

FEDERALISM IN TRANSITION: RECALIBRATING THE FEDERAL-STATE REGULATORY BALANCE FOR THE ALL-IP ERA

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ABSTRACT

The United States is in the midst of a historic technological transition. Millions of Americans are rapidly replacing “plain old telephone service” (“POTS”) with more advanced alternatives, including wireless telephony, Voice over Internet Protocol (“VoIP”), video-enabled chatting, and non-voice services like texting and social media. Many of these services are delivered over borderless broadband networks via the Internet Protocol (“IP”). The flexibility and modularity inherent in these newer, lightly regulated digital networks stand in sharp contrast to the highly regulated analog public switched telephone network (“PSTN”), with its vast system of copper lines and switches that served as the nation’s only means of voice communication for more than a century.

In recognition of this clear shift and the enormous economic opportunities enabled by broadband, and in an effort to hasten the completion of what by all accounts has been a consumer-driven transition, the Federal Communications Commission (“FCC”) has begun the important task of modernizing the policy infrastructure governing the nation’s communications sector. This essential endeavor recognizes that the modern communications marketplace requires a regulatory framework built around and informed by the competitive dynamics, consumer expectations, and business models evident in today’s marketplace.

Such forthright federal leadership is critical, but it alone will not guarantee a successful transition. Indeed, the states, primarily through their public utility commissions (“PUCs”), have long played a central role in regulating intrastate aspects of POTS and the PSTN, positioning themselves as *de facto* (some argue *de jure*) partners in any effort to modernize the laws and policies impacting the U.S. communications infrastructure.

This partnership, however, has not always operated smoothly. Technological innovation, shifts in consumer demand, and a variety of other factors have, on numerous occasions, resulted in protracted legal battles over the proper demarcation of regulatory authority between state PUCs and the FCC. These disagreements have become more acute in the broadband era as PUCs attempt to assert continued primacy in the regulation of communications services provided in their states. Continued legal combat between the states and the federal government—and the uncertainty that it engenders—is ultimately harmful because it serves only to impede the organic forces that are driving this transition. Efforts to

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complete the ongoing IP transition should thus address the equally complex task of recalibrating regulatory federalism for a world dominated by IP networks and services. This Article focuses on this particular aspect of the transition: how to apportion regulatory authority between the states and the federal government in a way that reflects the dynamic nature of the modern communications market while also assuring continued consumer protections.

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I. INTRODUCTION

In 2011, the Federal Communications Commission (“FCC” or the “Commission”) sounded the death knell of the public switched telephone network (“PSTN”) when it stated that “[n]etworks that provide only voice service . . . are no longer adequate for the country’s communication needs.”¹ Though somewhat jarring in its bluntness, this pronouncement was hardly unexpected since it—and the underlying sentiment—built upon recommendations included in the FCC’s National Broadband Plan² and in various proposals put forward by its Technological Advisory Council (“TAC”).³ These recommendations reflected a new reality in the U.S. communications space: consumers are rapidly replacing “plain old telephone service” (“POTS”) with alternatives (or a combination of several), including wireless telephony, Voice over Internet Protocol (“VoIP”), video-enabled chatting, and non-voice services like texting and social media.⁴ Moreover,

1. Connect Am. Fund, Report and Order and Further Notice of Proposed Rulemaking, 26 FCC Rcd. 17,663, 17,667 (2011).

2. See FED. COMM’NS COMM’N, CONNECTING AMERICA: THE NATIONAL BROADBAND PLAN 59 (2010) [hereinafter NATIONAL BROADBAND PLAN] (“The challenge for this country is to ensure that as IP-based services replace circuit-switched services, there is a smooth transition for Americans who use traditional phone service and for the businesses that provide it.”).

3. See, e.g., Memorandum from Tom Wheeler, Chairman, Technical Advisory Council, to Commissioners of Fed. Commc’ns Comm’n 3 (Apr. 22, 2011), available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-306065A1.pdf (noting that the TAC would “conduct a further technical analysis of the potential short term, and low cost transitions of this legacy infrastructure, including new, IP-enabled devices and the use of traditional copper lines for high speed, high quality broadband”); CRITICAL LEGACY TRANSITION WORKING GRP., TECH. ADVISORY COUNCIL, SUN-SETTING THE PSTN (2011), [hereinafter SUN-SETTING THE PSTN] available at http://transition.fcc.gov/oet/tac/tacdocs/meeting92711/Sun-Setting_the_PSTN_Paper_V03.docx (outlining the context and rationales for sunseting the PSTN).

4. The literature documenting the social, legal, and economic aspects and impacts of these trends is vast. For a representative sampling, see Charles J. Cooper & Brian S. Koukoutchos, *Federalism and the Telephone: The Case for Preemptive Federal Deregulation in the New World of Intermodal Competition*, 6 J. TELECOMM. & HIGH TECH. L. 293 (2008); Charles M. Davidson & Michael J. Santorelli, *Seizing the Mobile Moment: Spectrum Allocation Policy for the Wireless Broadband Century*, 19 COMMLAW CONSPPECTUS 1 (2010); Howard A. Shelanski

unlike the PSTN, the modern communications infrastructure—built largely around the Internet Protocol (“IP”) and delivered to consumers via networks of fiber-optics, coaxial cables, next-generation routers, and other advanced technologies⁵—has become the foundation for a vibrantly innovative and modular ecosystem that is generating enormous economic and consumer welfare gains.⁶

This shift in focus by the FCC is significant and has been heightened by several related proceedings aimed at hastening the formal embrace of borderless all-IP networks by, among other things, reviewing, revising, and, where appropriate, repealing antiquated rules pertaining to the PSTN.⁷

Adjusting Regulation to Competition: Toward a New Model for U.S. Telecommunications Policy, 24 YALE J. ON REG. 55 (2007); Kevin Werbach, *The Network Utility*, 60 DUKE L.J. 1761 (2011).

5. See CHRISTOPHER S. YOO, *THE DYNAMIC INTERNET: HOW TECHNOLOGY, USERS, AND BUSINESSES ARE TRANSFORMING THE NETWORK* 37–54 (2012) (discussing the array of technologies used to deliver IP-enabled services to consumers’ homes); see also JONATHAN E. NUECHTERLEIN & PHILIP J. WEISER, *DIGITAL CROSSROADS: TELECOMMUNICATIONS LAW AND POLICY IN THE INTERNET AGE* 178–85 (2d ed. 2013) (discussing the range of network technologies employed throughout the commercial Internet, from those on the “edge,” like in-home Wi-Fi networks, to “massive corporate IP networks” that “offer transport or content delivery services”).

6. The FCC’s National Broadband Plan states:

Networks, devices and applications drive each other in a virtuous cycle. If networks are fast, reliable and widely available, companies produce more powerful, more capable devices to connect to those networks. These devices, in turn, encourage innovators and entrepreneurs to develop exciting applications and content. These new applications draw interest among end users, bring new users online and increase use among those who already subscribe to broadband services. This growth in the broadband ecosystem reinforces the cycle, encouraging service providers to boost the speed, functionality and reach of their networks.

NATIONAL BROADBAND PLAN, *supra* note 2, at 15–16.

7. See, e.g., AT&T Petition to Launch a Proceeding Concerning the TDM-to-IP Transition (filed Nov. 7, 2012), available at http://www.att.com/Common/about_us/files/pdf/fcc_filing.pdf; Petition of the National Telecommunications Cooperative Association for a Rulemaking to Promote and Sustain the Ongoing TDM-to-IP Evolution (filed Nov. 19, 2012), available at <https://prodnet.www.neca.org/publicationsdocs/wwpdf/111912ntcapetition.pdf>. In response, the FCC opened a pleading cycle in December 2012 to gather public comment. See Public Notice, FCC, Pleading Cycle Established on AT&T and NTCA Petitions, GN Docket No. 12-353 (Dec. 14, 2012), available at http://transition.fcc.gov/Daily_Releases/Daily_Business/2012/db1214/DA-12-1999A1.pdf. In 2013, the FCC continued forward with inquiries into the myriad technical and regulatory mechanics associated with the transition. See, e.g., Public Notice, FCC, Technology Transitions Policy Task Force Seeks Comments on Potential Trials, GN Docket No. 13-5 (May 20, 2013), available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DA-13-1016A1.pdf (noting that the FCC was preparing to launch “real-world trials” to “gather a factual record to help determine what policies are appropriate to promote investment and innovation while protecting consumers, promoting competition, and

Together, these initiatives recognize the critical roles that advanced IP-based (i.e., broadband) networks are expected to play in the twenty-first century.⁸ They also represent a policy choice by the federal government to begin the monumental task of transitioning⁹ the nation away from the PSTN.¹⁰ Federal leadership is critical in this context, but it alone cannot ensure a successful conversion.¹¹ Indeed, the states, primarily through their public utility commissions (“PUCs”), have long played a central role in regulating purely intrastate aspects of the PSTN.¹² Empowered by federal and state law to regulate many elements of traditional telephony and the business models of traditional telephony providers (e.g., those related to calls originating and

ensuring that emerging all-Internet Protocol (IP) networks remain resilient.”). These various efforts have culminated in the launch of formal technology trials to

kickstart the process for a diverse set of experiments and data collection initiatives that will allow the [FCC] and the public to evaluate how customers are affected by the historic technology transitions that are transforming our nation’s voice communications services—from a network based on time-division multiplexed (TDM) circuit-switched voice services running on copper loops to an all-[IP] network

See Technology Transitions, Order, Report and Order, and Further Notice of Proposed Rulemaking, FCC 14-5, at 3 (Jan. 31, 2014), *available at* http://transition.fcc.gov/Daily_Releases/Daily_Business/2014/db0131/FCC-14-5A1.pdf [hereinafter Technology Transitions Order].

8. The clearest statement of the many expected benefits of ubiquitous deployment and adoption of broadband can be found in the FCC’s National Broadband Plan: “Broadband is a platform to create today’s high-performance America—an America of universal opportunity and unceasing innovation, an America that can continue to lead the global economy, an America with world-leading, broadband-enabled health care, education, energy, job training, civic engagement, government performance and public safety.” NATIONAL BROADBAND PLAN, *supra* note 2, at 3.

9. Numerous phrases have been put forward to describe this shift away from the PSTN and toward a full embrace of IP networks. These have included terms like “transition,” “sunset,” “retire,” or “end” the traditional phone system. These terms will be used interchangeably throughout.

10. The FCC’s TAC has provided a compelling conceptual framework for defining what “transition” means in this context. According to its Critical Legacy Transition Working Group, “when we talk about sunseting the PSTN we are talking about: (a) the orderly transition from the PSTN’s role as a ‘system of record’ for achieving key national goals; and (b) the identification of and migration to alternative mechanisms of achieving the subset of those goals that remain important to our society and economy.” SUN-SETTING THE PSTN, *supra* note 3, at 1.

11. The FCC has acknowledged as much on several occasions. *See, e.g.*, Connect Am. Fund, Report and Order and Further Notice of Proposed Rulemaking, 26 FCC Rcd. 17,663, 17,671–72 (2011) (“We recognize that USF and ICC are both hybrid state-federal systems, and it is critical to our reforms’ success that states remain key partners even as these programs evolve and traditional roles shift.”).

12. *See, e.g.*, PAUL TESKE, REGULATION IN THE STATES 57–71 (2004).

terminating within their borders),¹³ state PUCs have positioned themselves as de facto (some argue de jure)¹⁴ partners in any effort to modernize the laws and policies impacting the U.S. communications infrastructure.¹⁵

As a result of technological innovation, shifts in consumer demand, and a variety of other factors, this federal-state partnership has not always operated smoothly and has often resulted in protracted legal battles over the demarcation of regulatory authority between state PUCs and the FCC.¹⁶ Indeed, state PUCs have repeatedly made clear that they will challenge any effort that they perceive as erosive of their jurisdiction over communications services. This has included defending attempts by individual PUCs to extend traditional state-based telecommunications regulations to new platforms and services like wireless and VoIP, despite the inherently borderless, interstate nature of these innovations. Federal courts have thwarted many of these jurisdictional grabs.¹⁷ Nevertheless, in the absence of clear federal guidance

13. For an overview of these legal and regulatory frameworks, see NUECHTERLEIN & WEISER, *supra* note 5, at 32–82.

14. *See, e.g.*, Uncited Joint Preliminary Brief of the Petitioners, *In re* FCC 11-161, No. 11-9900 (10th Cir. Sept. 24, 2012) (challenging efforts by the FCC to preempt state-level regulations impacting the pricing of certain aspects of traditional telephone service). For an overview of the legal rationales at the heart of state challenges to the FCC's *Connect America Order*, see Connect Am. Fund, Comments by the State Members of Federal State Joint Board on Universal Service, WC Docket No. 10-90, at 143–45 (filed May 2, 2011) [hereinafter State USF Joint Board Comments]. These arguments were ultimately rejected by a federal court in May 2014. *See* Direct Commc'ns Cedar Valley, LLC v. F.C.C., 753 F.3d 1015 (10th Cir. 2014) (upholding the FCC's *Connect America Order*).

15. *See, e.g.*, NAT'L ASS'N OF REGULATORY UTIL. COMM'RS, FEDERALISM AND TELECOM (2005) [hereinafter NARUC FEDERALISM WHITE PAPER—2005] (outlining a “pragmatic” and collaborative approach to apportioning regulatory authority in the modern communications space among federal and state agencies); NAT'L ASS'N OF REGULATORY UTIL. COMM'RS, COOPERATIVE FEDERALISM AND TELECOM IN THE 21ST CENTURY (2013) [hereinafter NARUC FEDERALISM WHITE PAPER—2013] (updating but largely reinforcing NARUC's policies regarding the need for a strong state role in the cooperative model of federalism devised for the telecommunications space under the prevailing communications laws).

16. There are numerous examples of such challenges by state PUCs and their lobbying arm, NARUC. For notable examples from the 1970s and 1980s, see, e.g., *La. Pub. Serv. Comm'n v. FCC*, 476 U.S. 355, 358 (1986) (finding that the FCC exceeded its authority when it attempted to preempt the states by “establish[ing] depreciation practices and charges [for] intrastate telephone service”); *Nat'l Ass'n of Regulatory Util. Comm'rs v. FCC*, 737 F.2d 1095 (D.C. Cir. 1984) (affirming an FCC order regarding adjustments to the framework governing interstate telephone service); *Wash. Util. & Transp. Comm'n v. FCC*, 513 F.2d 1142, 1144 (9th Cir. 1975) (affirming an FCC order that “decided that ‘a general policy in favor of the entry of new carriers in the specialized communications field would serve the public interest, convenience, and necessity.’”).

17. Illustrative examples of this dynamic can be found in recent attempts by state PUCs to regulate various aspects of VoIP service. *See, e.g.*, *Minn. Pub. Utils. Comm'n v.*

on whether and to what extent existing laws apply to new communications technologies, state PUCs will likely continue to attempt to fill perceived policy gaps by relying on regulatory principles developed to govern the PSTN.¹⁸ This Article examines these dynamics and argues that any attempt to transition away from the traditional telephone network and fully embrace more advanced communications services must take into account the equally complex task of recalibrating regulatory federalism for a world dominated by IP networks that transcend state—and even national—borders. The notion of recalibration is especially apt given the numerous legal, regulatory, and public-policy tools already available to and employed by policymakers for striking an appropriate balance between the often-competing interests of the states and the federal government in the telecommunications space.

The Article proceeds as follows: Part II examines the foundations of regulatory federalism in the telecommunications sector by tracing the development of state and federal authority in this space from the birth of the telephone in the late nineteenth century through the birth of the FCC in 1934. Part III analyzes how the federal-state relationship began to change in light of technological innovation in American communications and a national movement toward deregulation during the 1970s, 1980s, and 1990s. Part IV assesses how modern notions of regulatory federalism have been challenged by the rise of IP-enabled communications and highlights the need for a fundamental rethinking of how to structure regulation in the broadband era. Part V articulates foundational principles for recalibrating regulatory federalism for the post-PSTN world.

FCC, 483 F.3d 570 (8th Cir. 2007) (upholding FCC preemption of the PUC's attempt to levy traditional telecommunications regulation on a VoIP provider, finding that it is impossible to separate interstate and intrastate elements of the service for regulatory purposes). Several subsequent cases have relied on this decision in nullifying attempts by state PUCs to regulate VoIP service. *See, e.g.*, *Vonage Holdings Corp. v. Neb. Pub. Serv. Comm'n*, 564 F. 3d 900, 903 (8th Cir. 2009); *N.M. Pub. Regulation Comm'n v. Vonage Holdings Corp.*, 640 F. Supp. 2d 1359 (D.N.M. 2009).

18. *See, e.g.*, Cooper & Koukoutchos, *supra* note 4, at 371 (“If the current state of the Internet and contemporary wireline, wireless, and cable networks demonstrates nothing else, it decisively confirms that these services are inherently interstate, that they engage in ever-increasing intermodal competition to provide the full range of voice, data, and video services, and that they therefore should be subject to a single, uniform set of federal regulations.”); Douglas C. Sicker, *The End of Federalism in Telecommunications Regulation?*, 3 NW. J. TECH. & INTELL. PROP. 130, 132 (2005) (“Modern telecommunications networks are evolving in ways that render local and state authority over many telecommunications policy decisions less justifiable than they were in the past.”).

II. THE FOUNDATIONS OF REGULATORY FEDERALISM IN THE TELECOMMUNICATIONS SECTOR (1876–1934)

The telephone was born in the shadow of the telegraph.¹⁹ Several innovators, working simultaneously yet separately, eventually succeeded in developing a way to transmit “vocal sounds” over these wires.²⁰ At the time, there was much skepticism regarding the practical applications and commercial possibilities of this new service: the telephone struggled to gain public acceptance initially, “rarely receiv[ing] more than a passing mention in the press.”²¹ Even so, it would eventually be “more highly regulated” than the telegraph, itself a heavily regulated service that catered mostly to businesses.²² Indeed, the regulatory apparatus grew in tandem with the telephone network, blossoming from a patchwork of rules devised mostly at the state level into a somewhat more coherent framework with dual federal and state enforcement mechanisms. As the market matured, tension grew between the states and the federal government over the proper balance of federalism in regulating telephone service.

Section II.A provides an overview of how these regulatory frameworks developed in response to the initial growth of the PSTN and the rise in popularity of basic telephone service. Section II.B examines how early notions of regulatory federalism evolved out of these approaches and would eventually be enshrined in the Communications Act of 1934.

A. LEGAL AND REGULATORY RESPONSES TO THE DEVELOPMENT OF THE PSTN (1876–1913)

Initial growth of the PSTN, the physical infrastructure supporting POTS, was impressive. Its most visible element was the telephone pole, which was deployed by the thousands to hold the wires that connected subscribers.²³ Although the public was wary of the “hazards that the tangle of overhead

19. See PAUL STARR, *THE CREATION OF THE MEDIA: POLITICAL ORIGINS OF MODERN COMMUNICATIONS 193–94* (2004) (noting that the telephone was initially developed as a way to “improve and extend the telegraph, not replace it” and observing that the technology that eventually evolved into the telephone was meant to increase the capacity of telegraphic communications).

