California consistently reached the 25/3 Mbps benchmark speed, that fixed wireless and satellite broadband services had an insufficient market share to remedy the lack of competition, and that wireless technologies all rely on the wired network.²²⁰

c. Consequences—why competition matters

A concurrent CPUC study of network service quality illustrates how the ISPs’ market power limits consumer choice and lowers the incumbents’ incentive to maintain the network.²²¹ Where the last mile is located in a low-income neighborhood, for instance, customers are less likely to get a fiber upgrade: “those communities that AT&T perceives as the most captive are afforded the lowest levels of attention by the company.”²²²

218. *See id.* at 93–94. The major urban markets in California range from a low HHI of 4881 in Oakland, to a high of 5469 in San Jose—averaging over twice the “highly concentrated” benchmark. *Id.* HHI stands for Herfindahl-Hirschman Index, a primary tool used by the FTC to measure competition. A score under 1500 indicates the market is contested, 1500–2500 reflects moderate concentration, and any market scoring over 2500 is viewed as highly concentrated. *See* HERFINDAHL-HIRSCHMAN INDEX, U.S. DEP’T OF JUST. (2018), <https://www.justice.gov/atr/herfindahl-hirschman-index> [<https://perma.cc/9UGQ-JQAE>]; U.S. DEP’T OF JUST. & FED. TRADE COMM’N, HORIZONTAL MERGER GUIDELINES 18–19 (2010), <https://www.justice.gov/sites/default/files/atr/legacy/2010/08/19/hmg-2010.pdf> [<https://perma.cc/4R3G-2E8W>].

219. LISA PRIGOZEN, CAL. PUB. UTILS. COMM’N, RETAIL COMMUNICATIONS SERVICES IN CALIFORNIA 5 (Dec. 2018), https://web.archive.org/web/20210619170233/https://www.cpuc.ca.gov/uploadedFiles/CPUCWebsite/Content/UtilitiesIndustries/Communications/Reports_and_Presentations/CD_Mgmt/re/CompetitionReportFinal%20Jan2019.pdf. The 2018 report did not, however, address the 2016 report’s description of the unreliability of carrier-reported deployment data. *See Competition Study*, *supra* note 214, at 87, 91 n.244; *see, e.g.*, Jon Brodtkin, *ISPs Don’t Want to Tell the FCC Exactly Where They Offer Internet Service*, ARS TECHNICA (Oct. 12, 2017, 2:40 PM), <https://arstechnica.com/tech-policy/2017/10/isps-dont-want-to-tell-the-fcc-exactly-where-they-offer-internet-service/> [<https://perma.cc/29SN-25BV>].

220. *Competition Study*, *supra* note 214, at 15, 18, 39, 60–61, 96.

221. NETWORK EXAM, *supra* note 108, at 1–2. The CPUC’s high level summary reflects:

1. Service Quality has deteriorated – Both carriers exhibited a higher relative number of outages and longer time required to restore service for outages lasting more than 24 hours.
2. Demonstrated lack of resiliency – AT&T and Frontier are not maintaining networks to withstand environmental and weather-related conditions. Networks are not robust, both Incumbent Local Exchange Carriers (ILECs) have cut back on preventative maintenance expenditures.

Network Exam Summary, *supra* note 108.

222. NETWORK EXAM, *supra* note 108, at 521–22.

The lack of competition in the last mile creates problems beyond poor service quality and a crisis of affordability.²²³ Apropos net neutrality, two related problems are foremost. First, the consumer faced with a service provider that distorts network traffic to its own advantage cannot “vote with her feet” by going to the local big box store and choosing another provider.

Second, competition can also be measured from the other end of the pipe, i.e., from the perspective of the service or content provider which must reach its customers through a sometimes hostile broadband access network. The ISP in this context has a “terminating access monopoly” for that customer: there is no other way to reach her.²²⁴

The service/content producer is at the mercy of the conduit owner. The conduit owner (ISP) is increasingly part of a vertically integrated corporation that offers both conduit (transport) and content (e.g., video that competes with third party content providers like Netflix and Kanopy). AT&T, Verizon, and other legacy telephone companies have joined cable companies in purchasing and offering their

223. *See id.* at 3 (high level summary). The summary found a “[d]irect relationship between amount of competition and service quality results[:] Areas with limited or no competition experience lower service quality results. Both AT&T and Frontier put more investment and attention in areas with higher rates of competitive offerings.” *Network Exam Summary*, *supra* note 108.

224. Jordan Declaration, *supra* note 27, at 13 para. 42 (“[T]here is no path to or from a user other than through the user’s broadband provider.”). California Declarant Kronenberg provides additional perspective:

The transit and backbone marketplace and [Content Delivery Network] marketplace are more competitive than the last-mile BIAS marketplace—internet content (edge) providers generally have numerous choices to deliver their Internet traffic to large BIAS providers like AT&T and Comcast.

. . . In contrast, there is only one type of provider that transmits Internet traffic across the BIAS provider’s network to its subscribers, and that is the BIAS provider itself. This gives each BIAS provider exclusive control over access to its subscribers, often referred in the industry as a “terminating access monopoly.”

Declaration of Angie Kronenberg, *supra* note 27, at 3 paras. 7–8.

own video content²²⁵ as well as services such as home alarm systems.²²⁶

When conduit providers compete in adjacent content or service markets, they enjoy an advantage that plainly creates a conflict of interest.²²⁷ In 2014, for instance, reports surfaced that Comcast was demanding payment from Netflix to deliver Netflix's competing content (delivery that end-users had paid for), after degrading the quality and throttling the connection speeds of Netflix's stream.²²⁸ Conversely, conduit owners can offer consumers better terms and conditions for their own content, including provisions that the ISP-affiliated programming will not count against the plans' data caps, a practice known as "zero-rating."²²⁹ Opponents see this as akin to a railroad carrying

225. See Declaration of Laura Blum-Smith, *supra* note 27, at para. 8 (representing the Writers Guild of America West, and describing the conduit providers' advantages in the content market, including the ability to "control what content reaches the public," and "zero-rate" their own content). The CPUC's *Competition Study* elaborated on the market power of conduit providers in adjacent markets:

AT&T has merged with DIRECTV, and has rights to or a stake in NFL Sunday Ticket, ROOT SPORTS, The Tennis Channel, MLB Network, NHL Network, and GSN (Game Show Network). . . . Verizon acquired AOL last year, and recently acquired a stake in Awesomeness TV. . . . The AOL acquisition also includes stakes in content providers like the Huffington Post, Engadget, and Techcrunch. . . . Verizon has also purchased another edge provider, Yahoo. See "Verizon to acquire Yahoo's operating business," available at <http://www.verizon.com/about/news/verizon-acquire-yahoos-operating-business> ("Transaction will create a new rival in mobile media technology reaching over 1B users with an unrivaled roster of the world's most beloved brands."). Indeed, even the fact that a group like [Writers Guild], fairly unknown to CPUC proceedings at the time of *URF*, is now a participant in our proceedings indicates the shift that has occurred.

Competition Study, *supra* note 214, at 24–25, 24 n.54 (citations omitted); see also BARBARA VAN SCHEWICK, INTERNET ARCHITECTURE AND INNOVATION 249, 236 (2010) ("A monopolist may also use its monopoly over the primary good [BIAS in this case] to protect a monopoly in the complementary market [e.g., video content] . . . [A] monopolist will be able to capture some or all of its rivals' outside revenue in the complementary market by threatening exclusion . . .").

226. See generally Declaration of Thomas S. Nakatani (VP for IT and Monitoring Technology at ADT), *supra* note 27 (describing instances when the conduit owner has interfered with ADT's alarm services).

227. See, e.g., VAN SCHEWICK, *supra* note 225, at 236 ("The monopolist can condition the 'access' of rivals' complementary products and services on payment of an access fee . . .").

228. See, e.g., Shalini Ramachandran, *Netflix to Pay Comcast for Smoother Streaming*, WALL ST. J. (Feb. 23, 2014, 7:47 PM), <https://www.wsj.com/articles/netflix-agrees-to-pay-comcast-to-improve-its-streaming-1393175346> [<https://perma.cc/B379-EV7X>]; Harold Feld, *Of CDNs, Netflix, Net Neutrality, and Cable Fu#\$@!ery*, WETMACHINE (June 25, 2014, 7:57 AM), <https://wetmachine.com/tales-of-the-sausage-factory/of-cdns-netflix-net-neutrality-and-cable-fuery/> [<https://perma.cc/BET9-RA8T>]. But see Jonathan E. Nuechterlein and Christopher S. Yoo, *A Market-Oriented Analysis of the "Terminating Access Monopoly" Concept*, 14 COLO. TECH. L.J. 21, 31–32 (2015) (arguing that such paid-peering arrangements are not inherently anti-competitive).

229. See, e.g., Jon Brodtkin, *Verizon's Mobile Video Won't Count Against Data Caps—But Netflix Does*, ARS TECHNICA (Feb. 5, 2016, 3:44 PM), <https://arstechnica.com/information-technology>

the cargo of affiliated lumber and oil companies at rates significantly below those available to non-affiliated companies.²³⁰

These sorts of conflicts will not disappear even if the incumbents' last-mile market power is ameliorated; they are inherent as long as conduit owners have a stake in content. Highly concentrated markets just make the problem worse.

3. States' Historic Role in Overseeing Local and Last-Mile Competition

The local access network has been the focus of telecommunications regulation for much of its modern history, certainly since the enactment of the 1996 Telecommunications Act. The fundamental problem was, and is, how to crack the natural monopoly enjoyed by the owner of last-mile facilities and bring more competition to telecommunications consumers.

The basic bargain embodied by the 1996 Act was the substitution of market discipline for regulatory discipline.²³¹ Under the Act and its vision of "cooperative federalism," states were deputized as competition umpires, with delegated power to enforce the incumbents' obligation to lease parts of their network to competitors at cost-based rates,²³² whether or not those elements carried interstate or intrastate

/2016/02/verizons-mobile-video-wont-count-against-data-caps-but-netflix-will/ [https://perma.cc/6C43-F8GH].

230. Cf. RON CHERNOW, TITAN: THE LIFE OF JOHN D. ROCKEFELLER, SR. 113–14 (1998) ("[R]ailroads acquired a vested interest in the creation of a gigantic oil monopoly . . . an ominous fact for small, struggling refiners who were gradually weeded out in the savage competitive strife.").

231. See Lina M. Khan, *The Separation of Platforms and Commerce*, 119 COLUM. L. REV. 973, 1048 & n.453, 1049 n.456 (2019) ("[T]he Telecommunications Act of 1996 . . . undid some of the restrictions on dominant networks in favor of competition." (citing the Communications Act of 1934, Pub. L. No. 73-416 and the Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56)).

232. *Id.*; 47 U.S.C. §§ 251–252 (2018); see also *infra* note 243 and accompanying text (explaining "cooperative federalism"); Gene Kimmelman et al., *The Failure of Competition Under the 1996 Telecommunications Act*, 58 FED. COMM'NS L.J. 511, 511 (2006) ("The Telecommunications Act of 1996 . . . replaced the regulatory framework of a monopoly era with a radical deregulatory approach that promised new consumer benefits through competitive market forces. This new competition has never arrived . . .").

In its *Local Competition Order*, implementing §§ 251–252, the FCC propounded national rules to promote local competition, finding that the Act "expands the applicability of both national rules to historically intrastate issues, and state rules to historically interstate issues." *Implementation of the Local Competition Provisions in the Telecommunications Act of 1996*, CC Docket No. 96–98, First Report and Order, 11 FCC Rcd. 15499, 15513 para. 24 (1996) [hereinafter *Local Competition Order*]. In elaborating on the interconnection and unbundling provisions of the 1996 Act, "states should have the major responsibility for prescribing the specific terms and conditions that will lead to competition in local exchange markets." *Id.* at 15520 para. 41.

traffic,²³³ as well as to arbitrate interconnection disputes between carriers.²³⁴

That did not work out so well. The FCC's efforts to empower states to open the local access networks failed, and those last-mile networks remained the source of duopoly—if not monopoly—power for the largest ISPs, due largely to the gutting of the federal regulations that states were supposed to enforce.²³⁵

From a rhetorical point of view, framing broadband as an interstate service served to divert attention from the ongoing lack of competition in the local access network. A through line of FCC and court decisions nevertheless recognize that the last mile is a bottleneck preventing competition and that the primary responsibility for last-mile oversight lies at the state level.

In 1976, the D.C. Circuit described an early form of broadband access service as a two-way non-video service, offered over “facilities which, on an intrastate level, now operate under the regulation of state

233. The FCC noted that “it would make little sense in terms of economics or technology to distinguish between interstate and intrastate components for purposes of sections 251 and 252” (governing interconnection and unbundling). *Local Competition Order*, *supra* note 232, at 15544 para. 84.

234. Section 251 provides that every telecommunications carrier “has the duty to interconnect directly or indirectly with the facilities and equipment of other telecommunications carriers.” 47 U.S.C. § 251(a)(1).

235. A central component of the competition plan was the incumbents' provision of unbundled network elements (UNEs) at cost-based rates, which the state commissions were to enforce. Although initially agreed on as part of a grand bargain, the incumbents immediately challenged the network sharing provisions. The courts first overturned the FCC's proposed nationwide UNE rates, and then invalidated the so-called UNE-P (as in “platform”), which provided for resale of a complete bundle of services. The CPUC's *Competition Study* deftly summed up the situation:

It would be an understatement to say that the concept of unbundling was controversial . . . it led to years of litigation, leading to the rollback of some of the key pricing concepts for network access. See [Commission Decision] D.06-08-030, pp. 79-84, citing *United States Telecom Ass'n v. FCC*, 359 F.3d 554 (D.C. Cir. 2004) (*USTA II*); NEUCHTERLEIN AND WEISER, *DIGITAL CROSSROADS, TELECOMMUNICATIONS LAW & POLICY IN THE INTERNET AGE*, The MIT Press, 2d Ed (2013) at 52 (“The 1996 Act immediately spawned protracted litigation about the precise scope of [the CLECs' network] leasing rights – litigation pitting the Bell companies and other incumbent local exchange carriers . . . against their new local exchange rivals”).

Competition Study, *supra* note 214, at 36 n.83 (citing *Order Instituting Rulemaking on the Commission's Own Motion to Assess and Revise the Regulation of Telecommunications Utilities*, Rulemaking 05-04-005, Opinion, Decision No. 06-08-030, slip op. at 79–84 (Cal. Pub. Utils. Comm'n Aug. 30, 2006), https://docs.cpuc.ca.gov/PublishedDocs/WORD_PDF/FINAL_DECISION/59388.PDF [<https://perma.cc/Y879-SKWE>]); *see also* Megan Delany, Comment, *The Dominos of Goldwasser: Only Congress Can Stop the Toppling Effect Before the Game Is Over*, 10 *COMMLAW CONSPICUOUS: J. COMM'NS L. & POL'Y* 279, 280 (2002) (incumbents “have consistently engaged in anticompetitive practices”).

and local commissions.”²³⁶ In that case, the D.C. Circuit rejected the attempt of the FCC—similar to the instant situation—to preempt states while offering no affirmative regulations of its own.²³⁷ The court saw regulation of the local access monopoly/duopoly as the states’ domain:

The Commission’s pre-emption of regulation over cable operators in a field where state rate and service regulation over non-cable operators is pervasive renders the order objectionable as unfair to the regulated entities and as creating the possibility for abuse by the unregulated cable system. This possibility assumes more significance when we observe that the Commission not only intends to pre-empt state regulation of the two-way activities, but intends to issue no regulations of its own to govern these activities, thus leaving them completely unregulated.

. . . State regulatory agencies, engaged for years in regulating the existing competition to the proposed cable channels, are doubtless better fitted to fix those rates—and in our opinion they have the right reserved by statute to do so.²³⁸

John Blevins, in his article on “light touch regulation,” describes how the notion of broadband as an information service has been used to ensure that broadband “could not be regulated as a common carrier,”²³⁹ taking it out of the “pervasive” system of local access regulation:

The exact language [e.g., “telecommunications service,” “information service”] of the 1996 Act traces back to the breakup of AT&T in the early 1980s in response to the Department of Justice’s antitrust litigation. Although the proceeding was complex, *the heart of the problem was AT&T’s control of local facilities*. This leg of the network was largely a monopoly, and its specific economic characteristics made it uncontestable. AT&T had constructed the local network over decades with federal subsidies and protections from competition. It was therefore economically impossible for a competitor to enter the local access market. It would require

236. Nat’l Ass’n of Regulatory Util. Comm’rs v. FCC (*NARUC II*), 533 F.2d 601, 616 (D.C. Cir. 1976).

237. *Id.* at 617.

238. *Id.* at 616–17 (citations omitted).

239. Blevins, *supra* note 206, at 191.

enormous capital expenditures to build a competing local network (cable networks were constructed for a different purpose and were only later retrofitted, like the telephone network, to provide broadband).

The larger point is that the AT&T proceeding illustrates how extensively policymakers regulated local access networks. The government dismantled the world's largest and most powerful company precisely because it had abused its control of local facilities.²⁴⁰

Fast forward forty years, and control of local facilities is still the issue:

Netflix is the edge destination—that's what the user actually wants to see. The user, however, is accessing Netflix's computers through Comcast's local infrastructure that connects her home and neighborhood to the larger network. Comcast thus provides the road, and Netflix the destination. Comcast's access service, however, does not facilitate the entire transmission. It provides the connection at the edges which provides the capability to send and receive anything. Access service is thus more analogous to off-ramps and driveways than to interstate highways. In this sense, Comcast actually provides the last mile of road, while the entire Internet is the set of all potential destinations.

Network neutrality rules are therefore only about this last part of the road—that's what broadband *access* means. Access service is distinct from the Internet itself and is provided almost exclusively by cable and telephone companies (wireless and wireline). The rules aim to prevent access providers from leveraging physical control over this specific leg of the network to harm users and edge providers.²⁴¹

Blevins describes the *status quo ante*, when local access networks were assumed to be common carrier telecommunications facilities. It was not until the 2002 *Cable Modem* decision that the FCC

240. *Id.* at 202–03 (emphasis added); *see also id.* at 202 n.171 (“Assistant Attorney General William Baxter found ‘the source of AT&T’s monopoly power to be in its control over the local networks, which had been protected from competition as a result of state regulation for over seventy years.’” (quoting Delany, *supra* note 235, at 292)).