20. See ROBERT BRITT HORWITZ, *THE IRONY OF REGULATORY REFORM: THE DEREGULATION OF AMERICAN TELECOMMUNICATIONS 96* (1989). Alexander Graham Bell successfully secured a patent for his “improvements in telegraph transmission” mere hours before another innovator, Elisha Gray, applied for a similar patent. *Id.*

21. RICHARD R. JOHN, *NETWORK NATION: INVENTING AMERICAN TELECOMMUNICATIONS 200* (2010).

22. *Id.*

23. See SUSAN E. MCMASTER, *THE TELECOMMUNICATIONS INDUSTRY 9* (2002).

wires posed,”²⁴ the network grew substantially, developing the skeleton of the modern telecommunications network.²⁵ Indeed, despite low levels of consumer demand for telephone service at the outset, construction of this infrastructure boomed between 1876 and 1879 because of intense competition between American Bell Company (“Bell” or “American Bell”)—Alexander Graham Bell’s firm—and Western Union—the telegraph monopolist.²⁶ Once these entities settled outstanding disputes about patent ownership and other related issues, American Bell in 1880 secured a virtual monopoly on the telephone until 1894.²⁷

The immediate impact of Bell’s securing its monopoly was a surge in telephone subscriptions, which tripled between 1880 and 1884,²⁸ as the company built the network out to more areas and vertically integrated all aspects of telephone service.²⁹ Also during this time, American Bell began to develop a long-distance service via a subsidiary called American Telephone and Telegraph Company (“AT&T”).³⁰ The growth of the telephone network engendered a wide array of legal and regulatory reactions by the states and, eventually, the federal government. At first, disputes arose in response to the rapid deployment of the PSTN. For example, the sudden emergence of telephone poles in cities across the country raised many novel legal questions, including the scope of municipal power to permit installation on public and private property.³¹ Other disputes arose over the extent to which aspects of telephone service (e.g., rates) fell under state “police power” and whether traditional notions of liability and agency extended to telephone conversations.³² Common law approaches would eventually evolve to

24. JOHN, *supra* note 21, at 200.

25. For example, as the network grew, it quickly became apparent that the most efficient way to route calls was through an exchange, which facilitated manual switching between calling parties via a switchboard. *See, e.g.*, SICKER, *supra* note 18, at 133–39. The first such exchange opened in 1878. JOHN, *supra* note 21, at 201.

26. JOHN, *supra* note 21, at 203.

27. HORWITZ, *supra* note 20, at 97.

28. STARR, *supra* note 19, at 197.

29. HORWITZ, *supra* note 20, at 98; *see also* MCMASTER, *supra* note 23, at 13.

30. HORWITZ, *supra* note 20, at 98.

31. One of the earliest cases addressing the issue of eminent domain in the context of telephone poles is *Julia Building Ass’n v. Bell Telephone Co.*, 88 Mo. 258 (1885) (upholding the municipality’s grant to Bell of the right to deploy telephone poles in St. Louis). States differed on whether property owners should be compensated for these intrusions. For an overview of relevant early cases, see Recent Case, *Real Property—Telegraph Lines—Compensation to Abutting Owners*, 5 HARV. L. REV. 149, 152 (1891).

32. *See, e.g.*, Herbert H. Kellogg, *The Law of the Telephone*, 4 YALE L.J. 223, 228–29 (1895) (describing a range of such disputes).

address these myriad disputes, but the extent of the states' formal regulatory authority in this space remained unclear.

During the second industrial revolution,³³ when commerce became more complex and reliant on new technologies and services like the railroads,³⁴ similar questions arose regarding whether and to what extent the states could regulate these new sectors. Early efforts focused primarily on controlling prices, especially in the rapidly growing railroad market.³⁵ Beginning in 1868, these efforts led to the creation of state railroad commissions that attempted to “bring the interests of the public and those of the corporations” into some sort of harmony.³⁶ A more aggressive and somewhat more coherent approach to regulating “public utilities” began in the wake of *Munn v. Illinois*,³⁷ an 1877 U.S. Supreme Court case that upheld the authority of state commissions to police a wide array of business activities in any sector “clothed with a public interest.”³⁸

The principles undergirding these new frameworks were soon adapted for the purposes of regulating telephony. States began to enact utility laws, empowering newly formed PUCs to set regulatory policy. PUCs typically had a wide berth within which to operate, although much of their early activity

33. This term was coined by Davids Landes. DAVID S. LANDES, *THE UNBOUND PROMETHEUS: TECHNOLOGICAL CHANGE AND INDUSTRIAL DEVELOPMENT IN WESTERN EUROPE FROM 1750 TO THE PRESENT* (2d ed. 2003).

34. See, e.g., Bradford Smith, *The Third Industrial Revolution: Policymaking for the Internet*, 3 COLUM. SCI. & TECH. L. REV. 1, 2 (2001) (“The second industrial revolution lasted from about 1875 to 1930. It was powered by inventions such as electricity, the telephone and the internal combustion engine and automobile, as well as new synthetics and alloys and new applications of steel and oil. These advances were made possible by the unprecedented availability of capital and the creation of the modern business organization.”).

35. See, e.g., William K. Jones, *Origins of the Certificate of Public Convenience and Necessity: Developments in the States, 1870–1920*, 79 COLUM. L. REV. 426, 432 (1979).

36. THOMAS K. MCCRAW, *PROPHETS OF REGULATION* 32 (1984).

37. *Munn v. Illinois*, 94 U.S. 113 (1877).

38. The notion of “public utilities” grew out of the case’s central holding:

Property does become clothed with a public interest when used in a manner to make it of public consequence, and affect the community at large. When, therefore, one devotes his property to a use in which the public has an interest, he, in effect, grants to the public an interest in that use, and must submit to be controlled by the public for the common good, to the extent of the interest he has thus created. He may withdraw his grant by discontinuing the use; but, so long as he maintains the use, he must submit to the control.

Id. at 126; see also William R. Childs, *State Regulators and Pragmatic Federalism in the United States, 1889–1945*, 75 BUS. HIST. REV. 701, 735 (2001).

focused on determining whether utility rates were reasonable.³⁹ But by the early part of the twentieth century, these activities encompassed telephone regulation.⁴⁰ In addition to viewing POTS as a type of public utility for the purposes of deriving regulatory authority over it, PUCs and others considered service providers as common carriers, a notion that had evolved out of common law and had been applied previously to the telegraph.⁴¹ The distinction between public utilities and common carriers has long been subtle⁴² and, as a result, has been the subject of much confusion and misapplication in an array of legal and regulatory contexts.⁴³ In short, utilities tend to be regulated monopolies that provide a service that is essential to the public.⁴⁴ A common carrier, in contrast, “need not be a ‘public utility’ or a ‘regulated monopoly’”; rather, “service must be offered, on demand, to the public at large or to a group of people generally, and the carrier ‘must hold himself out as ready to engage in the transportation of goods for hire as a business, not as a casual occupation.’”⁴⁵

Ultimately, competition between Bell and the array of smaller telephone companies that emerged after the turn of the century had several important impacts on early telecommunications regulatory policy.⁴⁶ First, service providers’ refusal to interconnect led to the creation of a system of

39. See, e.g., FRED BOSSELMAN ET AL., *ENERGY, ECONOMICS AND THE ENVIRONMENT* 49–50 (3d ed. 2010). PUCs would eventually begin to diversify and expand their regulatory purview by, for example, issuing certificates of public convenience and necessity. Though largely done in the context of railroads and other sectors, several PUCs began to issue these in the telephone context in the late 1890s and the early part of the twentieth century. For an overview of the evolution of this practice, see generally Jones, *supra* note 35.

40. TESKE, *supra* note 12, at 58; see also Eli Noam, *Federal and State Roles in Telecommunications: The Effects of Deregulation*, 36 VAND. L. REV. 949, 954 (1983).

41. See, e.g., Susan P. Crawford, *Transporting Communications*, 89 B.U. L. REV. 871, 878–79 (2009); see also Kellogg, *supra* note 32, at 225.

42. See, e.g., Irwin S. Rosenbaum, *The Common Carrier–Public Utility Concept: A Legal-Industrial View*, 7 J. LAND & PUB. UTIL. ECON. 155–68 (1931) (providing a historical analysis of the evolution of these concepts).

43. See, e.g., *id.*; Christopher S. Yoo, *Is There a Role for Common Carriage in an Internet-Based World?*, 51 HOUS. L. REV. 545 (2013) (discussing the vagueness of common carrier definitions and the legal issues that have arisen as a result).

44. See, e.g., BOSSELMAN ET AL., *supra* note 39, at 46.

45. Eli M. Noam, *Beyond Liberalization II: The Impending Doom of Common Carriage*, 18 TELECOMM. POL’Y 435, 436–37 (1994) (quoting JOSEPH STORY, *LAW OF BAILMENTS* (1832)).

46. It also had important effects on innovation and pricing. Prices plunged as a result of competition, and Bell’s competitors were adept at introducing key service innovations like automatic dialing. STARR, *supra* note 19, at 203–05.

balkanized telephone networks.⁴⁷ Service providers, even those with national ambitions like Bell, focused primarily on building out local network infrastructure in areas with dense populations and securing a customer base of households and businesses within a reasonable distance of local exchanges.⁴⁸ Even when competition reemerged after the Bell patents expired, service providers still focused on these markets, although there was a concerted effort to extend networks to smaller towns and more rural areas in order to build subscriber bases that could rival that of Bell.⁴⁹ These distinct lines and exchanges were stitched together by service providers to create formidable networks that, for the most part, refused to interconnect with one another, leaving many people in areas served by multiple providers with “dual service.”⁵⁰ As a result, service providers were forced to invest heavily in deploying duplicative network infrastructure to grow their user bases and maximize the value of the network to future subscribers.⁵¹ In Bell’s case, this became an exceedingly expensive proposition.⁵²

Second and relatedly, the economic inefficiencies of having to build out redundant networks, coupled with increasing antitrust scrutiny by federal officials, led Bell to argue that POTS was best seen as a natural monopoly—one that could be administered most efficiently by a private firm with a large scale.⁵³ Having POTS gain recognition as a natural monopoly would alleviate the competitive pressures on Bell by allowing it to enter into a quid pro quo with regulators: Bell would avoid a “complete takeover” of the telephone industry by the federal government in exchange for more exacting regulation of Bell’s business, as well as Bell’s accepting a variety of concessions, including interconnection with competing networks.⁵⁴ In 1913, these terms

47. See, e.g., Joseph D. Kearney & Thomas W. Merrill, *The Great Transformation of Regulated Industries Law*, 98 COLUM. L. REV. 1323, 1350–51 (1998) (noting that there was no duty to interconnect telephone networks).

48. HORWITZ, *supra* note 20, at 98 (noting that Bell tended to build its systems “in metropolitan centers only” when it had monopoly control over the telephone patents).

49. *Id.*; see also MCMMASTER, *supra* note 23, at 13–14.

50. Dual service resulted when there were “two competing telephone systems that did not interconnect with each other.” STARR, *supra* note 19, at 201.

51. This is referred to as the “network effect,” a situation where “each network’s value increases with the number of subscribers connected to it.” See DANIEL F. SPULBER & CHRISTOPHER S. YOO, NETWORKS IN TELECOMMUNICATIONS: ECONOMICS AND LAW 120–22 (2009).

52. HORWITZ, *supra* note 20, at 98.

53. *Id.* at 99–103 (discussing the various rationales put forward by Bell).

54. This quid pro quo has also been described as a “social compact” because it resulted in the creation of a variety of social obligations for AT&T including universal service and affordable rates. This “social compact” terminology has been used at several other times throughout the evolution of the PSTN, as well as in other parts of the broader media and

were formalized in what has come to be known as the Kingsbury Commitment.⁵⁵

B. DUAL FEDERALISM AND THE TENSION INHERENT IN FEDERAL AND STATE REGULATION OF TELEPHONE SERVICE (1913–1934)

Although much of the formal regulatory response to the Bell consolidation was nominally under the auspices of the federal Interstate Commerce Commission (“ICC”),⁵⁶ the states continued in their attempts to carve out a major role for themselves in regulating telephony.⁵⁷ Such seemed a natural step since less than two percent of telephone calls at the time went across state lines.⁵⁸

Several countervailing forces, however, made this difficult. First, implementation of the Kingsbury Commitment necessitated a mostly federal approach to restructuring a newly organized and nationalized telephone sector.⁵⁹ Second, several federal court decisions—ostensibly clarifying the preemptive power of federal authority over interstate and intrastate aspects of commerce—served to muddle the scope of state regulatory authority in this space.⁶⁰ The result was a dynamic in which the states “were only as powerful as the ICC allowed them to be.”⁶¹ In practice, the ICC tended to focus much of its resources on industries other than telephone communications.⁶² Consequently, some stakeholders at the state level felt

communications space. For additional discussion, see, e.g., Gregory J. Vogt, *Cap-Sized: How the Promise of the Price Cap Voyage to Competition Was Lost in a Sea of Good Intentions*, 51 FED. COMM. L.J. 349, 362–65 (1999).

55. HORWITZ, *supra* note 20, at 100–01.

56. The Interstate Commerce Commission’s jurisdiction was expanded to encompass telecommunications as a result of the Mann-Elkins Act of 1910, ch. 309, 36 Stat. 539, 544–45.

57. See Richard Gabel, *The Early Competitive Era in Telephone Communication, 1893–1920*, 34 LAW & CONTEMP. PROBS. 340, 357 (1969) (“Between 1910 and 1920 thirty-one states established authority for regulating intrastate operations of telephone companies.”).

58. Noam, *supra* note 40, at 954.

59. HORWITZ, *supra* note 20, at 101–02.

60. The major case was *Houston, East & West Texas Railway Co. v. United States*, 234 U.S. 342 (1914) (also known as *The Shreveport Rate Case*). This case greatly expanded the reach of the ICC by providing it authority over intrastate rates that were deemed to have a negative impact on interstate commerce.

61. Noam, *supra* note 40, at 954; see also STARR, *supra* note 19, at 210 (noting that “state regulatory commissions did not add greatly to [Bell’s] burdens”).

62. Crawford, *supra* note 41, at 880; see also Gabel, *supra* note 57, at 357 (“In the twenty-four years (1910–34) that the ICC regulated telephone companies, the Commission dealt with telephone rates in only four cases, none of which involved issues of major importance.”).

that their interests in regulating local telephone monopolies, which oftentimes were advanced during the rate-making process, were being subordinated to a federal vision of how the sector should operate.⁶³ As a result, a “system of competing federal and state regulation” emerged, which “prevented real regulatory control” of the dominant service provider.⁶⁴

These dynamics belied the dual nature of telecommunications at the time. States argued that there were identifiable and separable intrastate and interstate aspects of telephone service. Indeed, rate regulation depended on an ability to separate these services and base rates of return on the costs of each element of service.⁶⁵ However, it was not until 1930 that state authority over defining the contours of intrastate rates was clarified.⁶⁶ This authority was further strengthened by the Communications Act of 1934 (“1934 Act”), which created the modern system of regulatory federalism in the telecommunications space.⁶⁷

The 1934 Act articulated a model of dual federalism for regulating basic telephone service.⁶⁸ More specifically, it enshrined an assumption that both the states and the federal government, via the newly created FCC, had a role to play in monitoring the telephone monopoly and realizing the shared goals of universal service and affordable prices. To these ends, the 1934 Act explicitly limited the FCC’s reach from interfering with the states’ regulation of intrastate elements of local telephone service.⁶⁹

The details of this new regulatory framework were set forth largely in Title II of the 1934 Act, which established a “detailed set of ‘common carriage’ obligations, including furnishing service on reasonable request,

63. HORWITZ, *supra* note 20, at 102–03.

64. *Id.*

65. *Id.* at 103 (discussing a series of cases at the state level that outlined the contours of this separations framework). For an overview of how this separations principle was formalized, see Peter Temin & Geoffrey Peters, *Is History Stranger Than Theory? The Origin of Telephone Separations*, 75 AM. ECON. REV. 324 (1985).

66. *Smith v. Ill. Bell Tel. Co.*, 282 U.S. 133 (1930) (holding that state regulatory commissions could undertake broad inquiries into the costs and payments of telephone service providers when formulating rates that might have the effect of altering internal funding mechanisms). Only seven years earlier, the Supreme Court rebuked a state commission’s attempt to alter Bell’s internal subsidy scheme. *Missouri ex rel. Sw. Bell Tel. Co. v. Pub. Serv. Comm’n of Mo.*, 262 U.S. 276 (1923).

67. Communications Act of 1934, Pub. L. No. 416, 48 Stat. 1064 (codified as amended at 47 U.S.C. §§ 151–609 (2012)).

68. See Philip J. Weiser, *Federal Common Law, Cooperative Federalism, and the Enforcement of the Telecom Act*, 76 N.Y.U. L. REV. 1692, 1733–36 (2001).

69. 47 U.S.C. § 152(b) (2012). In other words, the 1934 Act “effectively nullified *The Shreveport Rate Case’s* applicability to telecommunications.” See STUART MINOR BENJAMIN ET AL., TELECOMMUNICATIONS LAW AND POLICY 709 (2d ed. 2006).

charging just and reasonable rates, and making unlawful unreasonable price or service discrimination.”⁷⁰ Title II also identified the local exchange, the point where telephone traffic is transferred and routed to customers, as the “divisional point” between intrastate and interstate service.⁷¹ This provided a clear boundary between state and federal regulatory authority. In theory, this separation should have guided federal and state rate-making for these services and facilitated identification of the volume of local and long-distance calling.⁷² In practice, however, these goals proved to be exceedingly complex tasks that caused significant ongoing tension between the states and the FCC.⁷³ As a result, disagreements between the states and the FCC over striking the proper “separations balance”—i.e., the amount of telephone traffic that was intrastate versus interstate— punctuated the first few decades after the passage of the 1934 Act.⁷⁴

Eventually, a more formal separations process would evolve. The FCC, with input from the states, would determine the “respective degrees to which network facilities are used for interstate and intrastate service.”⁷⁵ But the complexities of rate-making⁷⁶ and of regulating such a large company with a sprawling network would create numerous opportunities for jurisdictional clashes between the PUCs and the FCC.⁷⁷

C. OBSERVATIONS AND TAKEAWAYS

States and the FCC held sharply contrasting views of their policymaking imperatives under the 1934 Act. For the FCC, its mission was made clear in the 1934 Act: to regulate interstate “communication by wire and radio so as to make available, so far as possible, to all the people in the United States . . . a rapid, efficient, Nation-wide, and world-wide wire and radio

70. Crawford, *supra* note 41, at 880.

71. Noam, *supra* note 40, at 955.

72. See NUCHESTERLEIN & WEISER, *supra* note 5, at 35.

73. Weiser, *supra* note 68, at 1734 (noting that “the mandate to ‘separate’ the costs and requirements of operating a telephone network into different regulatory spheres defied reality”).

74. These battles directly affected rate structures and the implicit cross-subsidies that kept local rates low. See Temin & Peters, *supra* note 65, at 326.

75. BENJAMIN ET AL., *supra* note 69, at 709.

76. See generally *Direct Regulation of the American Telephone and Telegraph Company*, 48 YALE L.J. 1015 (1939) (discussing the many complexities inherent in regulating elements of AT&T’s lines of business).

77. Noam, *supra* note 40, at 956 (“The cooperative system, however, could not last when its constituents’ fundamental goals diverged. This divergence of goals occurred when the FCC began to embrace the concepts of efficiency, competition, markets, and entry, while the state commissions continued to emphasize equity and redistribution.”).

communication service . . . at reasonable charges.”⁷⁸ The primary initial response to this mandate was to monitor closely and adjust the separations balance in order to keep rate frameworks reasonable. These and other early policymaking initiatives reflected the core assumptions around which the new federal regulatory framework was built:⁷⁹ competition in the provision of telephone service, a natural monopoly service, was unsustainable, and close regulation was necessary to support economic growth.⁸⁰ This approach succeeded in creating a rather stable telecommunications space but also made “adjustment to major technological change difficult.”⁸¹

The states interpreted their mission under the 1934 Act differently. In their view, the 1934 Act formalized the dual model of regulation that had developed, in fits and starts, since the early part of the century.⁸² Moreover, the 1934 Act contemplated a more cooperative approach to regulation, one that recognized the protean nature of telephone service and its intrastate and interstate elements.⁸³ Equally as important for the states, the 1934 Act did not call on them to implement a federal framework and instead “froze into law” the industrial and regulatory structure that had emerged over the course of the preceding two decades.⁸⁴ The states were thus emboldened to continue focusing on the twin concerns of assuring universal service within their borders and keeping local rates low.⁸⁵

As a result, a general pattern of conflict was established whereby the states would assert their primacy in regulating a particular local aspect of telephone service, and federal counterparts would push back if they felt it

78. Communications Act of 1934, Pub. L. No. 416, § 1, 48 Stat. 1064, 1064 (codified as amended at 47 U.S.C. § 151 (2012)).

79. These core assumptions generally aligned with the theoretical underpinnings of many other New Deal-era regulatory responses. *See, e.g.*, DAVID M. KENNEDY, FREEDOM FROM FEAR: THE AMERICAN PEOPLE IN DEPRESSION AND WAR, 1929–1945, at 371–75 (1999) (observing that the “cardinal aim” of these regulatory responses was “not to destroy capitalism but to devolatilize it, and at the same time to distribute its benefits more evenly.”).

80. *See, e.g.*, GERALD W. BROCK, THE SECOND INFORMATION REVOLUTION 45 (2003).

81. *Id.* at 46.

82. The 1934 Act explicitly stated that “nothing in this chapter shall be construed to apply or to give the [FCC] jurisdiction with respect to . . . intrastate communication service.” Communications Act of 1934 § 2.

83. Although a more formal and traditional model of cooperative federalism would be established as a result of the Telecommunications Act of 1996, the 1934 Act grew out of a general New Deal era endorsement of the “close relationship between the state and national governments in a variety of areas,” including communications. *See* ROBERT A. SCHAPIRO, POLYPHONIC FEDERALISM: TOWARD THE PROTECTION OF FUNDAMENTAL RIGHTS 90 (2009).

84. HORWITZ, *supra* note 20, at 123.

85. For additional discussion, see *infra* Part III.

encroached on their ability to realize certain mandates for telephony, and vice versa.⁸⁶ Most of these disagreements centered on different interpretations of where state regulatory authority ended and where federal authority began. There was also uncertainty about the extent to which disparate state regulation of POTS and local aspects of the PSTN impacted what was, in many ways, a national marketplace dominated by a single firm (i.e., Bell). Thus, there were ample opportunities for discord between the state and federal governments in the interpretation and implementation of the 1934 Act.

III. ACTION/REACTION: THE IMPACTS OF INNOVATION AND DEREGULATION ON REGULATORY FEDERALISM (1982–2000)

Even though the FCC retained substantial regulatory authority over many aspects of the PSTN and local telephone service after enactment of the 1934 Act, the states fought for and won a statutory obligation to oversee significant components of this system.⁸⁷ The key assumption at the center of the resulting model of dual federalism was that the intrastate aspects of telephone service required close monitoring and regulation by PUCs, which had resources and expertise in regulating public utilities that the FCC simply did not possess.⁸⁸ Moreover, the states had an interest in preserving a rate-making formula that kept local rates low and in assuring universal service.⁸⁹ While the states' objectives generally mirrored federal goals for telephone service, nuances that differed slightly from state to state created some tension in determining the best route to achieve desired outcomes.⁹⁰ A number of

86. Many of these disagreements revolved around rates. Under the 1934 Act, both the states and the FCC retained authority to influence telephone rates. Given the nature of the cross-subsidy scheme that was devised to support universal service and the close interplay of local and long-distance rates that resulted, there were numerous opportunities for jurisdictional clashes between the states and the FCC. *See* HORWITZ, *supra* note 20, at 101–03; MCMaster, *supra* note 23, at 75–84.

87. *See, e.g.*, Daniel A. Lyons, *Technology Convergence and Federalism: Who Should Decide the Future of Telecommunications Regulation?*, 43 U. MICH. J.L. REFORM 383, 388–389 (2010).

88. NARUC, the lobbying group for state PUCs, played an instrumental role in advocating on behalf of the states' interests during drafting and negotiation of the 1934 Act. Childs, *supra* note 38, at 727.

89. *See, e.g.*, ROBERT W. CRANDALL & LEONARD WAVERMAN, *TALK IS CHEAP: THE PROMISE OF REGULATORY REFORM IN NORTH AMERICAN TELECOMMUNICATIONS* (1995).

90. For example, active state involvement in the jurisdictional separations process and rate-making generally, as well as a focus on the urban-rural divide in telephone penetration rates, led to a dynamic where "state regulators could effectively set prices so as to increase [rural] demand for local telephone service and return the number of subscribers to pre-Depression levels." MCMaster, *supra* note 23, at 79.

successes stemmed from the states' regulation of local telephone service and their close coordination with federal counterparts on issues like jurisdictional separations.⁹¹ But, over time, the telephone market changed fundamentally as a result of technological innovation, shifts in consumer demand, and an array of other developments, all of which would eventually undermine the monopoly model of regulation and the federal-state balance that had been struck in light of this model.

This Part assesses how the historical model of regulatory federalism was impacted by the emergence of innovation and competition in the telecommunications space beginning in the 1970s. Section III.A provides a brief descriptive overview of how the communications marketplace and corresponding federal regulatory framework evolved between the divestiture of the Bell monopoly in the early 1980s and the initial implementation of the Telecommunications Act of 1996, a law that adopted local telephone competition as a national goal and detailed a cooperative federal-state approach for achieving that objective. Section III.B examines how these major shifts altered traditional notions of regulatory federalism, with a particular emphasis on how state PUCs reacted to the FCC's interpretation of its new Congressional mandate vis-à-vis creating local competition and apportioning regulatory authority to better reflect new market dynamics. Section III.C describes how the fragile federal-state regulatory balance that eventually emerged in the wake of the 1996 Act was quickly undermined by the rapid emergence of non-POTS communications technologies.

A. ACTION: TECHNOLOGICAL INNOVATION AND FEDERAL
(DE)REGULATORY RESPONSES

After several decades of relative stasis in the structure of the telephone market and the nature of service delivery,⁹² it became clear by the 1970s that

91. *Id.*

92. This is not to say that the marketplace remained completely unaltered. On the contrary, the federal government signaled as early as 1949, when it opened an antitrust inquiry, that it was willing to contemplate an erosion of various aspects of AT&T's monopoly. These efforts eventually culminated in a consent decree whereby AT&T "agreed to engage in only common carrier communications services and Western Electric [its equipment subsidiary] agreed to manufacture equipment solely for use by AT&T." See Miles W. Hughes, *Telecommunications Reform and the Death of the Local Exchange Monopoly*, 24 FLA. ST. U. L. REV. 179, 183 n.30 (1996). A similar dynamic was observed at the FCC in the 1960s. See, e.g., *Use of the Carterfone Device in Message Toll Tel. Serv.*, 13 F.C.C.2d 420 (1968) (permitting the attachment of any type of device to the telephone network so long as it did not harm the network); see also Elizabeth E. Bailey, *Price and Productivity Change Following Deregulation: The U.S. Experience*, 96 ECON. J. 1, 4 (1986) (discussing FCC rulings that authorized the deployment of competitive telephone networks in the 1960s).

the telecommunications landscape was changing.⁹³ Technological innovation, both within the telecommunications space and in related sectors like data processing and computing, supported a fundamental reassessment of existing regulatory paradigms, which had long favored stability and basic service metrics over disruptive technological innovation.⁹⁴ The emergence of competition in the long-distance telephone market⁹⁵ and the integration of new computer technology that could be used at various points along the telephone network presaged a new age of innovation in the communications space.⁹⁶ Faced with the advent of new technologies, cheaper equipment and distribution methods, and an increasingly dynamic marketplace, federal policymakers responded at first by relaxing the rules that had long insulated the telephone monopoly.⁹⁷ In addition, influential FCC proceedings like the

93. See, e.g., Roscoe L. Barrow & Daniel J. Manelli, *Communications Technology—A Forecast of Change (Part I)*, 34 LAW & CONTEMP. PROBS. 205 (1969); Roscoe L. Barrow & Daniel J. Manelli, *Communications Technology—A Forecast of Change (Part II)*, 34 LAW & CONTEMP. PROBS. 431 (1969) (providing a comprehensive overview of key innovations in the communications space in the 1960s); see also Joseph D. Kearney, *From the Fall of the Bell System to the Telecommunications Act: Regulation of Telecommunications Under Judge Greene*, 50 HASTINGS L.J. 1395, 1404–09 (1999) (describing technological changes in communications during this time and subsequent allegations by the federal government of anticompetitive behavior by Bell).

94. Kearney & Merrill, *supra* note 47, at 1329 (noting that “the dominant model of regulation viewed these various industries, or their individual constituent parts, as best served by a limited number of service providers that would be overseen by a regulatory commission concerned with maintaining standardized packages of services and prices,” and observing that this model began to change in fundamental ways over the last few decades of the twentieth century). Of course, one of AT&T’s subsidiaries, Bell Labs, was the locus of significant technological innovation, much of which grew out of efforts to enhance quality of service and other aspects of POTS. For an overview of major discoveries and inventions, see JON GERTNER, *THE IDEA FACTORY: BELL LABS AND THE GREAT AGE OF AMERICAN INNOVATION* (2012).

95. See, e.g., Glen O. Robinson, *The Titanic Remembered: AT&T and the Changing World of Telecommunications*, 5 YALE J. ON REG. 517, 539 (1988) (detailing the rise of MCI and Sprint, the first competitors of AT&T, in the long-distance market). Robinson remarked that, even though MCI and Sprint had small market shares, “their ability to enter AT&T’s markets cheaply . . . operate[d] as an effective competitive constraint on AT&T. Indeed, their competitive effectiveness [was] as much a function of their potential as their actual performance.” *Id.*

96. BROCK, *supra* note 80, at 139–85.

97. For a comprehensive overview of the FCC’s reaction to innovation in the communications sectors in the 1960s, 1970s, and 1980s, see HORWITZ, *supra* note 20, at 222–44; see also ROBERT W. CRANDALL, *COMPETITION AND CHAOS: U.S. TELECOMMUNICATIONS SINCE THE 1996 TELECOM ACT* (2005); Phil Nichols, Note, *Redefining “Common Carrier”: The FCC’s Attempt at Deregulation by Redefinition*, 1987 DUKE L.J. 501 (detailing efforts by the FCC in the late 1970s and early 1980s to redefine the parameters of common carriage regulation in the telecommunications context by tying it to market power).

Computer Inquiries would set a deregulatory precedent for “enhanced” services (i.e., communications services that were more advanced and interactive in nature than traditional telephony) by freeing them from common-carrier regulation in an effort to support continued experimentation in their development.⁹⁸

In addition, the eventual success of alternatives for long-distance service signaled to regulators that competition in this segment was both possible and beneficial to consumers.⁹⁹ AT&T tried to preserve its monopoly by arguing that only a company of its size and scope could efficiently coordinate every element of local and long-distance service.¹⁰⁰ However, unlike earlier instances, the courts and regulators began to dismantle the regulatory framework that had been in effect for the past eighty years.¹⁰¹ After a protracted antitrust case, AT&T and the federal government settled and devised an expansive divestiture plan that required AT&T to spin off its

98. The FCC formally defined “enhanced” services as “services, offered over common carrier transmission facilities used in interstate communications, which employ computer processing applications that act on the format, content, code, protocol or similar aspects of the subscriber’s transmitted information; provide the subscriber additional, different, or restructured information; or involve subscriber interaction with stored information.” 47 CFR § 64.702(a) (2012). For further discussion, see, e.g., Robert Cannon, *The Legacy of the Federal Communications Commission’s Computer Inquiries*, 55 FED. COMM. L.J. 167, 169 (2003) (describing the Computer Inquiries as “a necessary precondition for the success of the Internet”); NÜECHTERLEIN & WEISER, *supra* note 5, at 190–91 (explaining how the Computer Inquiries became the foundation upon which the 1996 Telecommunications Act would distinguish between “telecommunication services” and “information services”).

99. See *Shelanski*, *supra* note 4, at 62.

100. See, e.g., STEPHEN BREYER, REGULATION AND ITS REFORM 292 (1982) (discussing various rationales put forward in favor of preserving economies of scale in the telecommunications sector in the 1970s and early 1980s). Joseph Kearney explains:

AT&T claimed not only that regulation was the proper solution to any of the Bell System’s shortcomings but even that many actions of which the government complained were actually required by regulation. The Bell System particularly contended that its actions in seeking to prevent the development of a competitive long-distance market were necessary to prevent competitors from “creamskimming,” or siphoning off the Bell System’s most profitable customers. Creamskimming was possible, the Bell System argued, because federal requirements of rate-averaging and state requirements of universal service and cheap rates for residential customers *required* the Bell System to charge some other customers above-cost rates. Permitting competitors to creamskim, the argument went, would frustrate these regulatory policies and would further be unfair to AT&T.

Kearney, *supra* note 93, at 1409–10 (emphasis added).

101. See TIM WU, THE MASTER SWITCH: THE RISE AND FALL OF INFORMATION EMPIRES 187–94 (2011) (providing an overview of the political, regulatory, and competitive forces shaping this new approach to AT&T).

subsidiaries—equipment, local service, and long-distance service¹⁰²—into separate and distinct lines of business in order to foster competition in these segments.¹⁰³

The rapidity with which the Bell monopoly was unwound can be attributed, in large part, to the technological changes described above, but also to the seemingly irresistible force of deregulation that had emerged in the United States. In the 1970s and 1980s, policymakers began to reassess their approaches to heavily regulated sectors like the trucking, airline, and railroad industries in an effort to introduce competition into what many agreed was a stagnant U.S. economy.¹⁰⁴ The effects of these policies, especially on prices and overall consumer welfare, were substantial, widespread, and mostly positive for service providers and the public.¹⁰⁵ From these experiences, policymakers observed that onerous regulation was typically appropriate only in very limited instances (e.g., clear market failure) and that overregulation, oftentimes as a result of overlapping or inconsistent federal and state regulatory policy, could undermine competition and innovation in many sectors.¹⁰⁶ In the telecommunications sector, even though deregulation proceeded along a much different path, the eventual outcome was similar.¹⁰⁷

After the AT&T divestiture, however, policymakers and regulators struggled to craft a regulatory approach that could facilitate competition in

102. Divestiture of AT&T was precipitated by a Consent Decree entered into with the Justice Department. *See* *United States v. AT&T*, 552 F. Supp. 131 (D.D.C. 1982), *aff'd sub nom.* *Maryland v. United States*, 460 U.S. 1001 (1983).

103. *See, e.g.*, Kearney, *supra* note 93, at 1412–19; Robinson, *supra* note 95, at 528–30.

104. *See, e.g.*, PAUL A. LONDON, *THE COMPETITION SOLUTION* 78–81 (2005) (explaining that “after [World War II] ended people began to complain that limits on competition involved a lot of red tape and some obvious waste. By the 1960s, the idea began to take root. . . that cheaper and better service might be available if regulation could be streamlined and, perhaps in some areas, replaced by competition”).

105. *See* Richard A. Posner, *The Effects of Deregulation on Competition: The Experience of the United States*, 23 *FORDHAM INT’L L.J.* 7, 16 (1999).

106. *See, e.g.*, Thomas Hazlett, *Is Federal Preemption Efficient in Cellular Phone Regulation?*, 56 *FED. COMM. L.J.* 155, 169–72 (2003). Clifford Winston has argued that governments “fail” when they over-regulate, interfere in a market where there is no evidence of failure, or craft policies that inefficiently address a market failure. *See* CLIFFORD WINSTON, *GOVERNMENT FAILURE VERSUS MARKET FAILURE* 2–3 (2006).

107. HORWITZ, *supra* note 20, at 221–22 (outlining four ways in which the process of deregulation in the telecommunications sector differed from that in the airline, trucking, and railroad sectors). For additional discussion of the path toward deregulation in the telecommunications sector, see *infra* Section III.B.

the market for local telephone service.¹⁰⁸ Much of this difficulty stemmed from judicial administration of the settlement agreement that governed divestiture.¹⁰⁹ The agreement encompassed complete structural separation of the various elements of the AT&T monopoly, creating seven regional operating companies responsible for local telephony, as well as newly spun off entities in the other lines of business in which the former monopoly was engaged (i.e., long-distance service and telephone equipment manufacturing).¹¹⁰ An immediate result was the filing of dozens of lawsuits by the newly established regional operating companies in an attempt to begin rolling back many of the restrictions that prevented them from expanding their service offerings.¹¹¹ Some competition would eventually emerge from this legal and regulatory morass, primarily in the provision of interstate long-distance and special access services.¹¹² However, prompted by a formal review of the marketplace and proposed adjustments to the settlement agreement by the U.S. Department of Justice, additional litigation in the late 1980s and early 1990s created significant uncertainty regarding the continued relevance of the settlement agreement's many line-of-business restrictions, especially in a rapidly changing marketplace.¹¹³ Indeed, there was growing dismay among the operating companies, in particular regarding their inability to experiment with using new technologies to develop and offer new services, many of which exceeded the limitations prescribed in the settlement agreement.¹¹⁴

Several years of Congressional involvement culminated in the Telecommunications Act of 1996 ("1996 Act"),¹¹⁵ which replaced the mostly ad hoc regulatory and legal framework that had emerged after divestiture with a comprehensive legislative framework that sought to update and rationalize

108. CRANDALL & WAVERMAN, *supra* note 89, at 42–49 (describing the variety of state-level adjustments to regulatory frameworks in light of a changing telecommunications market).

109. *See generally* Kearney, *supra* note 93.

110. For a more detailed overview, see, e.g., John T. Soma, David A. Forkner & Brian P. Jumps, *The Essential Facilities Doctrine in the Deregulated Telecommunications Industry*, 13 BERKELEY TECH. L.J. 565, 570–72 (1998).

111. NÜECHTERLEIN & WEISER, *supra* note 5, at 40–51 (describing the scope of divestiture and the line-of-business restrictions placed on the new regional operating companies).

112. *Id.* at 48–50.

113. *See* CRANDALL, *supra* note 97, at 8–9. For a comprehensive overview of this review and subsequent litigation, see Kearney, *supra* note 93, at 1433–59.

114. *See* CRANDALL, *supra* note 97, at 8.

115. Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56.

regulation with the new technological realities of the broader communications space.¹¹⁶

One of the most contentious elements of the 1996 Act was its attempt to create competition in local telephone markets.¹¹⁷ It sought to do so by requiring local incumbents to “unbundle” (i.e., make available) certain elements of their networks to competitors at regulated prices and to interconnect with competitors.¹¹⁸ In theory, such unbundling was thought to lower the barriers of entry into a market that was characterized by high sunk costs. In reality, however, competition stalled because the 1996 Act—and FCC implementation of it—failed to account for the numerous economic and technical complexities that arose when attempting to foster competition in a market that was long considered a natural monopoly.¹¹⁹ This federal attempt to radically restructure traditional telephone regulation also invited numerous challenges from the states, many of which wanted to preserve their regulatory authority over local telephony.¹²⁰ The ensuing legal wrangling between the states, the FCC, and service providers over the contours of state and federal jurisdiction in this new marketplace resulted in considerable confusion over regulatory obligations, rate structures, and most other aspects of local telephone service.¹²¹

A useful counterpoint to this legal quagmire was the regulatory response to cellular telephone service that was developed and implemented around the same time. The explosive rise in popularity and market penetration of this

116. Kearney, *supra* note 93, at 1459.

117. Judge Douglas Ginsburg uses the term “synthetic competition” to describe “a market subject to a regulatory regime designed to assure there are multiple sellers regardless whether fewer firms, perhaps only one, would be more efficient.” Douglas H. Ginsburg, *Synthetic Competition*, 16 MEDIA L. & POL’Y 1, 11–15 (2006) (“In synthetic competition, the preferences of regulators—not consumers—are paramount.”).

118. 47 U.S.C. § 251(c)(3) (2012).