241. *Id.* at 187–88 (first emphasis added) (footnotes omitted). The author takes minor issue with Prof. Blevins’ use of the adjective “only,” and suggests that “primarily” might be better in this context. *See supra* note 26 (regarding upstream neutrality issues).

decided it could no longer differentiate between the telecommunications and information services offered over the last-mile segment of the network, effectively pulling the rug out from under the states' role (per the "telecommunications" statutes in the Act) as local competition referees.²⁴² Courts nevertheless continue to pay lip service to states' role in promoting competition in a system of "cooperative federalism," as the 1996 Telecommunications Act foresaw.²⁴³

4. States' Historic Role in Overseeing the Operation of Local and Last-Mile Infrastructure

Apart from states' role as competition umpires, state law enables the delivery of BIAS in other ways. As discussed above, state property and government laws provide essential access; the regulation of utility infrastructure is also key.

a. Exercise of state police power to regulate "last mile" infrastructure—poles, conduit, & cell towers

Broadband is in many ways the poor stepchild of state utility regulation. Although broadband replaced narrowband, and VoIP replaced traditional telephony, communications (including broadband) continue to be transported over the same wires, cell sites, and infrastructure as before.²⁴⁴ While the *infrastructure* remained the same,

242. Blevins, *supra* note 206, at 182–83, 191.

243. See, e.g., *Core Commc'ns, Inc. v. Verizon Pa., Inc.* (*Core v. Verizon*), 493 F.3d 333, 337 (3d Cir. 2007). As the court in *Core v. Verizon* explained:

[T]he Act provides that various responsibilities are to be divided between the state and federal governments, making it "an exercise in what has been termed cooperative federalism." That is, "*Congress enlisted the aid of state public utility commissions to ensure that local competition was implemented fairly and with due regard to the local conditions and the particular historical circumstances of local regulation under the prior regime.*"

Id. at 335 (emphasis added) (citation omitted).

244. Richard Whitt wrote about incremental improvements to the operation of existing infrastructure: "From the Internet's perspective, 'broadband' and 'narrowband' (however defined) essentially are one and the same. As Vint Cerf puts it, 'DSL technology is merely the latest in a continuing stream of incremental improvements to the use of the existing telephone network.'" Whitt, *supra* note 200, at 658 (quoting Letter from Vinton G. Cerf, Senior Vice President, WorldCom, Inc., to the Hon. Donald Evans, Sec'y, U.S. Dep't of Commerce, and the Hon. Michael Powell, Chairman, Fed. Commc'ns Comm'n (May 20, 2002), <https://ecfsapi.fcc.gov/file/6513391377.pdf> [<https://perma.cc/G2YZ-W4KR>]); see Narechania & Stallman, *supra* note 9, at 551 ("Though the communications service has been updated, the communications infrastructure remains much the same."); *supra* note 25, and note 190 and accompanying text (evolution of shared infrastructure); see also Michael Affrunti, Note, *Discontinuance in the Face of Destruction: The Future of Telecommunications Law After Superstorm Sandy*, 41 RUTGERS COMPUT. & TECH. L.J. 238, 258 (2015) (referring to the evolution of "integrated networks in which ALL forms and modes of traffic—from very narrowband text to narrowband voice to broadband video, image and 'Big Data'

industry, the FCC, and some state legislatures seemed intent on deregulating broadband *service*, based on questionable evidence and arbitrary distinctions.²⁴⁵ Yet state law continues to provide the framework for the *de facto* delivery of BIAS to consumers and businesses.

The 1996 Telecommunications Act recognized that (at least some) states had long been overseeing last-mile utility infrastructure and gave them the option of continuing to do so. States could maintain “jurisdiction with respect to rates, terms, and conditions, or access to poles, ducts, conduits, and rights-of-way” if they had the authority to do so under state law.²⁴⁶

California has had pole and conduit authority in place since (at least) 1951,²⁴⁷ and informed the FCC of its intent to maintain state oversight.²⁴⁸ A large part of California’s infrastructure regulation is accomplished through CPUC General Orders that apply across sectors to any utility (or cable company) using the infrastructure. Pursuant to its police powers, the state has articulated intersectoral safety requirements: General Order (GO) 52 (Construction and operation of power and communication lines for the prevention or mitigation of inductive interference); GO 95 (Overhead electric [and communications] line construction); GO 128 (Construction of underground electric supply

files—are carried over the same broadband infrastructure” (emphasis added) (quoting Alan Pearce et al., *Telecom Act Rewrite Is Needed to Return Real Competition to Broadband Sector*, BLOOMBERG LAW (Nov. 7, 2014), <https://www.bloomberglaw.com/product/blaw/bloomberglaw/news/bloomberg-law-news/X67AG650000000>)).

245. Whitt describes the lack of empirical support for these decisions:

[T]he FCC, among other things, created a regulatory distinction between a narrowband, circuit-switched environment . . . and broadband “packet-switching capability,” for purposes of defining what UNEs should be provided to CLECs. The FCC further devised a regulatory distinction between mass market fiber-based local loops and copper-based local loops. In both cases, the Commission appears to believe (without any supporting empirical evidence) that the particular access medium employed at the various layers is a more salient factor in determining which UNEs to unbundle, than the market power and other characteristics of the network provider that employs it.

Whitt, *supra* note 200, at 649–50 (footnotes omitted); *see supra* Section III.C.1 (discussing “regulatory arbitrage”).

246. 47 U.S.C. § 224(c)(1) (2018); *see also* Mozilla v. Fed. Comm’n Comm’n, 940 F.3d 1, 66 (D.C. Cir. 2019) (twenty states—including California—have opted into this system).

247. Both before and after the 1996 Act, pole & conduit structures were regulated by CAL. PUB. UTILS. CODE § 767 (enacted 1951), § 767.5 (enacted 1980, adding cable television), and § 767.7 (enacted 1994).

248. *Order Instituting Rulemaking on the Commission’s Own Motion into Competition for Local Exchange Service*, Rulemaking 95-04-043, Opinion, Decision No. 98-10-058, 1998 Cal. PUC LEXIS 879 (Cal. Pub. Utils. Comm’n Oct. 22, 1998).

and communication systems); and GO 159-A (Construction of cellular radiotelephone facilities), *inter alia*.²⁴⁹

GO 159-A, for instance, requires cellular providers to observe environmental laws, obtain local permits, and report their cell siting activity. In an example of “subsidiarity” (see policy discussion below), local governments are empowered to make local cell tower siting decisions, with the CPUC engaged only when there is a clear conflict between the local decision and state rules or policies.²⁵⁰

In adjudicating disputes between carriers and other utilities about safe, competitively neutral access to that infrastructure, the CPUC has identified and tried to solve the information asymmetry between infrastructure owners and would-be attachers as a problem inhibiting deployment.²⁵¹

The 1996 Act also gave state agencies authority to arbitrate and resolve interconnection disputes between communications carriers under state law (which the CPUC had been doing for decades),²⁵² even when the traffic at issue is allegedly interstate.²⁵³ The Act recognized that state commissions had been acting as “referees on the field,” to adjudicate the conflicting safety and competition interests that collide around poles, conduit, related infrastructure, rights-of-way, and interconnection agreements.²⁵⁴ The FCC in most cases lacks the resources to engage in such retail dispute resolution.²⁵⁵

249. *CPUC General Orders*, CAL. PUB. UTILS. COMM’N, <https://www.cpuc.ca.gov/Home/Proceedings-and-Rulemaking/CPUC-general-orders> [<https://perma.cc/VU9R-HZXB>].

250. General Order 159-A at 3 (Cal. Pub. Utils. Comm’n May 8, 1996); *see, e.g., Order Instituting Rulemaking on the Commission’s Own Motion to Develop Revisions to General Orders and Rules Applicable to Siting and Environmental Review of Cellular Mobile Radiotelephone Utility Facilities*, Investigation 90-01-012, Opinion Adopting General Order 159-A Rules Relating to the Construction of Cellular Radiotelephone Facilities in California, Decision No. 96-05-035, 1996 Cal. PUC LEXIS 288 at *9, 37–41 (May 8, 1996) (citing CAL. PUB. UTILS. CODE §§ 451, 701, 702, 761, 762, 762.5, 1001 (2021)).

251. *See* Catherine J.K. Sandoval, *Contested Places, Utility Pole Spaces: A Competition and Safety Framework for Analyzing Utility Pole Association Rules, Roles, and Risks*, 69 CATH. U. L. REV. 473, 487–88 (2020). *See generally Poles and Conduit Proceeding*, *supra* note 109, at 24 (creation of a shared database for poles and conduit).

252. Interconnection obligations that provide for enforcement under state law are codified in CAL. PUB. UTILS. CODE §§ 558 (enacted 1951), 702, 703, 1702, 1704.