119. See generally George S. Ford & Lawrence J. Spiwak, *Lessons Learned from the U.S. Unbundling Experience* (Phoenix Ctr. Policy Paper Series, Paper No. 45, 2013), available at <http://www.phoenix-center.org/pcpp/PCPP45Final.pdf> (providing comprehensive economic and public policy analyses regarding the failure of the 1996 Act’s unbundling approach to spurring local competition). More broadly, Robert Crandall, among many others, has concluded that the costs of manufacturing competition in local telephone markets far outweighed any perceived benefits that resulted from FCC policies. See, e.g., Robert W. Crandall, *Letting Go? The Federal Communications Commission in the Era of Deregulation*, 7 REV. NETWORK ECON. 481, 487–89 (2008).

120. The statute did preserve the ability of states to designate service providers as “carriers of last resort” and empowered state PUCs to designate as “eligible telecommunications carriers” firms that were deemed eligible to receive federal support for network deployments to “high cost” areas. 47 U.S.C. § 214(e) (2012).

121. For further discussion, see *infra* Section III.B.

service in the late 1980s initially challenged many of the assumptions underlying the existing regulatory framework for POTS.¹²² Indeed, forging a rational regulatory response to a service that ultimately provided the same type of service—voice telephony—was complicated by the fact that wireless had different technical and economic characteristics than POTS, foremost among which was that, even though it first developed as a regional service, it quickly came to be regarded as an inherently interstate service.¹²³ In the absence of explicit guidance on these issues, the states remained free to experiment with regulating wireless service,¹²⁴ resulting in an inefficient patchwork regulatory approach.¹²⁵ However, Congress avoided the quagmire experienced in the POTS sector by implementing a national regulatory framework that freed service providers from the “dual . . . regulatory jurisdictional system designed to regulate the monopol[istic]” telephone industry.¹²⁶ Congress significantly curtailed state authority over many aspects of wireless service as a result.¹²⁷ This framework, coupled with concomitant changes to federal spectrum allocation policy, provided carriers with substantial regulatory certainty and facilitated the rapid deployment of nationwide wireless networks.¹²⁸

B. REACTION: FEDERAL-STATE TENSION IN RESPONDING TO INNOVATION AND NEW MARKET DYNAMICS

As “technological developments began to lower economic barriers to entry into the telephone business and to put pressure on the boundary between telephone companies and other firms,”¹²⁹ the policy goals of the

122. Davidson & Santorelli, *supra* note 4, at 29–35.

123. *Id.* For discussion of the technical and economic characteristics of mobile networks, see NUCHTERLEIN & WEISER, *supra* note 5, at 127–58.

124. See Leonard J. Kennedy & Heather A. Purcell, *Section 332 of the Communications Act of 1934: A Federal Framework That is “Hog Tight, Horse High, and Bull Strong,”* 50 FED. COMM. L.J. 547, 559–60 (1998).

125. See, e.g., Babette E.L. Boliek, *Wireless Net Neutrality Regulation and the Problem with Pricing: An Empirical, Cautionary Tale*, 16 MICH. TELECOMM. & TECH. L. REV. 1, 28–32 (2010) (“[T]wenty-nine states had not banned regulation, either by law or by de facto bans on [wireless] regulation promulgated by their public utility commissions.”).

126. Kennedy & Purcell, *supra* note 124, at 550.

127. According to the statute, “no State or local government shall have any authority to regulate the entry of or the rates charged by any commercial mobile service or any private mobile service, except that this paragraph shall not prohibit a State from regulating the other terms and conditions of commercial mobile services.” Omnibus Budget Reconciliation Act of 1993, Pub. L. No. 103-66, § 6002(b), 107 Stat. 312, 392, 394 (codified in relevant part at 47 U.S.C. § 332(c)(3)(A) (2012)).

128. Davidson & Santorelli, *supra* note 4, at 31–40.

129. Policy and Rules Concerning Rates for Dominant Carriers, Report and Order and Second Further Notice of Proposed Rulemaking, 4 FCC Rcd. 2873, 2885 (1989) (referencing

FCC and the states further diverged in the 1980s and early 1990s. Whereas the FCC was determined to “promote competition in certain areas of telecommunications” by adopting more uniform regulatory approaches and loosening historical regulation where feasible, the states via their PUCs continued to implement state-centric laws and regulations that did not reflect the increasingly interstate and competitive nature of many aspects of the telecommunications market.¹³⁰ Defensive posturing by the states resulted in numerous legal clashes over the proper balance of regulatory federalism in a newly dynamic sector.

Initial clashes between the states and the FCC revolved around federal attempts to preempt state laws deemed inconsistent with national prerogatives aimed at fostering competition and embracing deregulation.¹³¹ In 1976, for example, the North Carolina Utilities Commission (“NCUC”) challenged an attempt by the FCC to preempt a state law that the agency considered to be contrary to the federal regulatory approach to basic telephone equipment.¹³² The Court of Appeals for the Fourth Circuit held in favor of the FCC and ruled that preemption was appropriate when the item being regulated could be used for both intrastate and interstate purposes.¹³³ A year later, the same court ruled against another preemption challenge brought by the NCUC.¹³⁴ That ruling was grounded in a principle similar to the one already developed and further expanded the authority of the FCC to preempt state laws and regulations “where the effects of interstate and intrastate [telephone] service were inseparable.”¹³⁵ Together, these rulings tilted the balance of regulatory federalism toward a more assertive national approach in favor of fostering competition in a particular segment of the market.¹³⁶

The seemingly inexorable growth of federal authority in the telephone space was curbed in the mid-1980s. After the AT&T divestiture, the FCC focused on redesigning rate structures to more accurately reflect and support competition in the sector.¹³⁷ The FCC attempted to implement a new

continued innovation in ancillary segments of the communications market, including the computing and electronics industries).

130. BENJAMIN ET AL., *supra* note 69, at 710.

131. LONDON, *supra* note 104, at 72–84 (discussing how this new mindset evolved at the national level and how, at times, it clashed with divergent state-level mindsets). *See generally* ALFRED E. KAHN, *THE ECONOMICS OF REGULATION: PRINCIPLES AND INSTITUTIONS* xv–xvii (1998) (discussing the general contours of the deregulation movement in the 1970s).

132. N.C. Utils. Comm’n v. FCC, 537 F.2d 787 (4th Cir. 1976).

133. *Id.* at 793.

134. N.C. Utils. Comm’n v. FCC, 552 F.2d 1036 (4th Cir. 1977).

135. BENJAMIN ET AL., *supra* note 69, at 710.

136. *Id.*

137. La. Pub. Serv. Comm’n v. FCC, 476 U.S. 355, 359 (1986).

approach via preemption of inconsistent state-level rules, many of which remained grounded in traditional telephone regulation.¹³⁸ The Supreme Court ruled against the FCC, however, holding that the 1934 Communications Act did not give the Commission carte blanche to preempt every state law or regulation that it deemed inconsistent with its revised approach to telecommunications.¹³⁹ On the contrary, the Court underscored that “a federal agency may pre-empt state law only when and if it is acting within the scope of its congressionally delegated authority.”¹⁴⁰

Undeterred, the FCC continued its push toward reforming telephone rate structures. For example, divestiture necessitated a rethinking of the economics underlying universal service, as well as the formal rate-making structure for the array of new companies operating in this space. These efforts spawned a number of notable changes to the framework that had prevailed for decades. For example, in the context of universal service, the FCC created an “access charge” regime to continue the practice of having high long-distance rates subsidize lower local rates.¹⁴¹ The FCC further supplemented local rate recovery by instituting “flat per line charges billed to

138. *Id.* at 362.

139. *Id.* at 379. More specifically, the Court found that “where separation is not impossible and where application of a federal rule will not be nullified by contrary state provisions, preemption of state regulation of intrastate telecommunications can occur only where expressly and unambiguously provided for by statute.” BENJAMIN ET AL., *supra* note 69, at 711.

140. *La. Pub. Serv. Comm’n*, 476 U.S. at 374–76. Over time, this standard had been sharpened further by Congress and the courts. For example, the 1996 Act empowered the FCC to preempt inconsistent state rules impacting universal service. *Direct Commc’ns Cedar Valley, LLC v. F.C.C.*, 753 F.3d at 1119–23. However, federal courts have also ruled that such preemptive authority is not without its limits. For example, the Supreme Court has found that preemption is not warranted in the context of state laws limiting the ability of a municipality to deploy a communications network. *Nixon v. Mo. Mun. League*, 541 U.S. 125 (2004) (rejecting municipalities’ argument that the Act’s prohibition on state barriers to market entry applied to protect municipalities’ provision of service from state superintendence). The contours of this evolving preemption standard will likely be sharpened further in light of possible FCC preemption of state laws impacting municipal broadband deployment. *See* Public Notice, Petitions of Electric Power Board and City Wilson, Pursuant to Section 706 of the Telecommunications Act of 1996, Seeking Preemption of State Laws Restricting the Deployment of Certain Broadband Networks, WCB Docket Nos. 14-115 & 114-116 (July 28, 2014). Another factor impacting this standard is increased judicial deference to federal agencies in the interpretation of their enabling statutes. For discussion of the impacts of this new dynamic in the modern broadband space, see Samuel L. Feder, Matthew E. Price & Andrew C. Noll, *City of Arlington v. FCC: The Death of Chevron Step Zero?*, 66 FED. COMM. L.J. 47 (2013).

141. *See* MTS & WATS Market Structure, Third Report and Order, 93 F.C.C.2d. 241 (1983).

end users.”¹⁴² The states challenged this new framework as beyond the authority granted to the Commission in the 1934 Act, but the Court of Appeals for the D.C. Circuit upheld it and the FCC’s authority to revise rates in this manner.¹⁴³

In the years immediately preceding enactment of the 1996 Act, the states continued to defend their regulatory jurisdiction over telephony in court, but they also began to modernize their regulatory frameworks in anticipation of sweeping legislative change.¹⁴⁴ For example, by 1994, thirty-six states had adopted “alternative” regulatory approaches to basic telephone service (e.g., revenue or profit sharing arrangements), with eleven states implementing price-cap regulation.¹⁴⁵ In addition, a majority of states had adopted or considered adopting policies explicitly encouraging local competition.¹⁴⁶ Even so, many states retained the vestiges of historical common carrier regulation, often in the form of “carrier of last resort” (“COLR”) rules, which were meant to “protect customers from unreasonable discrimination in the availability of service, ensure that they could get service and line extensions at reasonable costs, and protect them from service abandonment.”¹⁴⁷ COLR rules, which encapsulated the regulatory compact that governed POTS since the Kingsbury Commitment, were obligations that required telephone service providers to “build out facilities and provide conventional telephone service even to remote areas where per line costs [were] immense.”¹⁴⁸ In exchange, providers were “given the opportunity to earn a ‘reasonable return’ on [their] overall regulated investment” in these areas.¹⁴⁹

142. Nat’l Ass’n of Regulatory Util. Comm’rs v. FCC, 737 F.2d 1095, 1108 (D.C. Cir. 1984).

143. *Id.*

144. Part of this strategy also included the select embrace of FCC policies that the states deemed consistent with their overall efforts. For example, the states did not challenge the FCC’s embrace of price-cap regulation in the late 1980s and early 1990s, which the FCC undertook in response to the many “inefficiencies inherent in [then-dominant] rate-of-return regulation.” Nat’l Rural Telecomm. Ass’n v. FCC, 988 F.2d 174, 178 (D.C. Cir. 1993).

145. See VIVIAN WITKIND DAVIS, NANCY ZEARFOSS & CATHERINE E. REED, NAT’L REGULATORY RESEARCH INST., ASPECTS OF TELECOMMUNICATIONS REFORM: RESULTS OF A SURVEY OF STATE REGULATORY COMMISSIONS 3 (1995), available at <http://www.nrri.org/documents/317330/380de10c-8b7a-4efb-be98-50f3865aa322/>.

146. *Id.* at 10.

147. See PETER BLUHM & PHYLLIS BERNT, NAT’L REGULATORY RESEARCH INST., CARRIERS OF LAST RESORT: UPDATING A TRADITIONAL DOCTRINE 1 (2009), available at http://www.nrri.org/pubs/telecommunications/COLR_july09-10.pdf.

148. NÜECHTERLEIN & WEISER, *supra* note 5, at 38.

149. *Id.* at 33.

In light of these many adjustments to the traditional regulatory approach to basic telephone service, the states generally welcomed the 1996 Act because it contemplated an active state role in certain arenas.¹⁵⁰ In addition to primary responsibility for implementing new rules regarding local competition,¹⁵¹ the statute outlined many other related responsibilities for the states (e.g., overseeing interconnection agreements between competitors)¹⁵² and called for the creation of new federal-state committees focused on universal service policy¹⁵³ and the deployment of advanced services.¹⁵⁴ In short, the 1996 Act formalized a recalibrated model of federal-state regulatory relations—dubbed “cooperative federalism”—that assigned “important roles to the FCC, the state agencies, and the federal courts.”¹⁵⁵

Nevertheless, once the FCC began to interpret the many new grants of power included in the 1996 Act and to implement policies impacting the general structure of the telecommunications market and the economics underlying POTS, PUCs reacted by filing dozens of lawsuits challenging any rule perceived to be a threat to their authority. Foremost among these issues was the “unbundling” approach to creating local telephone competition. According to the broad outlines included in the 1996 Act, the primary method of facilitating entry by new providers into local markets would be for incumbents to offer certain “unbundled network elements” (“UNEs”) to competitors at regulated prices.¹⁵⁶ The FCC first addressed this complex

150. See Weiser, *supra* note 68, at 1738.

151. See, e.g., DAVID CHESSLER, NAT’L REGULATORY RESEARCH INST., DETERMINING WHEN COMPETITION IS “WORKABLE”: A HANDBOOK FOR STATE COMMISSIONS MAKING ASSESSMENTS REQUIRED BY THE TELECOMMUNICATIONS ACT OF 1996 (1996), available at <http://www.nrri.org/documents/317330/9e8dba1b-7fb7-4b4c-9326-cb8388eb9794?version=1.1> (outlining the many statutory obligations for PUCs set forth in the 1996 Act).

152. 47 U.S.C. § 252(e)(1) (2012).

153. *Id.* § 254.

154. Federal-State Joint Conference on Advanced Telecommunications Services, Order, 14 FCC Rcd. 17,622, 17,623 (1999).

155. Weiser, *supra* note 68, at 1737–38. The FCC would later note:

[T]he 1996 Act also recasts the relationship between the FCC and state commissions responsible for regulating telecommunications services. Until now, we and our state counterparts generally have regulated the jurisdictional segments of this industry assigned to each of us by the Communications Act of 1934. The 1996 Act forges a new partnership between state and federal regulators.

Implementation of the Local Competition Provisions in the Telecommunications Act of 1996; Interconnection between Local Exchange Carriers and Commercial Mobile Radio Service Providers, First Report and Order, 11 FCC Rcd. 15,499, 15,505 (1996).

156. 47 U.S.C. § 251(c)(3) (2012).

issue in an August 1996 order,¹⁵⁷ in which the Commission began the process of sketching out a framework to identify the universe of UNEs to be offered and to otherwise guide how incumbents were to administer them.¹⁵⁸ Incumbent service providers, state PUCs, and others immediately challenged this initial order as an unreasonable interpretation of the statute.¹⁵⁹ Thus began a decade-long journey to develop a framework for UNEs that could survive judicial scrutiny.¹⁶⁰

At the heart of the states' legal challenge to these initial rules was a desire to maintain primary authority over local aspects of the PSTN.¹⁶¹ Even though federal courts had upheld the newly created PUC role in interconnection,¹⁶² the states sued to reassert their primacy in local telephone regulation and otherwise maintain some semblance of the historical balance

157. Implementation of the Local Competition Provisions in the Telecommunications Act of 1996; Interconnection between Local Exchange Carriers and Commercial Mobile Radio Service Providers, First Report and Order, 11 FCC Rcd. 15,499, 15,616–75 (1996).

158. *Id.* at 15,507 (“In this Report and Order, we adopt initial rules designed to accomplish the first of [several] goals [identified by the FCC in the context of implementing the 1996 Act]—opening the local exchange and exchange access markets to competition.”).

159. *See, e.g., Iowa Utils. Bd. v. FCC*, 120 F.3d 753, 792 (8th Cir. 1997) (“[T]heir specific attacks focused primarily on the FCC’s rules regarding the prices that the incumbent LECs could charge their new competitors for interconnection, unbundled access, and resale, as well as on the rules regarding the prices for the transport and termination of local telecommunications traffic.”), *aff’d in part, rev’d in part sub nom. AT&T Corp. v. Iowa Utils. Bd.*, 525 U.S. 366, 397 (1999). The Court of Appeals for the Eighth Circuit stayed implementation of some of the FCC’s initial pricing rules. *Iowa Utils. Bd. v. FCC*, 109 F.3d 418, 421 (8th Cir. 1996).

160. Many elements of the FCC’s unbundling framework were challenged after the 1999 Supreme Court decision in *AT&T Corp. v. Iowa Utilities Board*, 525 U.S. 366 (1999). For example, on remand to the Eighth Circuit, the court invalidated the FCC’s UNE pricing scheme, *TELRIC*. *Iowa Utils. Bd. v. FCC*, 219 F.3d 744 (8th Cir. 2000). This decision was eventually reversed by the Supreme Court. *Verizon Commc’ns v. FCC*, 535 U.S. 467 (2002). The FCC’s second attempt to identify the network elements that incumbents would have to make available to competitors was remanded to the Commission for further consideration. *U.S. Telecomm. Ass’n v. FCC*, 290 F.3d 415 (D.C. Cir. 2002). The FCC’s response to this adverse decision was its Triennial Review Order: Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers, Report and Order and Order on Remand and Further Notice of Proposed Rulemaking, 18 FCC Rcd. 16,978 (2003). Major elements of this order were found to be unlawful. *U.S. Telecomm. Ass’n v. FCC*, 359 F.3d 554 (D.C. Cir. 2004). The FCC’s fourth attempt at devising its UNE framework—*Unbundled Access to Network Elements*, Order on Remand, 20 FCC Rcd. 2533 (2005)—was finally deemed a reasonable interpretation of the statute in *Covad Communications Co. v. FCC*, 450 F.3d 528 (D.C. Cir. 2006).

161. *Iowa Utils. Bd.*, 525 U.S. at 374 (“The basic attack was jurisdictional. The LECs and state commissions insisted that primary authority to implement the local-competition provisions belonged to the States rather than to the FCC. They thus argued that many of the local-competition rules were invalid . . .”).

162. *See, e.g., Ill. Bell Tel. Co. v. Worldcom Techs., Inc.*, 179 F.3d 566 (7th Cir. 1999).

of regulatory federalism that had evolved over the course of the century.¹⁶³ The Supreme Court in 1999 disagreed, holding that the 1996 Act gave the FCC broad discretion to issue rules in furtherance of the Act's goals, even rules that had the practical effect of guiding state PUC judgments on local issues, so long as they were in furtherance of the Act's core objectives.¹⁶⁴ As the majority noted, "[t]he 1996 Act can be read to grant . . . 'most promiscuous rights' to the FCC vis-à-vis the state commissions."¹⁶⁵ From the perspective of interpreting the new balance of regulatory federalism in the telecommunications space, the Court signaled that it was open to a more federal-centric understanding of regulatory primacy.