253. 47 U.S.C. § 252(b)(4) (2018) (“Action by State Commission”); *see, e.g.,* Glob. NAPs Cal., Inc. v. Pub. Utils. Comm’n, 624 F.3d 1225, 1228–29, 1234 (9th Cir. 2010) (upholding CPUC’s resolution of an interconnection dispute relating to access charges for IP-originated traffic, against the claim that VoIP services were definitionally interstate).

254. *See* 47 U.S.C. § 252(b)(4).

255. Occasionally the carriers will file their disputes with the FCC, but most interconnection disputes are resolved at the state level, and state law questions often predominate. As Judge Posner wrote, such disputes are often “not based on federal law in any realistic sense, but on a price term

While the carriers/ISPs occasionally criticize the adequacy of the CPUC's decision-making in regard to infrastructure—infrastructure that supports a network reaching into other states and around the world—they have by and large not challenged the California's underlying authority regarding infrastructure.²⁵⁶

b. Exercise of state police power to bridge the digital divide—oversight and promotion of new broadband infrastructure

A synthesis of the infrastructure/service dichotomy may be glimpsed in attempts to resolve the unequal access to broadband connectivity, known as the digital divide. States may direct universal *service* payments that effectively support broadband access to either individuals or carriers, while also attempting to ensure universal broadband *service* by promoting deployment of more broadband *infrastructure*. Although perhaps unsuccessful measured in terms of affordability (see discussion of competition above), states encourage (and often subsidize) the deployment of infrastructure to provide broadband service to otherwise unserved communities.²⁵⁷

In 2006, the California Legislature passed the Digital Infrastructure and Video Competition Act (DIVCA), which purported to promote “video competition” by preempting municipal cable

in a contract,” and the dispute can be resolved “under the law of contracts . . . for which a state forum can supply a remedy.” Ill. Bell Tel. Co. v. Glob. NAPs Ill., Inc., 551 F.3d 587, 591 (7th Cir. 2008); see, e.g., *Glob. NAPs Cal.*, 624 F.3d at 1229.

256. The carriers have, for example, sought CPUC resolution of utility pole access issues for broadband transport facilities, *inter alia*, notwithstanding objections made elsewhere to Commission jurisdiction over broadband service. See Decision Amending the Right-of-Way Rules, *supra* note 196, at 18 (reflecting the participation of Cox, AT&T, and other plaintiffs in a proceeding that effectively gave wireless broadband providers access to poles and conduit).

257. Both federal and state governments have attempted to directly subsidize broadband service by universal service funding, and both have had programs to subsidize broadband deployment. Whether or not the Communications Act actually delegates a deployment mandate to states (a disputed matter), California has proceeded under its state police power.

Federal recognition or authorization of state authority to promote broadband deployment seems clear: “The Commission *and each State commission* with regulatory jurisdiction over telecommunications services *shall* encourage [broadband] deployment . . . by utilizing . . . measures that promote competition in the local telecommunications market, or other regulating methods that remove barriers to infrastructure investment.” Telecommunications Act of 1996 § 706, 47 U.S.C. § 1302 (emphasis added); see also *Verizon v. Fed. Commc’ns Comm’n*, 740 F.3d 623, 638 (D.C. Cir. 2014) (“Congress has granted regulatory authority to state telecommunications commissions on other occasions, and we see no reason to think that it could not have done the same here.”). *But see* Charles M. Davidson & Michael J. Santorelli, *Broadband, the States, and Section 706: Regulatory Federalism in the Open Internet Era*, 8 HASTINGS SCI. & TECH. L.J. 211, 216 (2016) (arguing that “state PUCs refrain from looking to section 706 as a source of regulatory authority” and instead promote competition in a deregulatory framework).

franchising, while also codifying minimal state oversight of digital infrastructure, in order to “[c]omplement efforts to increase investment in broadband infrastructure and *close the digital divide*.”²⁵⁸ In practice, DIVCA’s data collection provisions are perhaps its most (if not only) useful sections devoted to broadband, as reflected in the *Competition Study* cited above.²⁵⁹

Among other things, the data show that there are parts of California still without broadband service, especially in rural areas.²⁶⁰ This is no different than what happened with plain old telephone service (POTS),²⁶¹ and, if one goes back further, with rural electrification—in both cases, government had to step in to mitigate market failure.²⁶² California has implemented an Advanced Services Fund (CASF) to provide grants for broadband deployment in unserved areas, funded by surcharges imposed on intrastate revenues from voice (including wireless and VoIP, but excluding broadband services), and administered by the CPUC.²⁶³ The program has been criticized as inadequate to the problem it addresses, but nevertheless represents an affirmative use of state power to remedy market failure.²⁶⁴

258. CAL. PUB. UTILS. CODE § 5810(a)(2)(E) (emphasis added). The “Digital Infrastructure” in the Act’s title is the tail wagging the dog; apart from sections 5810 and 5960, it contains nothing substantively addressing digital infrastructure (broadband). See *supra* note 212 and accompanying text.

259. Pursuant to CAL. PUB. UTILS. CODE § 5810(a)(2)(E), broadband providers are required to annually provide the Commission its deployment and subscription data, often some version of their Form 477 data. See *Competition Study*, *supra* note 214, at 72, 187.

260. *Competition Study*, *supra* note 214, at 144.

261. In the POTS world, California High Cost Funds A and B were implemented to facilitate telephone service in rural and other “high cost” areas of the state. See program pages at *California High Cost Fund-A*, CAL. PUB. UTILS. COMM’N, <https://www.cpuc.ca.gov/industries-and-topics/internet-and-phone/california-high-cost-fund-a> [<https://perma.cc/TKS7-H3TX>], *California High Cost Fund-B*, CAL. PUB. UTILS. COMM’N, <https://www.cpuc.ca.gov/industries-and-topics/internet-and-phone/california-high-cost-fund-b> [<https://perma.cc/Q9UR-NN4B>].

262. SUSAN CRAWFORD, FIBER: THE COMING TECH REVOLUTION—AND WHY AMERICA MIGHT MISS IT 44, 203 (2018).

263. CAL. PUB. UTIL. CODE § 281 (codifying CASF); *California Advanced Services Fund (CASF)*, CAL. PUB. UTILS. COMM’N, <https://www.cpuc.ca.gov/casf/> (last visited Jan. 5, 2022) (program documentation).

264. CASF-subsidized deployment has been *de facto* almost solely in “unserved” areas; subsidizing deployment in “underserved” communities is no longer part of the program, to avoid funding competition for the incumbents. Thus, the program does little for affordability. See generally *Competition Study*, *supra* note 214, at 145–46. As this article heads toward publication, the California Legislature has stepped into the fray, proposing amendments to section 281 that would redefine “unserved” at the 25/3 Mbps standard, thus requiring the incumbent to show something more than bare minimum existing service in order to prevent new competitive deployment. See S.B. 4, 2021–2022 Leg., Reg. Sess. (Cal. 2021). More significantly, it has appropriated approximately six billion dollars to build open access middle mile fiber, fund rural deployment, and encourage municipal broadband. Assemb. B. 156, 2021–2022 Leg., Reg. Sess. (Cal. 2021).

D. Policy Issues: Balancing State and Federal Interests Going Forward

After determining that the “impossibility exception” (and with it broadband’s “jurisdictionally interstate” classification) describe not facts but policy and operational preferences, we are left with the question of what a rational and adequate framework for national, state, and local BIAS regulation would look like. How can state and local interests rooted in public safety, utility and property law, and the increased awareness that broadband is an essential service, be given their due, while maintaining a necessary minimum of national consistency? The question applies not only to net neutrality but to all regulatory issues where broadband connectivity is involved.

The arguments against allowing the states a meaningful role in BIAS regulation are suggested above, and boil down to consistency and alleged corporate efficiency. They are typified by the remarks of AT&T’s CEO after passage of the California law, who proclaimed that it “would be a total disaster for the technology and innovation that you see happening in the Silicon Valley and elsewhere . . . to pick our head up and have 50 different sets of rules for companies trying to operate in the United States.”²⁶⁵ Such objections suggest several responses.

First, while a national framework would be desirable, the relative convenience of industry or its regulators is not sufficient reason to truncate state sovereignty,²⁶⁶ and would not outweigh the benefits of shared jurisdiction described below.

Second, the notion that shared competency for the fair operation of the physical network would somehow choke off innovation at the edge of the network seems illogical. As technologists and industry leaders have observed, it is a neutral network that makes possible the next dorm room wonder.²⁶⁷ Joining or supporting the appeal from the

265. *Is Data Privacy Regulation Inevitable?*, WALL ST. J. (Nov. 13, 2018), <https://on.wsj.com/2QJD9vc> [<https://perma.cc/QZ8Q-P2SX>]; see also Lawrence J. Spiwak, *The Biden Administration Subjects the Internet to a “Death by 50 State Cuts,”* THE FEDERALIST SOC’Y BLOG (Feb. 10, 2021), <https://fedsoc.org/commentary/fedsoc-blog/the-biden-administration-subjects-the-internet-to-a-death-by-50-state-cuts> [<https://perma.cc/JZ3E-NJEF>] (discussing the subsection of IP-enabled services to different state regulations, as opposed to one coherent plan towards net neutrality).