Despite this setback, the states in subsequent years continued to challenge the legality of federal efforts that they saw as overly erosive of their authority in the modern telecommunications market. A primary target was the FCC's design and implementation of the federal Universal Service Fund ("USF"), which was created to subsidize telephone network deployment to high-cost areas and subscriptions for low-income households.¹⁶⁶ In practice, the USF was an attempt to mimic the cross-subsidies that had long been a defining characteristic of the natural monopoly model of regulation in the telephone space.¹⁶⁷ The USF was funded by taxes levied on interstate (and international) telecommunications services and by "implicit subsidies through regulatory rate distortions."¹⁶⁸ The 1996 Act carved out an advisory role for the states in developing and maintaining the core elements of the USF, but the FCC retained sole authority to determine the actual mechanics of the fund.¹⁶⁹ The statute did grant state PUCs the ability to certify which service providers could receive federal support for network deployments to high-cost areas.¹⁷⁰ However, as it did with unbundling, the FCC struggled to meet its statutory obligations for the USF because of numerous challenges to its proposed rules by service providers and PUCs. For example, many rural

163. *Iowa Utils. Bd.*, 525 U.S. at 374; see also Weiser, *supra* note 68, at 1744–45 (noting that the Court ruling was unambiguous in holding that the 1996 Act "empowers the FCC to construe all provisions of the Act, even those affecting local telephony," and that the FCC can ultimately "set a single national standard if it decides one is appropriate").

164. *Iowa Utils. Bd.*, 525 U.S. at 385.

165. *Id.* at 397.

166. 47 U.S.C. § 254 (2012).

167. NUCHESTERLEIN & WEISER, *supra* note 5, at 295–325.

168. CRANDALL, *supra* note 97, at 166–67.

169. 47 U.S.C. § 254(a)(1) (2012).

170. *Id.* § 241(e). Oftentimes, these were the same firms that had been designated COLRs according to state legislation. JONATHAN E. NUCHESTERLEIN & PHILIP J. WEISER, DIGITAL CROSSROADS: AMERICAN TELECOMMUNICATIONS POLICY IN THE INTERNET AGE 340–41 (2005).

states objected to the FCC's proposed funding mechanism for the high-cost portion of the fund, arguing that it was insufficient to achieve "reasonably comparable rates for basic telephone services in rural and urban areas," as mandated by the 1996 Act.¹⁷¹ It would take over a decade for the FCC to overcome legal challenges and develop a high-cost methodology that could survive judicial scrutiny.¹⁷² Over time, the states' legal strategy eventually yielded clarity regarding the boundaries of PUC authority over POTS. Indeed, after dozens of lawsuits around UNEs and related aspects of the local competition framework developed by the FCC, the states became the primary regulatory bodies overseeing local competition.¹⁷³ Thus, in the immediate wake of the 1996 Act—legislation thought to have "fundamentally change[d] telecommunications regulation"¹⁷⁴—PUCs had, in a sense, successfully defended and bolstered their authority over many aspects of intrastate POTS.

C. UNBALANCE: FURTHER TECHNOLOGICAL CHANGE UNDERMINES THE FRAGILE FEDERAL-STATE BALANCE

The legal wrangling between the FCC and the states in the aftermath of the 1996 Act seemed almost inevitable given the tension that had evolved in the telecommunications space over the preceding century. Identifying purely intrastate elements of telephone service had always been difficult, causing much uncertainty regarding the outer reaches of state PUC authority. The 1996 Act, with its focus on fostering local competition, created an opportunity for the states to carve out a more active, albeit narrower, role in modern telecommunications regulation. Yet by the turn of the twenty-first century, the rapid emergence and consumer acceptance of an array of new communications services rendered many of these victories fleeting. By the end of 2000, the number of POTS lines in service peaked at over 192.5

171. *Qwest Corp. v. FCC*, 258 F.3d 1191, 1195 (10th Cir. 2001) (affirming in part and reversing and remanding in part two FCC orders regarding the high-cost portion of the fund).

172. *Vt. Pub. Serv. Bd. v. FCC*, 661 F.3d 54 (D.C. Cir. 2011). In 2014, the FCC called on the Federal-State Joint Board on Universal Service to explore whether and how the Commission might further modify the contribution methodology in an effort to more accurately reflect the contours of the modern communications space. *See* Order, Federal-State Joint Board on Universal Service, WC Docket No. 96-45 (Aug. 7, 2014).

173. *See* Roy E. Hoffinger, "Cooperative Federalism" Gone Wrong: *The Implementation of the Telecommunications Act of 1996*, 2 J. ON TELECOMM. & HIGH TECH. L. 375, 382–83 (2003) (discussing how FCC policy, in particular its Triennial Review Order, created a robust state role in monitoring local telephone competition).

174. Implementation of the Local Competition Provisions in the Telecommunications Act of 1996; Interconnection between Local Exchange Carriers and Commercial Mobile Radio Service Providers, First Report and Order, 11 FCC Rcd. 15,499, 15,505 (1996).

million lines.¹⁷⁵ During that same period, the number of wireless subscribers in the United States surpassed 100 million, up from only five million at the end of 1990.¹⁷⁶ By 2002, consumers were using more minutes on their cellphones than on their landline phones;¹⁷⁷ by 2004, the total number of wireless subscriptions in the United States eclipsed the number of traditional telephone lines in service.¹⁷⁸ High-speed Internet access also began to emerge as a popular communications platform in the early 2000s. Commercial VoIP service emerged in the early-2000s and gained popularity soon thereafter.¹⁷⁹

The states were generally aware of these vicissitudes in the marketplace, as well as the emergence of new communications technologies and their potential impacts on regulation.¹⁸⁰ Nonetheless, the states tended to rely on existing frameworks and historical assumptions when contemplating whether and how these new services might be regulated.¹⁸¹ This situation was compounded by the many state-level telecommunications laws and regulations that were enacted after 1996 in an attempt to realize the policy

175. See INDUS. ANALYSIS & TECH. DIV. WIRELINE COMPETITION BUREAU, FED. COMM'NS COMM'N, LOCAL TELEPHONE COMPETITION: STATUS AS OF DECEMBER 31, 2002, at 5 (2003), available at http://transition.fcc.gov/Bureaus/Common_Carrier/Reports/FCC-State_Link/IAD/lcom0603.pdf [hereinafter 2002 LOCAL TELEPHONE COMPETITION].

176. See Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993; Annual Report and Analysis of Competitive Market Conditions with Respect to Commercial Mobile Services, Seventh Report, 17 FCC Rcd. 12,985, Table 1 (2002).

177. Davidson & Santorelli, *supra* note 4, at 43.

178. Compare In the Matter of Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993 Annual Report and Analysis of Competitive Market Conditions with Respect to Commercial Mobile Services, Eleventh Report, 21 FCC Rcd. 10,947, Table 1 (2006), with INDUS. ANALYSIS & TECH. DIV. WIRELINE COMPETITION BUREAU, FED. COMM'NS COMM'N, LOCAL TELEPHONE COMPETITION: STATUS AS OF DECEMBER 31, 2005, at Table 1 (2006), available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-266595A1.pdf.

179. See, e.g., IP-Enabled Services, Notice of Proposed Rulemaking, 19 FCC Rcd. 4863, 4872-79 (2004) (providing an overview of the development of VoIP service and the market for it in the early 2000s).

180. See, e.g., COMM. ON TELECOMMS., NAT'L ASS'N OF REGULATORY UTIL. COMM'RS, RESOLUTION CONCERNING POLICY IMPLICATIONS OF THE EVOLUTION OF TELECOMMUNICATIONS TECHNOLOGY AND MARKETS (2000) (noting that "[c]hanges in telecommunications technology . . . are challenging regulatory and jurisdictional systems and assumptions" and that "[p]olitical and jurisdictional uncertainties have created difficult legal and policy issues in a variety of areas, including jurisdictional separations, access charges and reciprocal compensation").

181. See, e.g., CHANGE HEE LEE, NAT'L REGULATORY RESEARCH INST., STATE REGULATORY TREATMENT OF ADVANCED TELECOMMUNICATIONS SERVICES: RESULTS OF THE 2002 SURVEY (2002), available at <http://www.nrri.org/documents/317330/14795de5-45f8-4639-8608-da013dbec4ff?version=1.1> (providing the results of a survey of state PUC treatment of advanced telecommunications services).

imperatives of the Act. For example, many states revised their COLR obligations in an effort to strengthen their universal service policies.¹⁸² However, these policies eventually became “barriers to exit” that posed a “threat of burdensome cross-subsidies” to service providers.¹⁸³ In other words, these rules locked in place business models at a time when new technologies were beginning to disrupt the broader communications sector. As discussed in Part IV, this dynamic quickly upset the fragile balance that had emerged between state and federal authority and underscored the need for a fundamental recalibration of regulatory federalism in a world where POTS was on the wane.

IV. THE IP IMPERATIVE: REGULATORY FEDERALISM IN THE BROADBAND ERA

Perhaps the most ironic aspect of the 1996 Act, the first major rewrite of the nation’s communications laws in decades, was that it was enacted at a time when the commercial Internet was just emerging.¹⁸⁴ Indeed, the 1996 Act’s almost singular focus on restructuring telecommunications regulation is evident from the fact that this massive statute barely mentioned the Internet. Even so, the 1996 Act did succeed in articulating a decidedly minimalist regulatory approach to the still-fledgling Internet sector, stating that 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.”¹⁸⁵ This approach was grounded in a bipartisan desire to leave unburdened a service that many

182. See BLUHM & BERNT, *supra* note 147, at 34.

183. Barbara A. Cherry & Steven S. Wildman, *Unilateral and Bilateral Rules: A Framework for Increasing Competition While Meeting Universal Service Goals in Telecommunications*, in MAKING UNIVERSAL SERVICE POLICY: ENHANCING THE PROCESS THROUGH MULTIDISCIPLINARY EVALUATION 39, 48 (Barbara A. Cherry, Steven S. Wildman & Allen S. Hammond, IV eds., 1999). Maintaining COLR regimes and related requirements became extremely difficult for the states since local competition emerged “much more slowly” than anticipated by the framers of the 1996 Act, or, in some cases, not at all. BLUHM & BERNT, *supra* note 147, at 37.

184. The birth of the commercial Internet is generally traced to the launch of the World Wide Web (“WWW”) in the early 1990s. Thereafter, the Internet community grew rapidly:

In 1992 traffic on the network grew at 11 per cent [sic] each month, and six thousand networks were connected, two-thirds of them in the US. By October 1994 3.8 million computers were connected to the Internet. By July 1995 6.6 million were online. The WWW increasingly became the focus of interest.

See JOHNNY RYAN, A HISTORY OF THE INTERNET AND THE DIGITAL FUTURE 115 (2010).

185. 47 U.S.C. § 230(b)(2) (2012). The formal aspects of this regulatory approach—e.g., classifying broadband as a lightly regulated “information service”—are discussed in more detail *infra* Sections IV.A. and IV.B.

thought would quickly become a key platform for economic development and consumer empowerment.¹⁸⁶ Moreover, specifically precluding any state-level authority represented a “critical policy judgment” about the underlying technical aspects of the service, in particular its borderless nature.¹⁸⁷

Adapting regulatory federalism for the Internet era arguably should have been a relatively straightforward process given the 1996 Act’s clear policy statement. But vibrant innovation throughout the Internet ecosystem and the growth of an array of IP-enabled services—particularly VoIP service—provoked a wide range of divergent regulatory responses by state and federal entities in the late 1990s and early 2000s. Similarly, consumer demand and technological innovation drove investments into improving the underlying network infrastructure of the commercial Internet, facilitating a rapid shift away from dial-up Internet service (which relied on the PSTN) and toward an embrace of IP-based broadband service, which could be delivered via other platforms such as cable, fiber, and wireless. The rise in prominence of these new networks would further add to the novel regulatory responses, which would soon come to dominate debates over communications policy in the United States.

This Part examines how the balance of regulatory federalism shifted in response to the rise of IP networks and IP-enabled services. Sections IV.A and IV.B evaluate how state PUCs responded to the emergence of VoIP service and broadband networks, respectively, and how these reactions affected prevailing notions of regulatory federalism. Section IV.C examines

186. The federal government began to focus on these issues in the early 1990s. *See, e.g.*, INFO. INFRASTRUCTURE TASK FORCE, U.S. DEP’T OF COMMERCE, THE NATIONAL INFORMATION INFRASTRUCTURE: AGENDA FOR ACTION 5 (1993), available at <http://www.eric.ed.gov/PDFS/ED364215.pdf> (“All Americans have a stake in the construction of an advanced National Information Infrastructure (NII), a seamless web of communications networks, computers, data bases, and consumer electronics that will put vast amounts of information at users’ fingertips. Development of the NII can help unleash an information revolution that will change forever the way people live, work, and interact with each other.”). At this time, there was increasing scholarly interest in these networks as well. *See, e.g.*, Allen S. Hammond, IV, *Regulating Broadband Communication Networks*, 9 YALE J. ON REG. 181 (1992) (discussing the promise of broadband networks and the likely challenges of regulating such a unique platform).

187. NÜECHTERLEIN & WEISER, *supra* note 170, at 205 (“Balkanizing Internet-related services into 50 different schemes of state-level common carrier regulation would be deeply inconsistent with several of the Internet’s defining characteristics. Among these characteristics are the geographical indeterminacy of Internet transmissions, including the portability of IP addresses; the Internet’s traditional freedom from regulatory intrusion; and, more generally, the Internet’s celebrated tendency to obliterate political boundaries of all kinds.”).

state legislative attempts to rationalize regulatory frameworks for an intermodal world of IP-enabled communications.

A. THE STATES, REGULATORY FEDERALISM, AND VOIP

The origin of VoIP and other IP-enabled communications services extends back to the 1960s, when the computing industry began to expand.¹⁸⁸ At that time, innovators were experimenting with new ways of transmitting information across the PSTN.¹⁸⁹ The FCC addressed the regulatory aspects of these “enhanced” services in its Computer Inquiries, which began in 1966. The Inquiries aimed at gathering feedback from relevant stakeholders in the telecommunications industry and the fledgling “computer industry” to “evaluate the adequacy and efficacy of existing relevant policies and the need, if any, for revisions in such policies, including such legislative measures that may be required.”¹⁹⁰ Over the next two decades, mostly in the context of related proceedings of the Computer Inquiries, the FCC grappled with the many complex issues arising from the rapid convergence of computing and telephony. Eventually, the Commission made a policy decision regarding the proper regulatory treatment of “enhanced” services. More specifically, the FCC, in its second Computer Inquiry,¹⁹¹ opted to keep these advanced services unburdened from traditional telephone regulation, while electing to keep common carrier regulation intact for “basic” services.¹⁹²

By the 1990s, a new generation of enhanced services began to migrate en masse to the Internet, where it soon became possible to transmit voice communications across the “network of networks.”¹⁹³ In response, the FCC,

188. Cannon, *supra* note 98, at 170–72 (describing relevant technological changes during the latter half of the 1960s).

189. See BROCK, *supra* note 80, at 182.

190. Regulatory and Policy Problems Presented by the Interdependence of Computer and Communications Services, Notice of Inquiry, 7 F.C.C.2d 11, 11 (1966).

191. See Amendment of Section 64.702 of the Communications Rules and Regulations, Notice of Inquiry and Proposed Rulemaking, 61 F.C.C.2d 103 (1976).

192. The “basic” category referred to the “transmission capacity in the physical network for the movement of information.” Cannon, *supra* note 98, at 183–98. The “enhanced” category encompassed services like voicemail and data processing. Crawford, *supra* note 41, at 892. The assumption underlying these decisions was that “enhanced service providers would obtain basic service from the regulated carriers and then add their own computer processing to develop new kinds of services.” BROCK, *supra* note 80, at 182.

193. See, e.g., Kevin Werbach, *Digital Tornado: The Internet and Telecommunications Policy* 10, 36 (FCC Office of Plans & Policy, Working Paper No. 29, 1997), available at http://transition.fcc.gov/Bureaus/OPP/working_papers/oppwp29.pdf (“These services work by converting voices into data which can be compressed and split into packets, which are sent over the Internet like any other packets and reassembled as audio output on the at the receiving end.”).

throughout the 1980s and early 1990s, continued to investigate whether and how to adjust the prevailing regulatory framework for telephony in an effort to accommodate the growth of these new services.¹⁹⁴ The 1996 Act provided some guidance by enshrining the definitions and regulatory approaches for basic and enhanced services that the FCC had developed in previous decades.¹⁹⁵ Nevertheless, numerous regulatory questions regarding VoIP and other IP-enabled services arose soon thereafter.¹⁹⁶

Almost immediately after the 1996 Act was enacted, a coalition of telephone service providers petitioned the FCC seeking a declaratory ruling regarding the regulatory treatment of this new form of voice communications.¹⁹⁷ The crux of the complaint was that it was

not in the public interest to permit long-distance service to be given away, depriving those who must maintain the telecommunications infrastructure of the revenue to do so, . . . nor

194. The FCC launched a third Computer Inquiry in the mid-1980s (“*Computer III*”). The resulting policy changes led to several legal challenges, remands to the FCC for further consideration, and subsequent amended orders. Some lingering issues were eventually combined in the FCC’s inquiry into the proper regulatory treatment for wireline broadband services, which was opened in the early 2000s. For an overview of the tortured history of *Computer III*, see Cannon, *supra* note 98, at 199–204.

195. *See, e.g., id.* at 191–92 (“The Commission concluded that Congress codified the basic versus enhanced dichotomy using the new terms of ‘telecommunications’ and ‘information services.’” (footnotes omitted)).

196. A clear point of contrast is how the federal government adjusted regulatory federalism in response to the emergence of wireless telephony. As discussed in Section III.A, *supra*, Congress in 1993 implemented a national regulatory framework that largely preempted state regulation over the service. A key aspect of this approach was the classification by statute of wireless telephony as a common carrier service. 47 U.S.C. § 332(c)(1)(A) (2012). Under the 1996 Act, state PUCs retained authority to approve interconnection agreements between telecommunications service providers, including wireless. 47 U.S.C. § 252(e) (2012). And they retained a role in structuring access charges. 47 U.S.C. § 251(d)(3) (2012). But the outer contours of the states’ authority over “other terms and conditions” of wireless service have been in dispute for years. Some states, like Florida, have expressly removed from their PUC any oversight over wireless. FLA. STAT. § 364.01(1) (2011). However, NARUC, the lobbying organization for state PUCs, has called on the FCC several times to clarify the scope of appropriate state-level activities vis-à-vis section 332 of the Communications Act. *See, e.g.,* COMM. ON CONSUMER AFFAIRS, NAT’L ASS’N OF REGULATORY UTIL. COMM’RS, RESOLUTION CALLING ON THE FCC TO REEXAMINE WIRELESS CARRIERS’ EARLY TERMINATION FEES (2007).

197. *See* The Provision of Interstate and International Interexchange Telecommunications Service via the “Internet” by Non-Tariffed, Uncertified Entities, America’s Carriers Telecommunications Association (“ACTA”) Petition for Declaratory Ruling, Special Relief, and Institution of Rulemaking Against VocalTec, Inc.; Internet Telephone Company; Third Planet Publishing Inc.; Camelot Corporation; Quarterdeck Corporation; and Other Providers of Non-tariffed, and Uncertified Interexchange Telecommunications Services, RM No. 8775 (Mar. 4, 1996) [hereinafter ACTA Petition].

[was] it in the public interest for these select telecommunications carriers to operate outside the regulatory requirements applicable to all other carriers.¹⁹⁸

The complaint suggested that the new service was nothing more than a “telecommunications service” that should be regulated as a common carrier.¹⁹⁹ This case presented for the first time the “fundamental question of whether a service provided over the Internet that appear[ed] functionally similar to a traditionally-regulated service should be subject to existing regulatory requirements.”²⁰⁰

In a report to Congress in 1998, the FCC addressed some of these issues by considering whether and to what extent IP services impacted the new framework for universal service that was put forward in response to the 1996 Act.²⁰¹ The FCC elected to take a “functional” approach²⁰² to the issue, looking to the nature of the service provided rather than how it was provided when determining whether to regulate it as a common-carrier “telecommunications service.”²⁰³ According to this approach, the FCC observed that “phone-to-phone” IP telephony had many characteristics in common with a traditional telecommunications service, but certain technical

198. *Id.*

199. See Federal-State Joint Board on Universal Service, Report to Congress, 13 FCC Rcd. 11,501, 11,505 (1998) [hereinafter *Stevens Report*]. This report was prepared at the behest of Congress. Much of the FCC report is framed around responding to feedback from U.S. Senator Ted Stevens, who, along colleague Senator Conrad Burns, questioned various aspects of FCC interpretation of the 1996 Act.

200. Werbach, *supra* note 193, at 38; see also Emir A. Mohammed, *The Growth of Internet Telephony: Legal and Policy Issues*, FIRST MONDAY (June 1999), <http://firstmonday.org/ojs/index.php/fm/article/view/676/586> (examining and critiquing the legal and policy arguments raised in the ACTA Petition, *supra* note 197).

201. *Stevens Report*, *supra* note 199, at 11,505. The FCC never officially ruled on the ACTA petition. See, e.g., Kevin Werbach, *A Layered Model for Internet Policy*, 1 J. TELECOMM. & HIGH TECH. L. 37, 56, n.74 (2002).

202. See Robert Cannon, *State Regulatory Approaches to VoIP: Policy, Implementation, and Outcome*, 57 FED. COMM. L.J. 479, 485–86 (2005) (discussing the characteristics of the functional approach).

203. *Stevens Report*, *supra* note 199, at 11,530 (“A telecommunications service is a telecommunications service regardless of whether it is provided using wireline, wireless, cable, satellite, or some other infrastructure. Its classification depends rather on the nature of the service being offered to customers. Stated another way, if the user can receive nothing more than pure transmission, the service is a telecommunications service. If the user can receive enhanced functionality, such as manipulation of information and interaction with stored data, the service is an information service Based on our analysis of the statutory definitions, we conclude that an approach in which ‘telecommunications’ and ‘information service’ are mutually exclusive categories is most faithful to both the 1996 Act and the policy goals of competition, deregulation, and universal service.”).

changes to it could make it a deregulated “information service.”²⁰⁴ In assessing “computer-to-computer” VoIP, the Commission observed a new means of voice communication but declined to classify it as either a “telecommunications service” or an “information service” because of its many unique attributes.²⁰⁵ Ultimately, none of these determinations became official FCC policy. Without a more complete record, the FCC declined to make these classifications final.²⁰⁶

In the absence of clear guidance on the issue, and since many saw this new service as a threat to the revenues that formed the basis of new USF funding mechanisms,²⁰⁷ the states began to assess whether and how VoIP, in particular any localized elements of the service, might (or should) fit within their regulatory purview.²⁰⁸ Florida was one of the first states to examine these issues. In 2000, its PUC issued a staff report that appeared to endorse the FCC’s 1998 assessment of these emerging services,²⁰⁹ and in 2005 Florida

204. These mostly revolved around the way in which the content of a message was delivered. *Id.* at 11,543–44.

205. *Id.* at 11,543 (“In the case of ‘computer-to-computer’ IP telephony, individuals use software and hardware at their premises to place calls between two computers connected to the Internet. The IP telephony software is an application that the subscriber runs, using Internet access provided by its Internet service provider. The Internet service providers over whose networks the information passes may not even be aware that particular customers are using IP telephony software, because IP packets carrying voice communications are indistinguishable from other types of packets. As a general matter, Title II requirements apply only to the ‘provi[sion]’ or ‘offer[ing]’ of telecommunications. Without regard to whether ‘telecommunications’ is taking place in the transmission of computer-to-computer IP telephony the Internet service provider does not appear to be ‘provid[ing]’ telecommunications to its subscribers.”) (alterations in original) (footnotes omitted).

206. *Id.* at 11,544.

207. Cannon, *supra* note 202, at 492 (“If the policy objective is protection of revenue, then regulating anything that could be used as a substitute for that revenue source could be an appropriate approach/implementation.”).

208. See Werbach, *supra* note 193, at 38 (noting that “[i]f federal rules governing Internet telephony are problematic, state regulations seem even harder to justify” and that “there is a good argument that Internet services should be treated as inherently interstate. The possibility that fifty separate state Commissions could choose to regulate providers of Internet telephony services within their state (however that would be defined), already may be exerting a chilling influence on the Internet telephony market.”).

209. See ANDREW COLLINS ET AL., FLA. PUB. SERV. COMM’N, WHITE PAPER ON INTERNET PRICING: REGULATORY IMPLICATIONS AND FUTURE ISSUES (2000), available at <http://www.floridapsc.com/publications/pdf/pai/internetpricing.pdf>. The report made several insightful and relevant observations. For example, it highlighted the complexities inherent in structuring pricing for new IP-enabled services. In particular, it observed:

The pricing of [VoIP] will ultimately determine the degree to which this service emerges as a threat to traditional telephone service. With consumer choice between PSTN and VoIP, the competitive effects of

became the first state in the nation to explicitly state that VoIP was to be “free of unnecessary regulation” within its borders.²¹⁰

However, the FCC curtailed other states’ attempts to take a more hands-on approach to regulating VoIP.²¹¹ The Minnesota PUC in 2003, for example, attempted to impose traditional “telephone company” regulation on a VoIP service offered by Vonage. This action provoked the FCC to issue an order preempting the PUC’s attempt to impose POTS-style regulation on VoIP, reasoning that, because VoIP service “cannot be separated into interstate and intrastate communications for compliance with Minnesota’s requirements without negating valid federal policies and rules,” the FCC would have sole authority to regulate VoIP service.²¹² In its order, the FCC held that it, and “not the state commissions, has the responsibility and obligation to decide whether certain regulations apply to [the Vonage service] and other IP-enabled services having the same capabilities.”²¹³ In combination with two other orders issued in 2004, the FCC finally provided some clarity regarding the proper regulatory treatment of VoIP and the appropriate balance of regulatory federalism for the still-emerging service.²¹⁴

The Minnesota PUC challenged the order in court as exceeding the FCC’s authority to preempt state-level regulation of voice services.²¹⁵ The

current pricing regulations need to be examined to ensure the growth of new technologies as well as existing networks.

Id. at 2. In addition, it noted the impact of the FCC’s decision to exempt dial-up Internet service providers (ISPs) from having to pay access charges. *Id.* This determination was challenged in court and remanded to the FCC for further analysis. *Bell Atl. Tel. Cos. v. FCC*, 206 F.3d 1 (D.C. Cir. 2000). The FCC responded by affirming its approach and putting forward a more comprehensive justification. *See Intercarrier Compensation for ISP-Bound Traffic, Order on Remand and Report and Order*, 16 FCC Rcd. 9151 (2001).

210. FLA. STAT. ANN. § 364.01(3) (West 2011).

211. *See generally* Cannon, *supra* note 202 (providing an overview of many of these efforts).

212. *See* Vonage Holdings Corporation, Petition for Declaratory Ruling Concerning an Order of the Minnesota Public Utilities Commission, Memorandum Opinion and Order, 19 FCC Rcd. 22,404, 22,404–05 (2004).

213. *Id.*

214. *See* Petition for Declaratory Ruling That Pulver.com’s Free World Dialup Is Neither Telecommunications Nor a Telecommunications Service, Memorandum Opinion and Order, 19 FCC Rcd. 3307 (2004); Petition for Declaratory Ruling that AT&T’s Phone-to-Phone IP Telephony Services are Exempt from Access Charges, Order, 19 FCC Rcd. 7457 (2004).

215. Several other state PUCs and organizations representing the collective interests of state regulators intervened in this case in support of the Minnesota PUC. Interestingly, one state PUC—in California—submitted a brief in support of the FCC and called on the appeals court to uphold the FCC’s ruling “on the basis of the compelling policy goals involved in this case.” Brief for Ca. Pub. Utils. Comm’n as Amicus Curiae Supporting

Court of Appeals for the Eighth Circuit sided with the FCC and upheld application of the so-called “impossibility exception,” which, under the 1934 Act, allows the FCC to “preempt state regulation of a service which would otherwise be subject to dual federal and state regulation where it is impossible or impractical to separate the service’s intrastate and interstate components, and the state regulation interferes with valid federal rules or policies.”²¹⁶

Even though these and other FCC actions²¹⁷ subsequent to the Minnesota PUC dispute might suggest otherwise, the Commission has yet to classify VoIP officially for regulatory purposes.²¹⁸ Such inaction has left open the possibility of continued state-level legal and regulatory experimentation for VoIP. For example, after the FCC in 2006 issued an order requiring interconnected VoIP providers to pay into the federal USF,²¹⁹ two states—Nebraska and New Mexico—tried to use the Commission’s new rules as a basis for skirting the impossibility exception and requiring VoIP providers to pay into state USFs. In each case, the relevant court applied the Eighth Circuit’s reasoning in the Minnesota PUC case in voiding these attempts.²²⁰ Conversely, a growing number of states—more than two dozen by the middle of 2013—have elected to follow the Florida model by deregulating VoIP service.²²¹

Respondent at 1, *Minn. Pub. Utils. Comm’n v. FCC*, 483 F.3d 570 (8th Cir. 2007) (No. 05-1069), 2005 WL 5628010.

216. *Minn. Pub. Utils. Comm.*, 483 F.3d at 576 (citing 47 U.S.C. § 152(b) (2012)).

217. To date, the FCC has required interconnected VoIP providers to provide E911 services, protect customer proprietary network information, comply with various disability access requirements, which are typically been required of common carriers, and to make telephone numbers portable. *See Telephone Number Requirements for IP-Enabled Services Providers*, Report and Order, Declaratory Ruling, Order on Remand, and Notice of Proposed Rulemaking, 22 FCC Rcd. 19,531 (2007); *IP-Enabled Services*, Report and Order, 22 FCC Rcd. 11,275, 11,283–91 (2007); *IP-Enabled Services*, Report and Order and Further Notice of Proposed Rulemaking, 22 FCC Rcd. 6927, 6954–57, (2007); *IP-Enabled Services*, First Report and Order and Notice of Proposed Rulemaking, 20 FCC Rcd. 10,245 (2005).

218. The FCC’s docket on this issue has been open since 2004. *See IP-Enabled Services*, Notice of Proposed Rulemaking, 19 FCC Rcd. 4863 (2004).

219. *See Universal Service Contribution Methodology*, Report and Order and Notice of Proposed Rulemaking, 21 FCC Rcd. 7518, 7545 (2006).

220. *Vonage Holdings Corp. v. Neb. Pub. Serv. Comm’n*, 564 F.3d 900, 903 (8th Cir. 2009); *N.M. Pub. Regulation Comm’n v. Vonage Holdings Corp.*, 640 F. Supp. 2d 1359, 1370 (D.N.M. 2009).

221. *See, e.g., Wis. Stat.* § 196.206 (2014); *see also* SHERRY LICHTENBERG, NAT’L REGULATORY RESEARCH INST., THE YEAR IN REVIEW: THE STATUS OF TELECOMMUNICATION DEREGULATION IN 2012, at 11 (2012), *available at* <https://prodnet.www.neca.org/publicationsdocs/wwpdf/61912nrri.pdf> [hereinafter LICHTENBERG, STATUS OF TELECOMMUNICATION DEREGULATION IN 2012] (noting that, as

Despite these numerous legal, regulatory, and legislative actions to clarify the balance of regulatory federalism for VoIP, many PUCs in states where VoIP has not been expressly deregulated have continued to pursue a role in monitoring and regulating this service.²²² The primary argument advanced by many of these PUCs—as well as the National Association of Regulatory Utility Commissioners (“NARUC”) on behalf of PUCs and state members of the Federal-State Joint Board on Universal Service—is that VoIP service should be jointly regulated at the state and federal levels as a telecommunications service because it provides voice communications in a functionally equivalent manner as POTS via the PSTN.²²³

of April 2012, at least twenty-one states had deregulated VoIP service); SHERRY LICHTENBERG, NAT’L REGULATORY RESEARCH INST., TELECOMMUNICATIONS DEREGULATION: UPDATING THE SCORECARD FOR 2013, at 44–66 (2013), *available at* <http://nrri.org/documents/317330/0e3a5988-6f57-492d-8ce5-70926cfe68f4> [hereinafter LICHTENBERG, UPDATING THE SCORECARD FOR 2013] (cataloging the states that had deregulated or considered deregulating VoIP by the middle of 2013); SHERRY LICHTENBERG, NAT’L REGULATORY RESEARCH INST., TELECOMMUNICATIONS LEGISLATION 2014: COMPLETING THE PROCESS (2014) [hereinafter LICHTENBERG, COMPLETING THE PROCESS], *available at* <http://communities.nrri.org/documents/317330/b72af483-4ac3-4cc8-9d1f-1871a9284c9a/> (cataloging legislative and regulatory adjustments to telecommunications regulation in the first half of 2014); *cf.* State USF Joint Board Comments, *supra* note 14, at 21 (arguing that “laws deregulating retail VoIP services have further complicated” efforts to erase the “artificial competitive advantage that has exacerbated the problem of revenue erosion” at the state level).

222. *See, e.g.*, General Investigation of TWC Digital Phone LLC to Show Cause Why This Commission Should Not Impose Sanctions, Fines, or Penalties for the Company’s Failure to Obtain a Certificate of Convenience and Authority and Have an Approved Tariff on File with the Commission, Order Denying TWC Digital Phone LLC’s Petition for Reconsideration, Docket No. 13-TWCZ-405-SHO (State Corp. Comm’n of Kan. Jan. 30, 2013) (distinguishing relevant federal case law and holding that the PUC has authority regulate TWC Digital’s VoIP product because it is considered a “public utility” under Kansas law).

223. *See, e.g.*, Connect Am. Fund, Initial Comments of the Nat’l Ass’n of Regulatory Util. Comm’rs, WC Docket No. 10-90, at 5 (filed April 1, 2011), *available at* <http://www.naruc.org/Testimony/11%200401%20NARUC%20ICC%20USF%20INITIAL%20CMTS%20.pdf> (“Much of the . . . seemingly endless litigation over various classification schemes have been driven by efforts by some to cram a service that obviously fits precisely the functional definition of a ‘telecommunications service’ into some other category.”); NARUC FEDERALISM WHITE PAPER—2013, *supra* note 15; NARUC FEDERALISM WHITE PAPER—2005, *supra* note 15; State USF Joint Board Comments, *supra* note 14; AT&T Petition to Launch a Proceeding Concerning the TDM-to-IP Transition, Comments of NARUC, GN Docket No. 12-353 (filed Jan. 28, 2013) (questioning whether the FCC has the legal authority to preempt state regulation of VoIP services); AT&T Petition to Launch a Proceeding Concerning the TDM-to-IP Transition, Initial Comments by the State Members of the Joint Board on Universal Serv., GN Docket No. 12-353 (filed Jan. 28, 2013); AT&T Petition to Launch a Proceeding Concerning the TDM-to-IP Transition, Comments of Cal. Pub. Utils. Comm’n & the People of Cal., GN Docket No. 12-353 (filed Jan. 28, 2013).

Implementing this pseudo-functional approach²²⁴ hinges on either the classification of VoIP as a telecommunications service²²⁵ or on an express carve-out of authority by the FCC.²²⁶ Regardless, NARUC and some of its member PUCs have outlined an ambitious regulatory agenda for VoIP service, one that builds upon the foundations of traditional state telecommunications authority in an attempt to preserve jurisdiction over voice communications regardless of the medium through which those conversations are sent.²²⁷ Moreover, the states' focus remains tied, in large part, to the preservation of some vestige of the rate structures and cross-subsidies that were developed to assure universal POTS service.²²⁸ This position is at odds with federal efforts to modernize regulations that were originally designed for a world dominated by traditional telephone service.²²⁹

224. Robert Cannon has noted that NARUC's approach to VoIP is beyond the functional approach articulated by the FCC in 1998. More specifically, he has argued that "NARUC has shifted from looking at salient technical features to whether the service provider has market power. Nothing within the Functional Approach provides support for or guidance on a market power analysis. These concerns come from outside the Functional Approach." Cannon, *supra* note 202, at 489.

225. This view has been advanced by the state members of the Federal-State Joint Board on Universal Service. *See, e.g.*, State USF Joint Board Comments, *supra* note 14, at 19–22.

226. *See, e.g.*, COMMS. ON TELECOMMS. & CRITICAL INFRASTRUCTURE, NAT'L ASS'N OF REGULATORY UTIL. COMM'RS, RESOLUTION ON MANDATORY REPORTING OF SERVICE OUTAGES BY INTERCONNECTED VOICE OVER INTERNET PROTOCOL SERVICE PROVIDERS (Feb. 8, 2012), available at <http://www.naruc.org/Resolutions/Resolution%20on%20VoIP%20Outage%20Reporting.pdf> [hereinafter NARUC OUTAGE REPORTING RESOLUTION] (calling on the FCC to "[p]rovide State commissions with the opportunity to have direct and immediate access to the FCC's outage reporting database and to all outage reports filed by interconnected VoIP service providers"). The FCC, in its order implementing trials around the IP transition, acknowledged that state PUCs will play important advisory roles in facilitating the shift to all-IP networks. Technology Transitions Order, *supra* note 7, at 13. But the FCC also noted that preemption might be necessary in instances where state laws or regulations might impede the transition. In those instances, the Commission "will evaluate evidence demonstrating the legal basis and grounds for any requested preemption." *Id.; cf. Verizon v. FCC*, 740 F.3d 623, 637–39 (D.C. Cir. 2014) (holding that the FCC, under section 706 of the 1996 Act, has broad authority to regulate broadband Internet access and suggesting that this authority might, in some form, extend to state PUCs).

227. *See, e.g.*, NARUC FEDERALISM WHITE PAPER—2013, *supra* note 15; NARUC OUTAGE REPORTING RESOLUTION, *supra* note 226.

228. State USF Joint Board Comments, *supra* note 14, at 22 (arguing that if the FCC does not treat VoIP as a telecommunications service, then "the Commission should still refrain from preempting State decisions regarding the applicability of intrastate access charges and reciprocal compensation charges to VoIP traffic").

229. *See, e.g.*, COMM. ON TELECOMMS., NAT'L ASS'N OF REGULATORY UTIL. COMM'RS, RESOLUTION CONCERNING CUSTOMER NOTIFICATIONS FOR INTERNET PROTOCOL-TECHNOLOGY SERVICE-BASED EXPERIMENTS (Feb. 14, 2014), available at [http://naruc.org/Resolutions/Resolution%20Concerning%20Customer%20Notifications%](http://naruc.org/Resolutions/Resolution%20Concerning%20Customer%20Notifications%20for%20IP%20Technology%20Service-Based%20Experiments.pdf)

B. THE STATES, REGULATORY FEDERALISM, AND BROADBAND

As with wireless telephony,²³⁰ potential federal-state tension regarding the regulatory treatment of broadband Internet access services was mostly preempted by swift federal action to remove broadband from the jurisdictional purview of the states. This was accomplished in the early- and mid-2000s when the FCC classified every type of broadband delivery service—via cable modem, digital subscriber line (“DSL”), wireless, and power lines—as an information service subject only to the FCC’s ancillary jurisdiction under Title I of the 1934 Act.²³¹ Although some have argued that broadband delivery service is nothing more than a digital version of the PSTN,²³² in 2005 the U.S. Supreme Court upheld the FCC’s classification of

20for%20Internet%20Protocol.pdf (urging the FCC to carve out significant roles for PUCs in the IP transition process despite the fact that the Commission had already devised a more limited, advisory role for states).

230. See *supra* Section III.A.

231. See *Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities*, 17 FCC Rcd. 4798 (2002), *aff’d sub nom.* Nat’l Cable & Telecomm. Ass’n v. Brand X Internet Serv., 545 U.S. 967 (2005) (classifying cable modem broadband service); *Appropriate Framework for Broadband Access to the Internet over Wireline Facilities*, 20 FCC Rcd. 14,853 (2005) (classifying DSL); *Appropriate Regulatory Treatment for Broadband Access to the Internet over Wireless Networks*, 22 FCC Rcd. 5901 (2007) (classifying wireless broadband); *Classification of Broadband over Power Line Internet Access Service as an Information Service*, 21 FCC Rcd. 13281 (2006) (classifying broadband over power lines).