266. See Nat’l Ass’n of Regulatory Util. Comm’rs v. FCC (*NARUC II*), 533 F.2d 601, 614 (D.C. Cir. 1976); *Miller v. Bd. of Pub. Works*, 234 P. 381, 383, 195 Cal. 477, 484 (1925) (“The police power of a state is an indispensable prerogative of sovereignty and one that is not to be lightly limited.”); see also *McKay Jewelers v. Bowron*, 122 P.2d 543, 546, 19 Cal. 2d 595, 600 (Cal. 1942) (addressing an issue raised regarding whether an ordinance violated both state and federal constitutions).

267. See, e.g., Joint Technologists’ Comments, *supra* note 24, at 13.

FCC's *RIFO* decision were, besides Mozilla: Vimeo; Etsy; Ebay; Computer & Communications Industry Association; Twilio; Bitly; Cogent Communications; Kickstarter; GitHub; Patreon; Pinterest; Postmates; Reddit; and engineers and technologists working at Google, Twitter, and various research facilities.²⁶⁸ Many of these same groups, as well as competitive carriers and others in the technology sector, supported California's SB 822.²⁶⁹

Lastly, it is possible for large national carriers to comply with local laws, although they often assert that unitary and exclusive national standards are imperative because they operate their networks on a national basis. On closer inspection, the reality of (and carriers' preference for) a regional and often hyper-local approach to operations, policies, and marketing often becomes apparent, as the CPUC has found in its consumer protection cases.²⁷⁰ Former FCC Chief Technologist Scott Jordan describes how BIAS business rules can be set at the individual and local access network level, and thus calibrated to state and local laws.²⁷¹

268. *Id.* at 43–53 (signed by approximately 200 individual technologists working at these companies); *Mozilla v. Fed. Comm'n*, 940 F.3d 1 (D.C. Cir. 2019); Lemley & Lessig, *supra* note 175, at 932 (“Because it does not discriminate in favor of certain uses of the network and against others, the Internet has . . . encouraged an extraordinary amount of innovation in many different contexts.”).

269. See *CA Net Neutrality Law—Full List of Supporters*, ELEC. FRONTIER FOUND., <https://www EFF.org/document/ca-net-neutrality-law-full-list-supports> [https://perma.cc/MZM3-UH8P].

270. In one of the first serious investigations of marketing fraud in the wireless industry, the Commission cited to record evidence in rejecting the claim that Cingular's early termination fee was a nationwide policy and therefore an improper subject for the California Commission to investigate: “the contract policy effective in California . . . while standard within the Western Region, was by no means a national standard. In fact, . . . Cingular's other regions had more customer-friendly policies.” See, e.g., *Investigation on the Commission's Own Motion into the Operations, Practices, and Conduct of Pacific Bell Wireless LLC dba Cingular Wireless, U-3060, U-4135 and U-4314, and Related Entities (Collectively “Cingular”) to Determine Whether Cingular Has Violated the Laws, Rules and Regulations of This State in Its Sale of Cellular Telephone Equipment and Service and Its Collection of an Early Termination Fee and Other Penalties from Consumers*, Investigation 02-06-003, Opinion Ordering Penalties and Reparations, Decision No. 04-09-062, slip op. at 38 (Cal. Pub. Utils. Comm'n Sept. 29, 2004) https://docs.cpuc.ca.gov/PublishedDocs/WORD_PDF/FINAL_DECISION/40226.PDF [https://perma.cc/7LG5-BXYV], *aff'd sub nom. Pac. Bell Wireless, LLC v. Pub. Utils. Comm'n.*, 44 Cal. Rptr. 3d 733, 140 Cal. App. 4th 718 (Ct. App. 2006).

271. California Declarant Jordan describes how blocking and throttling and application-specific discrimination can be activated (or not) at the state, local, and individual level. Jordan Declaration, *supra* note 27, at 6–8 paras. 15–22; *id.* at 6 para. 16 (“Comcast implemented this blocking practice by interrupting the Internet traffic within each customer's access network to and from this application.”); *id.* at 6 para. 17 (carrier can implement blocking or “refrain from applying that practice to packets to or from customers in California”); *id.* at 7–8 para. 21 (in wireless networks, “throttling

Shared federal and state jurisdiction over broadband Internet access offers a number of potential benefits:

- Above all else, promoting an all-hands-on-deck approach to regulating broadband connectivity.²⁷² Neither state nor federal regulators have covered themselves with glory in this area. Both are said to be “captured” by the industries they supposedly regulate,²⁷³ and both are constrained by lack of resources;²⁷⁴
- Allowing the states to access FCC and other information resources, helping to ameliorate what has been called the “information asymmetry” between industry and the regulating agencies;²⁷⁵

is implemented locally, in the access network that connects a set of cellular base stations to the wired network”).

272. Erwin Chemerinsky, *Empowering States When It Matters: A Different Approach to Preemption*, 69 BROOK. L. REV. 1313, 1329 (2004):

American government faces, and will continue to face, enormous social problems with which it must deal. In this regard, federalism can make a crucial difference. The value of having multiple levels of government lies in having many institutions capable of acting to solve social problems. From this perspective, federalism should be viewed as not being about limits on any level of government, but empowering each to act to solve difficult social issues.

273. David C. Vladeck, *Preemption and Regulatory Failure Risks*, in PREEMPTION CHOICE: THE THEORY, LAW, AND REALITY OF FEDERALISM’S CORE QUESTION 54, 56–57 (William W. Buzbee ed., 2009) [hereinafter PREEMPTION CHOICE]:

Students of regulation have identified . . . overarching structural limitations in the regulatory system that often lead to systemic regulatory failure. One problem is that agencies are often “captured” by the businesses they regulate. . . . Agency officials work closely with their counterparts in industry . . . [and] there is a natural interaction among them. Industry representatives also rotate in and out of the government through a “revolving door” that leads directly to the boardrooms and law offices of regulated industry.

274. *Id.* at 58 (citing staffing numbers at various federal agencies). Resource constraints exist. Adequate staffing for state agencies entrusted with public safety and welfare is also a difficult issue, beyond the scope of this article, complicated by many constraints, including political opposition, civil service rules, low pay, and inadequate communication within and among state agencies and between state and federal agencies.

275. *Id.* at 57. The asymmetry in information resources gives regulated industry an ability to manipulate the outcome of agency proceedings by withholding information, cherry-picking the information they provide to the agency, or manufacturing uncertainty by giving the agency incomplete, outdated, or inaccurate information.

The CPUC’s *Competition Study* echoed these concerns:

In pursuing this Investigation, it has become clear to us that the problem of regulation can be expressed as a problem of information, or lack thereof. Full information about, and visibility into, the telecommunications network and its associated markets would allow the regulator’s choices to be data driven, and regulation to be as efficient as we would like the market to be. There is, however, a fundamental asymmetry at work here, as carriers possess detailed information about the operations of the network and market, while regulators try to piece together a picture of the network and market from incomplete information.

- Conversely, facilitating the FCC’s access to state information, generated in the course of state utility commission oversight of “multi-sector critical infrastructures—including gas, electricity, communications and often water facilities . . . key to post-disaster restoration efforts,” as well pre-disaster planning;²⁷⁶
- Halting the jurisdictional finger-pointing and regulatory arbitrage that occurs in non-overlapping jurisdictional schemes;²⁷⁷
- Distributing authority between federal and state government, helping to correct the excesses of the “unitary executive,” including the wild swings in policy seen in recent years,²⁷⁸ thus providing an anchor to ensure resiliency and “durability” of policies that otherwise are subject to an abrupt about-face every four years;²⁷⁹
- Moving some regulation closer to the ground, making it more fact-specific, allowing solutions better tailored to local concerns, and fostering greater citizen engagement;²⁸⁰ and as often remarked

Competition Study, *supra* note 214, at 119.

276. Notice of Ex Parte Communication from James Bradford Ramsay, Gen. Counsel, Nat’l Ass’n of Regul. Util. Comm’rs, to Marlene H. Dortch, Sec’y, Fed. Commc’ns Comm’n (Nov. 1, 2018) [hereinafter NARUC ex parte], <https://ecfsapi.fcc.gov/file/1102211816189/18%201101%20NARUC%20Ex%20Parte%20re%20NORS.pdf> [<https://perma.cc/9UGG-A4RH>] (urging more cooperation between federal and state agencies, particularly in regard to disaster reporting); *see also supra* Sections III.A.1, III.A.3, III.C.4.a; *Koponen v. Pac. Gas & Elec. Co.*, 81 Cal. Rptr. 3d 22, 165 Cal. App. 4th 345 (Ct. App. 2008) (highlighting the fact that investor-owned energy utilities are now offering commercial fiber communications transport, which points in turn to the need for inter-sectoral regulation). State utility agencies are uniquely positioned to so engage here. *See, e.g., Order Instituting Rulemaking Regarding Broadband Infrastructure Deployment and to Support Service Providers in the State of California*, *supra* note 13, at 9–10, 19 (asking “[w]hat business models could the California energy Investor-Owned Utilities (IOUs) employ to make their existing and future fiber infrastructure more available” for telecommunications uses); *supra* notes 130–133 and accompanying text (instances of cross-utility interdependence).

277. *See supra* Section III.C.1.

278. Bulman-Pozen, *supra* note 1, at 272 (“shifting our focus from a unitary administrative state to multiple administrative states”); *see also* Robert R.M. Verchick & Nina Mendelson, *Preemption and Theories of Federalism*, in *PREEMPTION CHOICE*, *supra* note 273, at 13, 16 (citing *Atascadero State Hosp. v. Scanlon*, 473 U.S. 234, 242 (1985)).

279. Bulman-Pozen, *supra* note 1, at 325 (“furnishing a degree of stability in the face of federal regulatory whiplash”).

280. Verchick & Mendelson, *supra* note 278, at 16–17.

- Allowing states to function as “laboratories” of innovation.²⁸¹

The concern about “information asymmetry” bears emphasis, as it is woven into every issue addressed in this paper. As the CPUC put it, “the problem of regulation can be expressed as a problem of information.”²⁸² If federalism is to be truly cooperative, a first step in that process would be for federal and state agencies to fully and actively share information rather than accede to industry’s confidentiality claims and protective orders that effectively silo information and hamstring public decision making.²⁸³

Various templates are available to apportion authority and accountability between and among federal, state, and local layers of government—dual jurisdiction,²⁸⁴ “cooperative federalism” as envisioned

281. *Id.* at 17 (citing Justice Brandeis’ dissent in *New State Ice Co. v. Liebmann*, 285 U.S. 262, 311 (1932) (Brandeis, J., dissenting) (“It is one of the happy incidents of the federal system that a single courageous State may, if its citizens choose, serve as a laboratory.”)).

282. *Competition Study*, *supra* note 214, at 119; *supra* note 275 and accompanying text.

283. NARUC *ex parte*, *supra* note 276 (expressing frustration with the industry’s unfounded confidentiality objections and the FCC’s attempt to “micromanage” the states). NARUC and the CPUC had been asking the FCC for over a decade to release the FCC’s Network Outage Report System (NORS) to the states. *See* NAT’L ASS’N REGUL. UTIL. COMM’RS, RESOL. ON STATE ACCESS TO THE NETWORK OUTAGE REPORTING SYS. & DISASTER INFO. REPORTING SYS. FILINGS 6 (Nov. 10, 2020) [hereinafter NARUC RESOLUTION], <https://pubs.naruc.org/pub/482A73BA-155D-0A36-3113-6E08FE414088> [<https://perma.cc/M2VT-67D8>] (“Whereas the [CPUC] petitioned the [FCC] requesting direct access to the FCC’s [NORS] on November 12, 2009.”). The carriers objected to sharing these reports, even with other public agencies, although the outages were painfully apparent to those affected. The carriers claimed the reports contained sensitive information, the release of which to states (even on a confidential basis) could threaten national security (time, date, location, number of customers affected, whether E911 involved, among the allegedly sensitive data).

Frustrated by the lack of movement on this issue, and having constructed its own statewide outage reporting system in the interim, the CPUC withdrew its Petition in 2018 while other states pressed forward. *See id.* Industry’s use of confidentiality claims to frustrate effective government oversight is also reflected in *New Cingular Wireless*. *See supra* notes 87 and 217 and accompanying text; *see also* Rob Frieden, *Improving the FCC’s Data Collection and Disclosure Practices*, TELEFRIEDEN BLOG (Aug. 20, 2010, 2:48 PM), <http://telefrieden.blogspot.com/2010/08/improving-fccs-data-collection-and.html> [<https://perma.cc/58JG-DJS8>] (calling for open access to FCC collected data and a rebuttable presumption that the public is entitled to data that would inform consumer choices).

On March 18, 2021, the FCC released a Second Report and Order allowing limited access to disaster outage information by state agencies, under strict confidentiality provisions and “need to know” restrictions. *Amendments to Part 4 of the Commission’s Rules Concerning Disruptions to Communications*, PS Docket No. 15-80, Second Further Notice of Proposed Rulemaking, 35 FCC Rcd. 2239, 2244 para. 15 (2020).

284. Robert Schapiro suggests that the original “true dual federalism” involved separate “enclaves of exclusive state jurisdiction and exclusive federal jurisdiction.” Robert A. Schapiro, *From Dualism to Polyphony*, in *PREEMPTION CHOICE*, *supra* note 273, at 33, 47. The court in *AT&T v. Core* refers to “dual federal/state jurisdiction” in the sense of parallel and at least partially overlapping jurisdictional realms. 806 F.3d 715, 727 (3d Cir. 2015).

in the 1996 Telecommunications Act,²⁸⁵ the more nuanced principle of “subsidiarity” as practiced in the European Union,²⁸⁶ and other hybrid approaches.²⁸⁷

Dual jurisdiction and cooperative federalism are discussed above. Although a full treatment of subsidiarity is beyond the scope of this Article,²⁸⁸ it offers a fresh perspective, a procedural requirement that legislative and administrative tribunals engage in “inquiry before concluding that action at the Community rather than Member State level is warranted.”²⁸⁹

[U]nder the principle of subsidiarity, in areas which do not fall within its exclusive competence, the Union shall act only if and in so far as the objectives of the proposed action cannot be sufficiently achieved by the Member States, either at central level or at regional and local level²⁹⁰

A feature of subsidiarity is an announced preference for lower level decision-making, actively seeking the lowest level of government capable of exercising authority in a given context.²⁹¹ “[S]ubsidiarity means that regulation should be carried out by the states, unless

285. *Core Commc’ns, Inc. v. Verizon Pa., Inc. (Core v. Verizon)*, 493 F.3d. 333, 335 (3d Cir. 2007).

286. *E.g.*, Annie Decker, *Preemption Conflation: Dividing the Local from the State in Congressional Decision Making*, 30 YALE L. & POL’Y REV. 321, 359 (2012) (“An influential concept in Europe but also prevalent in the United States”); George A. Bermann, *Taking Subsidiarity Seriously: Federalism in the European Community and the United States*, 94 COLUM. L. REV. 331, 338–39 (1994).

287. Schapiro suggests regulatory “polyphony”: rather than two contiguous realms, he prefers the “aural metaphor of polyphony,” which “presents an alternative in which state power and federal power exist in the same space but remain distinct voices of authority.” Schapiro, *supra* note 284, at 42 (emphasis added). While this sounds fanciful, it is really a plea for application of “a background presumption that state power and federal power can coexist.” *Id.* at 51.

288. There is considerable literature on subsidiarity. *See, e.g.*, Decker, *supra* note 286, at 359; Bermann, *supra* note 286; Alex Mills, *Federalism in the European Union and the United States: Subsidiarity, Private Law, and the Conflict of Laws*, 32 U. PA. J. INT’L L. 369 *passim* (2010); Ran Hirschl & Ayelet Shachar, *Spatial Statism*, 17 INT’L J. CONST. L. 387, 409 (2019) (“[C]enturies-old ideas about federalism and subsidiarity.”). This article passes no judgment on subsidiarity’s social or ecclesiastical roots and content but references it as a procedural approach to resolving questions of federalism. *Cf.* Ivar A. Hartmann, *A Right to Free Internet? On Internet Access and Social Rights*, 13 J. HIGH TECH. L. 297, 394 (2013) (“[C]oncept . . . has roots in Ancient Greece, but a modern construction more similar to the one applicable in social rights theory can be traced back to 19th century Catholic doctrine.”).

289. Bermann, *supra* note 286, at 336.

290. Mills, *supra* note 288, at 376 (quoting Treaty on European Union tit. I art. 5(3), Feb. 7, 1992, 53 O.J. 20).

291. Decker, *supra* note 286, at 359 (“[S]ubsidiarity theory posits that power and responsibility should be devoted to the lowest level of government capable of exercising it well.”).

there is a justification for action to be taken at the federal level.”²⁹² It “expresses a preference for governance at the most local level consistent with achieving government’s stated purposes.”²⁹³ In making the subsidiarity decision, the responsible tribunal shall take “due account of the States’ willingness and capacity to act on the matter at hand.”²⁹⁴

Taking into account competence and purpose on the one hand, and willingness and capacity on the other, is there sufficient justification for exclusive FCC jurisdiction over broadband, and preemption of active states broadband regulation? The FCC’s statutory competence and purpose are described in section 151 of Title 47: “regulating interstate and foreign commerce in communication by wire and radio,” making available to all people “without discrimination” a network with “adequate facilities at reasonable charges, for the purposes of national defense . . . [and the] safety of life and property.”²⁹⁵ Section 152 divides federal and state competencies, by allotting subject matter jurisdiction to the FCC for “all interstate and foreign communication by wire or radio,” and reserving to the states all “jurisdiction with respect to . . . charges, classifications, practices, services, facilities, or regulations for or in connection with intrastate communication service by wire or radio.”²⁹⁶ The distinction in this division is that the states were given exclusive jurisdiction (“nothing in this chapter shall . . . give the Commission jurisdiction with respect to . . . intrastate communication”), while the FCC received jurisdiction over “all interstate . . . communication” but without an exclusivity provision.²⁹⁷ This alone suggests that FCC preemption of all state broadband regulation goes beyond its statutory grant of jurisdiction.