232. In the late 1990s and early 2000s, before the FCC began the process of formally classifying broadband for regulatory purposes, municipalities attempted to mandate open access to cable broadband networks, creating obligations that mirrored the “unbundling” requirements previously imposed on POTS providers in the wake of the 1996 Act. In ruling that cities cannot condition the granting of franchises on “the cable operator’s grant of unrestricted access to its cable broadband transmission facilities for Internet service providers other than the operator’s proprietary service,” a federal appeals court declared that cable broadband Internet service was properly seen as a “telecommunications service.” *AT&T v. City of Portland*, 216 F.3d 871, 873, 880 (9th Cir. 2000). This contradicted the FCC’s still-evolving approach to what it tentatively considered “information services.” *Stevens Report*, *supra* note 199, at 11,532–40. This case spurred the FCC to open formal inquiries into the proper regulatory classification of broadband. But even after formally classifying all broadband access technologies as “information services,” numerous entities and commentators continued to call for the imposition of common carrier regulation on these services. See generally SUSAN CRAWFORD, *CAPTIVE AUDIENCE: THE TELECOM INDUSTRY AND MONOPOLY POWER IN THE NEW GILDED AGE* (2013) [hereinafter CRAWFORD, *CAPTIVE AUDIENCE*]; Barbara A. Cherry, *Maintaining Critical Rules to Enable Sustainable Communications Infrastructures*, 24 GA. ST. U. L. REV. 947 (2007); Crawford, *supra* note 41.

broadband access via cable modem as an information service²³³ and found that the FCC's interpretation and application of the statute was reasonable.²³⁴

Despite the fact that the states lack authority to regulate broadband Internet access services,²³⁵ several federal entities, including the FCC and Department of Commerce, have engaged policymakers at the state and local levels in a number of broadband-related matters. Recently, for example, the states played a supporting role in disbursing federal funding earmarked for broadband network expansion²³⁶ and in collecting data for the purposes of mapping broadband availability.²³⁷ In both cases, entities other than state PUCs were often chosen to handle these duties. In the mapping context, for example, the vast majority of states elected to empower expert nonprofits or other executive departments for broadband data and development purposes.²³⁸

States and municipalities do, however, possess authority to impact critical aspects of broadband infrastructure deployment. For example, the 1996 Act specifically allowed the states to retain primary responsibility for managing local rights-of-way, which are key inputs in building broadband networks.²³⁹

233. Nat'l Cable & Telecomms. Ass'n v. Brand X Internet Serv., 545 U.S. 967 (2005).

234. *Id.* at 997. In 2014, the FCC opened a rulemaking that, among other things, asked for comment regarding whether it should reverse established policy and reclassify broadband as a common-carrier service. *See* Notice of Proposed Rulemaking, Protecting and Promoting the Open Internet, GN Docket 14-28 (May 15, 2014).

235. *Cf.* Verizon v. FCC, 740 F.3d 623, 637-39 (D.C. Cir. 2014) (suggesting that state PUCs might have some role to play in promoting broadband deployment).

236. The American Recovery and Reinvestment Act of 2009 ("ARRA") allocated over \$7 billion for these purposes. Pub. L. No. 111-5, 123 Stat. 115, 118-19, 128, 512-16. The U.S. Department of Commerce tasked the states with helping to "identify[] unserved and underserved areas within their borders and . . . allocat[e] grant funds for projects in or affecting their jurisdictions." Broadband Technology Opportunities Program, 74 Fed. Reg. 33,104, 33,107 (July 9, 2009). In addition, the statute contemplated a role whereby the states would have the opportunity to "make recommendations concerning the allocation of funds for qualifying projects in or affecting the individual states." *Id.*

237. The states received federal grants per the Broadband Data Improvement Act, Pub. L. No. 110-385, 122 Stat. 4096 (codified at 47 U.S.C. §§ 1301-1304 (2012)), to assist in "funding projects that collect comprehensive and accurate State-level broadband mapping data, develop State-level broadband maps, aid in the development and maintenance of a national broadband map, and fund statewide initiatives directed at broadband planning." State Broadband Data and Development Grant Program, 74 Fed. Reg. 32,545, 32,545 (July 8, 2009).

238. For a state-by-state overview, see *State Broadband Initiatives*, BROADBANDUSA, <http://www2.ntia.doc.gov/SBDD/> (last visited Mar. 14, 2014).

239. 47 U.S.C. § 332 (c)(7) (2012) preserves local zoning authority subject to certain limitations, which are set forth in 47 U.S.C. § 332 (c)(7)(B)(i)-(v). Nevertheless, the FCC has acted on occasion to streamline this piecemeal approach. For example, in November 2009 the FCC implemented a "shot clock" that requires local zoning authorities to process siting

Consequently, in the wireless space, “operators must generally obtain State and local zoning approvals before building wireless towers or attaching equipment to pre-existing structures.”²⁴⁰ Similarly, in the wireline space, operators must negotiate franchise agreements with municipal or state-level officials.²⁴¹

Notwithstanding a lack of formal regulatory authority, and in the context of a diminishing set of telecommunications issues to regulate, some state PUCs have attempted to craft a larger and more active regulatory role over broadband and the universe of services that it enables. For example, NARUC, on behalf of all state PUCs, has called on the FCC to clarify the PUCs’ ability to collect data, “at an appropriate level of granularity as determined by the State, on broadband service locations, speeds, prices, technology and infrastructure within the State.”²⁴² Similarly, NARUC has requested that the FCC refer to the federal-state Joint Conference on Advanced Services²⁴³ issues related to the provision of video content over the Internet.²⁴⁴ In addition, a number of states and NARUC opposed the FCC’s

requests in a reasonable and timely manner. The FCC asserted its authority under 47 U.S.C. § 201(b), which authorizes it to “prescribe such rules and regulations as may be necessary in the public interest to carry out the provisions of [the] Act,” foremost among which is an obligation to “promote communication ‘by wire and radio’ on a nationwide basis.” Petition for Declaratory Ruling to Clarify Provisions of Section 332(c)(7)(B) to Ensure Timely Siting Review and to Preempt Under Section 253 State and Local Ordinances that Classify All Wireless Siting Proposals as Requiring a Variance, Declaratory Ruling, 24 FCC Rcd. 13,994 (2009) (citing 47 U.S.C. § 151) [hereinafter *Shot Clock Order*]. These rules survived legal challenge by municipalities, who argued that the FCC lacked authority to implement such a “shot clock.” *City of Arlington v. FCC*, 668 F.3d 229 (5th Cir. 2012).

240. *Shot Clock Order*, *supra* note 239, 24 FCC Rcd at 13,994.

241. Federal rules regarding franchising are set forth in 47 U.S.C. §§ 541–49 (2012). Over the last few years, some states have replaced municipal oversight of franchising with statewide franchising. For an overview of some recent attempts at franchise reform, see *Statewide Video Franchising Statutes*, NAT’L CONF. OF STATE LEGISLATURES (2013), <http://www.ncsl.org/issues-research/telecom/statewide-video-franchising-statutes.aspx>.

242. See COMMS. ON TELECOMMS. & CONSUMER AFFAIRS, NAT’L ASS’N OF REGULATORY UTIL. COMM’RS, RESOLUTION SUPPORTING ACCESS TO BROADBAND MAPPING DATA (July 22, 2009), available at <http://www.naruc.org/Resolutions/Resolution%20on%20Broadband%20Mapping%20Data1.pdf>.

243. This joint effort was launched by the FCC in 1999 in an effort to “provide a forum for an ongoing dialogue between [the FCC], the states, and local and regional entities regarding the deployment of advanced telecommunications capabilities.” Federal-State Joint Conference on Advanced Telecommunications Services, Order, 14 FCC Rcd. 17,622, 17,623 (1999). In particular, the Joint Conference was tasked with “facilitating the cooperative development of federal, state, and local mechanisms and policies to promote the widespread deployment of advanced services.” *Id.*

244. This was framed as an issue of significant importance to rural carriers, which rely on “non-discriminatory access” to video content that is “crucial to implementation of successful business plans and a pre-requisite to access to the significant capital investment

attempted modernization of the federal USF and restructuring of the intercarrier compensation framework,²⁴⁵ a plan that was devised to redirect funding and rationalize rate structures in an attempt to bolster broadband availability in unserved parts of the country.²⁴⁶ NARUC and PUCs in Arizona, Kansas, Pennsylvania, Ohio, and Vermont challenged certain FCC efforts in federal court as an affront to the primacy of state-level authority over intrastate elements of the PSTN.²⁴⁷

required . . . to bring video and broadband and IP-enabled services to those currently residing in unserved areas.” See COMM. ON TELECOMMS., NAT’L ASS’N OF REGULATORY UTIL. COMM’RS, RESOLUTION ON FAIR AND NON-DISCRIMINATORY ACCESS TO CONTENT, NARUC (2011) [hereinafter NARUC CONTENT RESOLUTION], *available at* <http://www.naruc.org/Resolutions/Resolution%20on%20Fair%20and%20Non%20Discriminatory%20Access%20to%20Content.pdf>.

245. The FCC defines intercarrier compensation as follows:

Inter-carrier compensation refers to the charges that one carrier pays to another carrier to originate, transport, and/or terminate telecommunications traffic. Although the same or similar facilities are used to originate, terminate and transport all types of traffic, the rates for intercarrier compensation vary based on several factors:

- Where the call begins and ends (whether the call is local or long distance, and whether it is interstate or intrastate)
- What types of carriers are involved (incumbent local carriers, competitive local carriers, long distance providers, wireless carriers)
- What type of traffic (wireline voice calls, wireless calls, data bound for an Internet service provider)

Inter-carrier compensation payments are governed by a complex system of federal and state rules.

Inter-carrier Compensation, FCC ENCYCLOPEDIA, <http://www.fcc.gov/encyclopedia/inter-carrier-compensation/> (last visited Feb. 25, 2014).

246. Connect Am. Fund, Report and Order and Further Notice of Proposed Rulemaking, 26 FCC Rcd. 17,663, 17,669 (2011) (“Our existing universal service and intercarrier compensation systems are based on decades-old assumptions that fail to reflect today’s networks, the evolving nature of communications services, or the current competitive landscape. As a result, these systems are ill equipped to address the universal service challenges raised by broadband, mobility, and the transition to [IP] networks.”).

247. A significant component of these challenges was the legality of the FCC’s preemption of state-level regulation of intrastate access charges. Many states worried that proposed reforms of the intercarrier compensation framework and the federal USF would unravel the cross-subsidies and other elements of the economic model that they spent decades developing and defending from federal preemption. These arguments are grounded in § 254, which states:

Consumers in all regions of the Nation, including low-income consumers and those in rural, insular, and high cost areas, should have access to telecommunications and information services, including interexchange services and advanced telecommunications and information services, that are *reasonably comparable* to those services provided in urban areas and that

The states are also exploring possible regulatory responses to the many issues arising from the intersection of lightly regulated broadband technologies with services that have long been regulated primarily or exclusively at the state level.²⁴⁸ A leading example is the piecemeal federal-state regulatory approach that has emerged in response to the smart grid, a catchall term that refers to the use of broadband-enabled technologies to modernize the delivery and consumption of energy services.²⁴⁹ In addition to assessing the economics of deploying these networks—either via existing commercial broadband networks or via proprietary networks built by utilities for smart grid purposes²⁵⁰—state PUCs are increasingly addressing novel policy issues like customer privacy and data security, areas in which these entities have little experience.²⁵¹ Since these initial efforts raise the possibility of having a state-by-state patchwork of regulation develop in a sector that is poised to be dominated by borderless technologies, many have suggested that a national regulatory approach to core issues like interoperability standards, privacy, network security, data access, and other such issues is most appropriate.²⁵² Ultimately, how these issues are resolved will not only impact stakeholders in the energy sector but will also have direct bearing on efforts to determine the outer boundaries of state authority over broadband and the services it enables.²⁵³

are available at rates that are *reasonably comparable* to rates charged for similar services in urban areas.

47 U.S.C. § 254(b)(3) (2012) (emphasis added). *See generally* Uncited Joint Preliminary Brief of Petitioners (Deferred Appendix Appeal), In Re: FCC 11-161, No. 11-9900 (10th Cir. filed Sept. 24, 2012), *available at* http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-317084A1.pdf. These arguments, though, were ultimately rejected by a federal appeals court. *Direct Commc'ns Cedar Valley, LLC v. F.C.C.*, 753 F.3d 1015 (10th Cir. 2014).

248. *See, e.g.*, Michael J. Santorelli, *Regulatory Federalism in the Age of Broadband: A U.S. Perspective*, 2 POL'Y & INTERNET 99, 114–18 (2010) (analyzing how broadband impacts traditional notions of regulatory federalism in the healthcare and energy sectors).

249. For an overview of the many issues raised by this particular collision, see CHARLES M. DAVIDSON & MICHAEL J. SANTORELLI, *REALIZING THE SMART GRID IMPERATIVE: A FRAMEWORK FOR ENHANCING COLLABORATION BETWEEN ENERGY UTILITIES AND BROADBAND SERVICE PROVIDERS* (2011), *available at* http://www.twcresearchprogram.com/pdf/TWC_Davidson.pdf.

250. *Id.* at 14–17 (discussing the traditional regulatory relationship between PUCs and energy utility companies).

251. *See, e.g.*, H. Russell Frisby, Jr. & Jonathan P. Trotta, *The Smart Grid: The Complexities and Importance of Data Privacy and Security*, 19 COMMLAW CONCEPTUS 297, 326–28 (2011) (discussing recent and ongoing efforts at the state level to address privacy and security issues in the smart grid space).

252. *See, e.g.*, DAVIDSON & SANTORELLI, *supra* note 249, at 27–28.

253. For further discussion see *infra* Part V.

C. STATE LEGISLATIVE ADJUSTMENTS IN RESPONSE TO THE RISE OF BROADBAND AND IP-ENABLED SERVICES

In response to the emergence of broadband, VoIP, and wireless as preferred communications platforms, and the concomitant decline in usage of POTS, a significant—and growing—number of states, typically through their legislatures, have worked assiduously to revise regulatory frameworks to better reflect the modern communications space. These efforts have ranged in scope from relatively narrow regulatory adjustments to sweeping reforms of state telecommunications laws.²⁵⁴

More than half of the states have enacted laws meant to clarify the regulatory authority of PUCs over VoIP service.²⁵⁵ Many of these reforms have been part of larger legislative packages aimed at updating traditional telecommunications regulation.²⁵⁶ And some of these new laws have resulted in the removal of legacy regulations impacting the provision of basic telephone service and maintenance of the PSTN. For example, in recent years Florida enacted legislation that eliminated an array of regulatory requirements for POTS providers, including the termination of PUC jurisdiction over retail telecommunications.²⁵⁷ Previously, it had removed COLR obligations.²⁵⁸ Florida undertook these revisions in response to new market realities in an effort to facilitate continued innovation in the communications space; the reforms reflected a narrowing of the state's policy

254. Many of the reform bills that have recently been considered in state legislatures have built upon tenets included in earlier legislative modifications enacted in states like Indiana in the mid-2000s, which themselves were efforts to expand on previous trends in state-level telephone rate modifications. *See* LILIA PÉREZ-CHAVOLLA, NAT'L REGULATORY RESEARCH INST., STATE RETAIL RATE REGULATION OF LOCAL EXCHANGE PROVIDERS AS OF DECEMBER 2006, at 1 (2007), *available at* <http://nrri.org/pubs/telecommunications/07-04.pdf> (“Between October 2005 and December 2006 . . . nine states adopted new state laws affecting the regulatory regimes of their local carriers; seventeen states reviewed or adopted new rate plans for one or more of their incumbents and eighteen states deregulated the rates of certain local exchange services, particularly bundled services and those provided in competitive urban areas.”).

255. *See supra* Section IV.A.

256. *See, e.g.*, Cecilia Kang, *Landline Rules Frustrate Telecoms*, WASH. POST, Apr. 12, 2012, http://www.washingtonpost.com/business/economy/landline-rules-frustrate-telecoms/2012/04/12/gIQAG2XvDT_story.html (discussing recent trends in state-level deregulation of telecommunications).

257. Regulatory Reform Act, 2011-36 Fla. Laws 1 (codified as amended at FLA. STAT. § 364.01 (2011)), *available at* http://laws.flrules.org/files/Ch_2011-036.pdf.

258. The removal of COLR obligations was effective January 1, 2009. FLA. STAT. § 364.025 (2011).

focus of supporting the ongoing deployment and adoption of broadband services throughout the state.²⁵⁹

Similar reform bills have been considered and enacted in many other states over the last few years.²⁶⁰ Wisconsin, for example, implemented comprehensive telecommunications reforms in 2012 that, among other things, dramatically reduced PUC authority over telecommunications, eliminated COLR obligations,²⁶¹ and shifted responsibility for handling consumer complaints regarding telecommunications services to the state's Department of Agriculture and Consumer Affairs.²⁶² Several other states, including Florida and Michigan, are rethinking the PUC role in handling consumer complaints, reflecting a broader trend toward regulating modern communications consistently with other private companies and not public utilities.²⁶³

Collectively, these efforts signal a growing appreciation among legislators and governors of the intermodal and competitive nature of the modern communications space, one in which the vast majority of consumers have access to numerous non-POTS alternatives.²⁶⁴ Indeed, to date more than half of the states have revised or considered revising the scope of PUC authority vis-à-vis telecommunications.²⁶⁵

Even so, political interests and relationships holding over from the traditional regulatory approach to POTS and the PSTN have, at times, slowed further reforms. In early 2012, for example, New York contemplated the deregulation of VoIP service.²⁶⁶ But after an intense lobbying campaign

259. *See, e.g.*, FLA. STAT. § 364.0135 (2011) (“[T]he sustainable adoption of broadband Internet service is critical to the economic and business development of the state . . .”).

260. For an overview of recent trends, see generally LICHTENBERG, STATUS OF TELECOMMUNICATION DEREGULATION IN 2012, *supra* note 221.

261. *See* S. 13, 2011–2012 Leg., Spec. Sess. (Wis. 2011), *available at* https://docs.legis.wisconsin.gov/2011/related/proposals/jr1_sb13 (removing, among other things, COLR obligations for ILECs).

262. *See* LICHTENBERG, STATUS OF TELECOMMUNICATION DEREGULATION IN 2012, *supra* note 221, at 16.

263. *Id.* *See also* LICHTENBERG, COMPLETING THE PROCESS, *supra* note 221, at 29–31.

264. Recognition of these structural shifts in the communications space can be seen most clearly in the increased willingness of states to ease or remove COLR obligations upon a showing of competition in a particular area. *See, e.g.*, PÉREZ-CHAVOLLA, *supra* note 254, at 18–19.

265. *See* LICHTENBERG, STATUS OF TELECOMMUNICATION DEREGULATION IN 2012, *supra* note 221, at iii.

266. This proposal was included in TED Article VII, Part I of the Governor's Proposed Executive Budget for Fiscal Year 2012–2013. *FY 2013 Executive Budget Summary*, BUS. COUNCIL OF N.Y. STATE, INC., <http://www.bcnys.org/inside/gac/2012/FY2013ExecutiveBudgetSummary.html> (last visited Mar. 14, 2014).

by special interest groups and labor unions that alleged the possibility of higher rates,²⁶⁷ the proposal was pulled back.²⁶⁸ A similar attempt to block a VoIP deregulation bill in California was also met with resistance,²⁶⁹ but the state eventually passed it.²⁷⁰ Likewise, a comprehensive telecommunications reform bill introduced in the New Jersey legislature in 2011 met fierce opposition from an array of groups arguing that the proposed modifications to the state's communications laws would "substantially increase the phone bills for average New Jersey families still dependent on landline local phone service."²⁷¹ This focus on rates by reform opponents mirrors the focus of many PUCs on maintaining traditional rate structures in furtherance of universal service.²⁷² In each instance, such a focus has a tendency to create an intractable—and politically dangerous—quagmire of concerns that oftentimes succeeds in slowing or halting efforts to reframe regulatory frameworks around more modern notions of competition, innovation, and market forces.²⁷³

D. CHALLENGES TO RECALIBRATING REGULATORY FEDERALISM FOR THE ALL-IP ERA

Past regulatory efforts and regulatory reform initiatives highlight several challenges that will impact efforts to recalibrate regulatory federalism for the all-IP era.