Considerations of capacity and willingness may point to a similar result. To sample a few data points: the FCC has been unable to maintain regulations regarding battery-backup for cell towers and landline remote terminals (while California has),²⁹⁸ it has failed, over

292. Mills, *supra* note 288, at 377; *see also* Decker, *supra* note 286, at 359 (“The higher level of government must justify its retention of authority over a given matter.”).

293. Bermann, *supra* note 286, at 339.

294. *Id.* at 372.

295. 47 U.S.C. § 151 (2018).

296. *Id.* § 152(a)–(b).

297. *Id.*

298. *See* discussion of California and the FCC’s regulations concerning battery backup at cell sites, and how the FCC’s regulations were stalled and ultimately defeated on appeal, *supra* notes 73, 112–113, 117–124 and accompanying text.

ten years, to arrive at any mechanism to share network outage data with the states;²⁹⁹ it continues to accept as true the exaggerated carrier claims of broadband deployment;³⁰⁰ it stood by while California litigated the use of more accurate carrier subscription reports in order to measure intrastate (and local) competition;³⁰¹ and watched California take the lead in investigating wireless marketing fraud and prosecuting the collection of unauthorized charges (“cramming”).³⁰² This list is incomplete by definition, but suggests the sort of inquiry that might be made about capacity and willingness.³⁰³

State agencies are by no means innocent of regulatory deficiencies, but it also cannot be said that the FCC has shown special expertise or capability in these matters. The fact that states nevertheless so often end up on the wrong side of preemption battles tempts one to agree with Professor Chemerinsky, when he says that “federalism is used, as it has been so often throughout American history, to cloak politicized substantive value choices in a seemingly more

299. See *supra* notes 276, 283 and accompanying text.

300. See *supra* notes 216–217. Steve Lohr, *Digital Divide Is Wider than We Think, Study Says*, N.Y. TIMES (Dec. 4, 2018), <https://www.nytimes.com/2018/12/04/technology/digital-divide-us-fcc-microsoft.html> [<https://perma.cc/SHX2-8Y65>] (“Microsoft concluded that 162.8 million people do not use the internet at broadband speeds, while the F.C.C. says broadband is not available to [only] 24.7 million Americans. The discrepancy is particularly stark in rural areas.”); cf. *Broadband Mapping: Challenges and Solutions: Hearing Before the U.S. Comm. on Com., Sci., & Transp.*, 116th Cong. 2, 5 (2019) (statement of Mike McCormick, President, Miss. Farm Bureau Fed’n), <https://www.commerce.senate.gov/services/files/C87F4960-015C-4F3F-8EFF-E1060C49A540> [<https://perma.cc/C86T-J6N3>].

301. See description of *New Cingular Wireless*, *supra* notes 86, 216, 283 and accompanying text.

302. See *supra* note 270 (describing investigation of Pacific Bell [Cingular] Wireless); *Telseven, LLC; Calling 10, LLC, Patrick Hines a/k/a P. Brian Hines*, Notice of Apparent Liability for Forfeiture, 27 FCC Red. 15558, 15558 para. 1 n.4 (2012), <https://docs.fcc.gov/public/attachm ents/FCC-12-146A1.pdf> [<https://perma.cc/J77W-WJPD>] (citing CPUC’s prosecution of a nationwide cramming scheme costing California ratepayers over \$21 million in unauthorized charges). CPUC’s prosecution resulted in a \$19.76 million fine against the corporate respondents and their principal Hines. *Order Instituting Investigation on the Commission’s Own Motion into the Operations, Practices, and Conduct of Telseven, LLC, Calling 10 LLC dba California Calling 10, (U7015C), and Patrick Hines, an Individual, to Determine Whether Telseven, Calling 10, and Patrick Hines have Violated the Laws, Rules and Regulations of this State in the Provision of Directory Assistance Services to California Consumers*, Investigation 10-12-010, Decision Different to Modified Presiding Officer’s Decision Finding that Corporate Respondents and Patrick Hines Placed Unauthorized Charges on California Telephone Bills and Closing Proceeding, Decision No. 14-08-033, slip op. 43, para. 2 (Cal. Pub. Utils. Comm’n Aug. 18, 2014), <https://docs.cpuc.ca.gov/Publis hedDocs/Published/G000/M102/K347/102347427.PDF> [<https://perma.cc/FEV4-NF9M>].

303. See Frieden, *supra* note 211, for a more in-depth analysis of key FCC regulatory failures. “Far too many major decisions of the [FCC] rely on flawed assumptions about the current and future telecommunications marketplaces.” *Id.* at 959.

neutral and palatable garb.”³⁰⁴ One can see the “jurisdictionally interstate” label as an example of the “seemingly more neutral and palatable garb” that Chemerinsky describes.

If, however, the *Mozilla* decision left the states with *tabula rasa*, a prospect that California’s Opposition brief suggests,³⁰⁵ it may be time for recalibration. Clearing away the fuzzy thinking around the “jurisdictionally interstate” classification would help, perhaps replacing it with a label like “federally important” to reflect its real function. In some cases, the matter will be relatively clear—states have an immediate and compelling interest in the reliability and resiliency of networks within their borders; the federal government has an interest in ensuring universal interconnection.³⁰⁶ Deference to state and local governments should, consistent with subsidiarity and other principles of shared jurisdiction, include states’ roles as competition umpires (including network opening, unbundling and interconnection obligations), consumer protection enforcers (including net neutrality rules), and network monitoring and data gathering nodes.

304. Chemerinsky, *supra* note 272, at 1328. Chemerinsky delivers an optimistic plea for empowering *both* federal and state regulators and encouraging them to work together, but seeds it with a lacerating critique of the federal preemption status quo:

More profoundly, the Court’s recent decisions finding preemption expose the political content of its federalism rulings. The Court has eagerly found preemption of state laws regulating business, such as tobacco companies, the auto industry, and insurance companies. On the other hand, most of the Supreme Court’s federalism decisions invalidating federal laws have struck down civil rights laws—such as the Violence Against Women Act, the Religious Freedom Restoration Act, the Age Discrimination in Employment Act, and the Americans with Disabilities Act. Comparing the Court’s preemption rulings with its decisions limiting Congress’s powers under the Commerce Clause and Section Five of the Fourteenth Amendment reveals that what animates the Rehnquist Court is not a concern for states’ rights and federalism. Rather, the Court is hiding its value choices to limit civil rights laws and to protect business from regulation in decisions that seem to be about very specific doctrines of constitutional law, such as the scope of the commerce power and the circumstances of preemption.

Id. at 1315; *see also RIFO, supra* note 2, at 540 (Clyburn, Comm’r, dissenting) (“If it benefits industry, preemption is good; if it benefits consumers, preemption is bad.”).

305. California Opposition, *supra* note 16, at 20:

[T]he FCC’s lack of authority to impose net neutrality regulations for BIAS does not prevent the states from doing so. “If Congress wanted Title I to vest the Commission with some form of Dormant-Commerce-Clause-like power to negate States’ statutory (and sovereign) authority just by washing its hands of its own regulatory authority, Congress could have said so.” Nothing in the Act indicates that the FCC’s lack of authority reflects a congressional determination that the states’ traditional police powers should be subject to the same limitations as the FCC’s powers.

Id. (quoting *Mozilla v. Fed. Commc’ns Comm’n*, 940 F.3d 1, 83 (D.C. Cir. 2019)).

306. *See, e.g., CAL. PUB. UTILS. CODE* § 558 (2021); 47 U.S.C. § 521 (2018).

Beside interconnection rules writ large (no state a walled garden), the FCC's subject matter jurisdiction and statutory authority to protect interstate communications also justifies its taking a primary role in spectrum allocation, technical standards regarding non-interference and device safety, and a non-exclusive role in a second attempt to develop national standards for unbundling and network element costing. Even with regard to net neutrality, the FCC could—again under the rubric of interconnection—define a national “floor” (as it has done with consumer protection issues like slamming and cramming), leaving the states free to enforce those standards, fill gaps, and articulate further requirements appropriate to their particular needs.³⁰⁷

The keys to drawing reasonable lines between state and federal interests will be good data, accurate network mapping, real time outage data, subscriber and market power data, *inter alia*—all now subject to the information asymmetry described above—in order to ascertain the contours of the problem to be addressed and the most appropriate level of government response.

The 2015 *Open Internet Order* did no real weighing of federal and state interests before preempting a litany of presumed “inconsistent” state activity.³⁰⁸ Empirical evidence that begins with the local and the physical,³⁰⁹ analyzed in a subsidiarity framework, could have been relevant then, and would today help balance federal and state interests in broadband access, including digital divide and deployment issues.³¹⁰

307. See parallel FCC and CPUC prosecutions of Telseven and Patrick Hines, *supra* note 302; see also Verchick & Mendelson, *supra* note 278, at 19 (“Congress may specify that federal law serve as a ‘floor’ of minimum protection but that states remain free to adopt standards that are more protective of health or the environment.”); cf. *In re NOS Commc’ns*, 495 F.3d 1052 (9th Cir. 2007) (holding the Federal Communications Act does not preempt claims for deceptive practices under Washington Consumer Protection Act).

308. The 2015 *Open Internet Order*, after establishing bright-line rules—no blocking, no throttling, no unreasonable interference—went on to preempt States from doing anything “inconsistent” with its “carefully tailored” and “comprehensive regulatory scheme.” *Open Internet Order*, *supra* note 12, at 5804 para. 433. Specifically prohibited were the imposition of “any new state [universal service] contributions on broadband,” any market-entry restrictions “through certification requirements,” any rate regulation “through tariffs or otherwise,” or any of the regulatory mechanisms on which the FCC’s *Order* exercised forbearance regarding certain information collection and reporting provisions, discontinuance of service requirements, and “the interconnection and market-opening provisions” of sections 251–252, *inter alia*. *Id.* at 5803–04 paras. 432–33.

309. *E.g.*, Joint Technologists’ Comments, *supra* note 24; Jordan Declaration, *supra* note 27, at 2–4 paras. 4–10.

310. See, for example, *Order Instituting Rulemaking Regarding Broadband Infrastructure Deployment and to Support Service Providers in the State of California*, *supra* note 13, for discussion

A willing federal partner could support cities' and rural cooperatives' construction of fiber networks,³¹¹ facilitating what is essentially a local process in the same way the federal Rural Electrification Act empowered rural collectives to supply electricity to those without.³¹² The industry's objection that a patchwork of state laws would hinder its operations does not seem to apply to publicly-sponsored networks in areas where the carriers have *no* operations, or where their unreliable, slow, and aging infrastructure is tantamount to an abandonment of service. One thinks of Chattanooga,³¹³ Utah's Utopia Project,³¹⁴ and the competitively neutral wholesale-only networks operated successfully in Stockholm and other cities³¹⁵ as examples of states and localities taking the initiative.³¹⁶ Markets have failed to provide the competition promised in the 1996 Act, and local governments are looking for alternatives.

on broadband deployment strategies. One thinks of municipal cell siting as another issue ripe for a subsidiarity analysis, although beyond the scope of this paper.

311. Municipal fiber initiatives have sometimes pitted asserted state sovereignty against locals' desire for telecommunications independence, or a federal policy preference for such local independence—a tripartite subsidiarity conundrum. The FCC first allowed such state-level prohibitions (under President Clinton) and then banned them (under President Obama). See Mikhail Guttentag, *A Light in Digital Darkness: Public Broadband after Tennessee v. FCC*, 20 YALE J.L. & TECH. 311, 350–73 (2018); cf. Eric Null, *Municipal Broadband: History's Guide*, 9 I/S: J.L. & POL'Y FOR THE INFO. SOC'Y 21 (2013) (describing three successful and two unsuccessful municipal broadband projects and summarizing business models used in each).

Annie Decker's article on separating local and state preemption issues suggests subsidiarity as a potential means of resolving the standoff that occurs when state governments oppose local broadband initiatives. Decker, *supra* note 286, at 359–62.

312. CRAWFORD, *supra* note 262, at 44, 203. See generally Rural Electrification Act of 1936, 7 U.S.C. §§ 901–914 (1940), <https://perma.cc/MZZ8-8FGQ> (authorizing the disbursement of federal funds to local, state, and nonprofit entities to fund electricity-providing infrastructure).

313. Guttentag, *supra* note 311, at 317–18.

314. *The Utopia Fiber Difference*, UTOPIA, <https://www.utopiafiber.com/the-utopia-fiber-difference/> [<https://perma.cc/HTT5-WVUQ>] (describing its open access network over which customers can subscribe to the ISP of their choice, i.e., an ISP that is not itself a last-mile carrier).

315. Stokab, the public entity providing wholesale-only fiber to Stockholm, has a helpful website. See STOKAB, <https://www.stokab.se/en/stokab.html> [<https://perma.cc/HW87-FQQ2>]; see also CRAWFORD, *supra* note 262, at 68–69; ILSA GODLOVITCH & TSEVEEN GANTUMUR, WIK-CONSULT, THE ROLE OF WHOLESALE ONLY MODELS IN FUTURE NETWORKS AND APPLICATIONS (Mar. 2018) [https://www.stokab.se/download/18.796da515175469f3e544f/1603888583380/The%20role%20of%20wholesale%20only%20models%20in%20future%20networks%20and%20applications%20\(2018\),%20WIK-Consult.pdf](https://www.stokab.se/download/18.796da515175469f3e544f/1603888583380/The%20role%20of%20wholesale%20only%20models%20in%20future%20networks%20and%20applications%20(2018),%20WIK-Consult.pdf) [<https://perma.cc/R4RV-CVGJ>] (report on wholesale-only networks and infrastructure investment in Europe).

316. San Francisco could have been on the list, but its proposal for a wholesale-only municipal fiber network ran into political headwinds and problematic cost-projections. Bill Snyder & Chris Witteman, *The Anti-Competitive Forces that Foil Speedy, Affordable Broadband*, FAST COMPANY, (Mar. 29, 2019), <https://www.fastcompany.com/90319916/the-anti-competitive-forces-that-foil-speedy-affordable-broadband> [<https://perma.cc/8VG7-Y6QE>].

Such localized and real-world concerns are among the reasons courts rarely grant the type of broad claims asserted in California and Vermont for exclusive federal authority over anything touching on “interstate . . . communications.”³¹⁷ “It matters not whether we or the FCC believe that one national laboratory would be better than 50 separate schemes of regulation.”³¹⁸

The case has not yet been made, by the FCC or the carriers, why a national across-the-board prohibition of state net neutrality and other broadband interventions would be justified. What is the balance between a core set of standards needed for nationwide (and world-wide) network coherence on the one hand, and the insult to the states’ retained rights that occurs when states are prohibited from ensuring their citizens’ welfare? In subsidiarity parlance, which level of government is best positioned to protect public safety, health, welfare, and “convenience and necessity”³¹⁹ in the delivery of broadband services?

These are the law and policy questions that must be confronted when legislators, regulators, judges, and industry put aside the “jurisdictionally interstate” fiction.

IV. CONCLUSION

The assumptions of this Article have been: (i) broadband Internet access is an increasingly essential utility service and will remain so into the future; (ii) broadband Internet access is in the first instance a local service, delivered over a local access network, the physical reality of which is wires and local radio transmissions; and (iii) adequate regulation of the powerful oligopolistic private networks delivering BIAS requires an “all hands on deck” approach, i.e., that states be more fully enfranchised to oversee and regulate that service. Such oversight, ideally, would be exercised in concert with the federal government, but states should act on their own if—as has now occurred—

317. 47 U.S.C. § 152(a) (2018). “Evidence of pre-emptive purpose,” especially the broad preemptive purpose asserted by the United States and the ISPs in the state litigation, must be “sought in the text and structure of the statute at issue.” *CSX Transp., Inc. v. Easterwood*, 507 U.S. 658, 664 (1993); *see also* *Va. Uranium, Inc. v. Warren*, 139 S. Ct. 1894, 1909, 1915 (2019) (Ginsburg, J., concurring) (concurring in decision upholding state law claims despite warnings “of dire consequences if all 50 States enact bans similar to [the challenged statute],” and rejecting the claim that a state prohibition of uranium mining interfered with the purposes of the Atomic Energy Act).

318. *Nat’l Ass’n of Regulatory Util. Comm’rs v. FCC (NARUC II)*, 533 F.2d 601, 619 (D.C. Cir. 1976).

319. A certificate of “public convenience and necessity” (CPCN) is, in most instances, a prerequisite for operating a telephone carrier in California. CAL. PUB. UTILS. CODE § 1001 (2021); *see also supra* notes 195, 197, and accompanying text (examples of issues involving CPCNs).

the federal government abdicates any role in such oversight and regulation.

This Article accepts that the federal government has an important role to play in establishing an effective national broadband policy. But to preempt the states as broadly as the FCC's recent Preemption Directive attempted, or even as broadly as the 2015 *Open Internet Order* did, is unnecessary, counter-productive, and invasive of traditional state sovereignty in areas like health, safety, and consumer welfare.

The classification of broadband as an interstate service has served to shore up the FCC's claims to primacy (if not exclusivity) as the national broadband policy maker, often to the detriment of state and local communities, in both Republican and Democratic administrations. It has weakened state police power when it is needed most, distorted the factual record on which policy is made, perpetuated illogically siloed oversight, and threatens to uncritically perpetuate this paradigm into the future.

If the *Mozilla* court's rejection of the Preemption Directive indeed left states with some level of sovereignty over *de facto* intrastate broadband communications, arguing within the industry's conceptual framework seems not the best long-range strategy to assert and preserve public oversight of an essential public service. If a municipality or other local entity wants to experiment, the principles of subsidiarity suggest it should be able to do so. If a state wants to more robustly protect its intrastate communications systems, a reasonable policy of shared governance advises deference.

With a new administration in Washington, a new regime of cooperative broadband federalism is possible. States can make a powerful argument for an equal seat at the table.