267. See, e.g., Ruben Diaz Jr., *We Cannot Afford to Deregulate 'VoIP,'* HUFFINGTON POST (Mar. 23, 2012), http://www.huffingtonpost.com/ruben-diaz-jr/ny-voip-deregulation_b_1372582.html ("[T]he tide of deregulation that has swept this country over the past several years has been incredibly harmful to the common-sense protections that consumers count on. Deregulation has been particularly bad news for poorer communities, as it allows big corporations to take advantage of those with few resources and little recourse.").

268. See Larry Rulison, *Mixed Signals over VoIP*, TIMES UNION (Albany), Mar. 24, 2012, <http://www.timesunion.com/business/article/Mixed-signals-over-VoIP-3432391.php> (examining the political pressure exerted by unions and consumer groups).

269. See Cyrus Farivar, *California May Eliminate Oversight for VoIP Services*, ARS TECHNICA (Apr. 18, 2012), <http://arstechnica.com/tech-policy/news/2012/04/california-may-eliminate-oversight-for-voip-services.ars>.

270. See CAL. PUB. UTIL. CODE § 710 (West 2013).

271. See NATHAN NEWMAN & RICHARD BRODSKY, HOW TO RAISE THE PHONE BILL OF THE AVERAGE NEW JERSEY FAMILY: WHAT S 2664 WILL DO TO NJ CONSUMERS 3 (2011), available at <http://www.njpp.org/assets/images/uploads/NJPP-Demos-Report-What-S2664-Will-Do-To-NJ-Consumers.pdf>.

272. See, e.g., CRANDALL & WAVERMAN, *supra* note 89, at 96 ("Regulation is an activity guided by political considerations and justified by policy considerations. Strong consumer and rural lobbies induce regulators to keep access rates low, particularly for rural residences, and use rates high. The policy justification for this practice is the desire to maintain universal service, but it is doubtful whether such rate distortions are necessary to guarantee universal service.").

273. *Id.*

First, voice service remains the touchstone around which many recent state-level regulatory and legislative responses to broadband and broadband-enabled services have been developed. This stems directly from how regulatory authority over communications services evolved at the state level: i.e., assuring universal POTS via close economic regulation of those with control over the PSTN. Thus, the states have readily adopted a pseudo-functional view of regulatory federalism, embracing active state and federal government participation in regulating the provision of voice communications, regardless of how the service is delivered.²⁷⁴ To date, this approach has been wielded as both a sword—whereby state PUCs seek to expand their jurisdiction to new services like VoIP²⁷⁵—and a shield—whereby some states and NARUC attempt to ward off federal preemption.²⁷⁶

This pseudo-functional approach to regulatory federalism is, in many respects, inconsistent with the realities of the modern communications marketplace.²⁷⁷ As a result, there appears to be a growing split among the states regarding the most effective way to adjust regulatory frameworks in light of technological change.²⁷⁸ Such a fragmented approach has invited federal preemption on issues like access-charge reform and key aspects of traditional universal service regulation.²⁷⁹ The absence of uniformity on issues

274. NARUC FEDERALISM WHITE PAPER—2013, *supra* note 15; NARUC FEDERALISM WHITE PAPER—2005, *supra* note 15.

275. *See supra* Section IV.A.

276. *Compare* COMMS. ON TELECOMMS. & CONSUMER AFFAIRS, NAT'L ASS'N OF REGULATORY UTIL. COMM'RS, RESOLUTION CONCERNING THE COMMUNICATIONS POLICY STATEMENT (July 23, 2008), *available at* <http://www.naruc.org/Resolutions/CA%20Communications%20Policy.pdf> [hereinafter NARUC POLICY STATEMENT RESOLUTION] (proposing a collaborative and cooperative federal-state approach to developing and implementing a uniform national framework for resolving wireless consumer complaints), *with* COMM. ON TELECOMMS., NAT'L ASS'N OF REGULATORY UTIL. COMM'RS, RESOLUTION STRONGLY SUPPORTING THE PROPOSALS SUBMITTED ON UNIVERSAL SERVICE REFORM BY THE STATE MEMBERS OF THE FEDERAL STATE JOINT BOARD ON UNIVERSAL SERVICE (2011), *available at* <http://www.naruc.org/Resolutions/Resolution%20Supporting%20USF%20State%20Members%20Proposals%20on%20USF%20Reform.pdf> (supporting the reform proposals put forward by state members of the Federal-State Joint Board on USF, which “establish[ed] that federal preemption proposals put forward by the FCC are unlawful and undesirable”).

277. *See, e.g.,* Santorelli, *supra* note 248, at 106–11 (discussing this in the context of broadband regulation). This is seen most immediately in the state-level legislative reforms, which have been enacted in response to fundamental changes in how consumers use technology to communicate. *See supra* Section IV.C.

278. These inconsistencies were discussed *supra* in Sections IV.A–C.

279. Connect Am. Fund, Report and Order and Further Notice of Proposed Rulemaking, 26 FCC Rcd. 17,663, 17,916–17, 17,928–32 (2011) (discussing the FCC's approach to implementing a national framework for access charge reform).

like access charges²⁸⁰ created arbitrage opportunities for bad actors wishing to game the system²⁸¹ and negatively impacted consumers²⁸² and service providers²⁸³ for many years. The FCC did actively enforce rules prohibiting such conduct, but, in the absence of pursuing a national approach via preemption, opportunities for bad behavior remained.²⁸⁴ If this divergent approach to communications regulation impacting the IP transition continues, federal preemption appears increasingly likely.²⁸⁵

Second, although PUC authority over POTS is waning and state jurisdictional claims over IP-enabled services like VoIP appear to be tenuous at best, the legal, regulatory, and policy purview of states is nonetheless growing over some aspects of the burgeoning IP ecosystem.²⁸⁶ State

280. The FCC defines access charges as “fees charged subscribers or other telephone companies by a local telephone company for the use of its local network.” *Understanding Your Telephone Bill*, FCC, <http://www.fcc.gov/guides/understanding-your-telephone-bill/> (last visited Feb. 25, 2014).

281. A leading arbitrage opportunity that emerged from the fragmented access charge regime was “traffic pumping,” whereby a telephone company would artificially increase or “pump” traffic in an effort to take advantage of variations in access charges. See *Traffic Pumping*, FCC ENCYCLOPEDIA, <http://www.fcc.gov/encyclopedia/traffic-pumping/> (last visited Mar. 29, 2014). With regard to variations in access charges, prior to FCC reform efforts, “intrastate access rates var[ie]d widely. In many states, intrastate rates [were] significantly higher than interstate rates; in others, intrastate and interstate rates [were] at parity; and in still other states, intrastate access rates [were] below interstate levels.” Connect Am. Fund, 26 FCC Rcd. at 17,929. These variations created “incentives for arbitrage and pervasive competitive distortions within the industry.” *Id.* at 17,929–30.

282. *Id.* (noting that, as a result of these schemes, “consumers may not receive adequate price signals to make economically efficient choices because local and long-distance rates do not necessarily reflect the underlying costs of their calls”).

283. See, e.g., Joan Engebretson, *Traffic Study: Traffic Pumping Minutes Rose 48% in 2010*, CONNECTED PLANET (Mar. 31, 2011), <http://connectedplanetonline.com/independent/news/Traffic-study-Traffic-pumping-minutes-rose-48-in-2010-0331/> (reporting on a study that estimated that traffic pumping cost wireless carriers in excess of \$100 million in unnecessary expenditures in 2010).

284. See, e.g., *Farmers & Merchs. Mutual Tel. Co. v. FCC*, 668 F.3d 714 (D.C. Cir. 2011) (upholding FCC actions to enforce rules prohibiting “traffic pumping” schemes).

285. See, e.g., NUECHTERLEIN & WEISER, *supra* note 5, at 35 (“Because every aspect of telecommunications can be characterized as an instrumentality of interstate commerce, Congress could have preempted all state regulation in this area under the Commerce Clause of the U.S. Constitution and placed the entire industry within the exclusive province of a federal regulator.”); Connect Am. Fund, 26 FCC Rcd. at 18,111 (observing that it could “exercise its authority to implement” a national framework for reforming originating access charges, but opting instead to consider a more collaborative approach that initially defers to the states to adopt the necessary reforms). For further discussion, see *infra*, Subsection V.B.1

286. This growth is particularly evident in the smart grid space, where PUCs are working with stakeholders in the energy and communications sectors to facilitate the deployment of this critical infrastructure. These efforts are being coordinated with counterparts at the federal level. See, e.g., NATIONAL BROADBAND PLAN, *supra* note 2, at 249–53 (discussing the

legislatures are increasingly addressing the many novel legal and policy issues stemming from the increased use of other IP-enabled services. These responses have encompassed a broad range of sectors and topics, including general welfare issues like online privacy,²⁸⁷ as well as sector-specific issues like policies promoting the adoption of broadband-enabled telemedicine tools.²⁸⁸ Ultimately, the development of state-by-state regulatory approaches to these kinds of issues could stunt the growth of borderless IP-enabled services.²⁸⁹ Previously, federal policymakers precluded to great effect the development of such a piecemeal approach in the wireless and broadband context.²⁹⁰ As such, the possibility exists for federal preemption of inconsistent state-level rules in a broad range of instances.²⁹¹

scope of these activities and calling for additional coordination). For example, NARUC and the Federal Energy Regulatory Commission have launched a collaboration to “provide a forum for Federal and State Regulators to discuss Smart Grid and Demand Response policies, share best practices and technologies, and address issues that benefit from State and Federal collaboration.” See *Smart Response Collaborative*, NARUC, <http://www.naruc.org/Ferc/default.cfm?c=3> (last visited Mar. 14, 2014).

287. See, e.g., *State Laws Related to Internet Privacy*, NAT’L CONF. OF STATE LEGISLATURES, <http://www.ncsl.org/issues-research/telecom/state-laws-related-to-internet-privacy.aspx> (last updated Jan. 23, 2014) (listing recent state legislative action on an array of privacy-related issues).

288. See, e.g., CHARLES M. DAVIDSON & MICHAEL J. SANTORELLI, N.Y. LAW SCH., BARRIERS TO BROADBAND ADOPTION: A REPORT TO THE FEDERAL COMMUNICATIONS COMMISSION 41–43 (2009) (noting that the “state-by-state regulation of doctors is a formidable barrier to realizing the full potential of broadband-enabled telemedicine services”).

289. Congress called on the FCC to produce “a plan for use of broadband infrastructure and services in advancing consumer welfare, civic participation, public safety and homeland security, community development, health care delivery, energy independence and efficiency, education, worker training, private sector investment, entrepreneurial activity, job creation and economic growth, and other national purposes.” NATIONAL BROADBAND PLAN, *supra* note 2, at 3 (quoting 47 U.S.C. § 1305(k)(2)(d)) (emphasis added).

290. See *supra* Sections IV.A and IV.B.

291. See WHITE HOUSE, CONSUMER DATA PRIVACY IN A NETWORKED WORLD: A FRAMEWORK FOR PROTECTING PRIVACY AND PROMOTING INNOVATION IN THE GLOBAL DIGITAL ECONOMY 37 (2012), <http://www.whitehouse.gov/sites/default/files/privacy-final.pdf> [hereinafter CONSUMER DATA PRIVACY IN A NETWORKED WORLD] (endorsing federal preemption of state laws that are deemed inconsistent with the Obama administration’s proposed approach to protecting consumer data privacy); see also Santorelli, *supra* note 248, at 119 (“The emergence of broadband as a platform for innovation beyond the communications sector will further disrupt an already muddled understanding of the proper regulatory balance between the states and the federal government in the digital age. With the power to eliminate the geographic boundaries that have traditionally separated state and federal authority in a number of contexts, broadband is rapidly becoming a vehicle through which local services are globalized.”).

V. RECALIBRATING REGULATORY FEDERALISM FOR AN ALL-IP WORLD

With the United States on an inexorable path toward all-IP networks, state efforts to preserve traditional regulatory authority will likely be met with increasing skepticism by federal policymakers and by firms operating throughout the broadband ecosystem. Moreover, as broadband begins to seep into and disrupt sectors like energy, education, and healthcare²⁹²—spaces in which the states have historically had strong oversight roles—jurisdictional clashes and formal disagreements over the proper balance of regulatory federalism seem inevitable.²⁹³

This dynamic—and the need for fresh thinking around the proper balance of regulatory federalism in the communications space—is heightened by several trends. The total number of POTS lines in service dropped to a modern low of 89.8 million by June of 2013,²⁹⁴ down from a peak of nearly 200 million at the turn of the twenty-first century.²⁹⁵ Of the POTs lines in service in June of 2013, less than half—40.9 million—were residential connections.²⁹⁶ Meanwhile, the number of interconnected VoIP subscriptions rose to over 45 million by June 2013, up nearly 50 percent in three years.²⁹⁷ The vast majority of these—over 36 million—were residential.²⁹⁸ Further, consumers demonstrate increasing willingness to use mobile phones as their only means of voice communication; 41 percent of all households had “cut the cord” and gone wireless by December 2013.²⁹⁹

Equally as important has been the growth in use of non-traditional communications services. General Internet use stood at 85 percent of all

292. For discussion of these disruptive effects, see NATIONAL BROADBAND PLAN, *supra* note 2, at 197–222 (discussing disruptive impacts of broadband in the healthcare sector); *id.* at 223–44 (discussing disruptive impacts of broadband in the healthcare sector); *id.* at 245–62 (discussing disruptive impacts of broadband in the energy sector).

293. *See generally* Santorelli, *supra* note 248.

294. INDUS. ANALYSIS & TECH. DIV., FED. COMM’NS COMM’N, LOCAL TELEPHONE COMPETITION: STATUS AS OF JUNE 30, 2013, at tbl.3 (2003) [hereinafter 2013 LOCAL TELEPHONE COMPETITION].

295. *See* 2002 LOCAL TELEPHONE COMPETITION, *supra* note 175.

296. 2013 LOCAL TELEPHONE COMPETITION, *supra* note 294, at tbl.3.

297. *Id.*

298. *Id.*

299. *See* STEPHEN J. BLUMBERG & JULIAN V. LUKE, CTR. FOR DISEASE CONTROL & PREVENTION, WIRELESS SUBSTITUTION: EARLY RELEASE OF ESTIMATES FROM THE NATIONAL HEALTH INTERVIEW SURVEY, JULY–DECEMBER 2013, at 1 (2014), *available at* <http://www.cdc.gov/nchs/data/nhis/earlyrelease/wireless201407.pdf>.

adults in May 2013,³⁰⁰ up from 47 percent in June 2000.³⁰¹ Broadband adoption reached 70 percent by the middle of 2013.³⁰² Nearly three-quarters of adults use social networking sites like Facebook and Twitter to communicate for business and pleasure.³⁰³ One-third of cellphone owners prefer to communicate via text rather than via phone call.³⁰⁴ As of a few years ago, about 20 percent of adults had used a video-calling program like Skype or FaceTime.³⁰⁵

Table 1 provides a summary of key data points in an effort to more clearly highlight the shift in consumer communications preferences.

Table 1. Trends in Consumer Communications Use

	2000	2005	2012/2013*
POTS Lines in Service**	192.5 million 138.9 million residential***	175.3 million 95.8 million residential	89.8 million 40.9 million residential
Wireless Subscriptions	101 million	203.7 million	326 million
VoIP Subscriptions	<200,000	4.5 million	45 million 36 million residential
High-Speed Lines in Service	7.1 million	43.6 million	276 million
Broadband Adoption Rate	3%	33%	70%

*Most recent available data

300. See KATHRYN ZICKUHR, PEW RESEARCH CTR., WHO'S NOT ONLINE AND WHY 2 (2013), http://www.pewinternet.org/~media/Files/Reports/2013/PIP_Offline%20adults_092513_PDF.pdf.

301. See KATHRYN ZICKUHR & AARON SMITH, PEW RESEARCH CTR., DIGITAL DIFFERENCES 5 (2012), http://www.pewinternet.org/~media/Files/Reports/2012/PIP_Digital_differences_041312.pdf.

302. See KATHRYN ZICKUHR & AARON SMITH, PEW RESEARCH CTR., HOME BROADBAND 2013, at 3 (2013), http://pewinternet.org/~media/Files/Reports/2013/PIP_Broadband%202013_082613.pdf.

303. See MAEVE DUGGAN & AARON SMITH, PEW RESEARCH CTR., SOCIAL MEDIA UPDATE 2013, at 1 (2013), http://www.pewinternet.org/~media/Files/Reports/2013/Social%20Networking%202013_PDF.pdf.

304. See *Smartphone Research: Infographic*, PEW RESEARCH INTERNET PROJECT (Sept. 17, 2012), <http://www.pewinternet.org/2012/09/17/smartphone-research-infographic/>.

305. See LEE RAINIE & KATHRYN ZICKUHR, PEW RESEARCH CTR., VIDEO CALLING AND VIDEO CHAT 2 (2010), http://www.pewinternet.org/~media/Files/Reports/2010/PIP_Video%20calling%20data%20memo.pdf.

**Retail switched access lines

***Also includes small businesses

Sources: FCC Local Telephone Competition Reports for Dec. 31, 2002; Dec. 31, 2005; June 30, 2008; June 30, 2013; FCC Internet Access Services Reports for June 30, 2009; June 30, 2013; Pew Internet & American Life; NTIA; Telegeography; CTIA

In this new world of communication, historical notions of universal service and telecommunications regulation should not serve as the starting point for developing laws and policies impacting vital new communications platforms.³⁰⁶ To preserve consumer welfare, policy must not impede what has become a market-driven transition away from traditional telephony and toward a full embrace of IP-enabled services and all-IP networks. Successful completion of this organic transition hinges on the willingness of policymakers at every level—federal, state, and local—to recognize the new reality of communications and structure regulatory responses accordingly. In short, continuing to think in “minutes rather than megabytes”³⁰⁷ and to structure policy around antiquated notions about the nature of communications technology³⁰⁸ will be counterproductive to the task of realizing the full transformative potential of all-IP networks.³⁰⁹

Recalibrating regulatory federalism for these purposes will present fundamental challenges. States have a desire and, arguably, a statutory obligation to work with their federal counterparts to assure universal availability of next-generation communications services.³¹⁰ Moreover, the states possess certain resources and expertise that could be useful in implementing federal frameworks for broadband and IP-enabled services.³¹¹ But the imperative to facilitate national-scale growth of borderless IP-

306. 47 U.S.C. § 254(c)(1) (2012) states that “Universal service is an evolving level of telecommunications services that the Commission shall establish periodically under this section, taking into account advances in telecommunications and information technologies and services.” The statute goes on to enumerate several considerations that the FCC shall take into account when determining which services are to be supported by the federal USF. These include whether such services “have, through the operation of market choices by customers, been subscribed to by a substantial majority of residential customers.” *Id.* § 254(c)(1)(B).

307. Connect Am. Fund, Report and Order and Further Notice of Proposed Rulemaking, 26 FCC Rcd. 17,663, 17,669 (2011).

308. A leading example of this dynamic is the pseudo-functional approach to regulating communications technologies that has been embraced by some PUCs and NARUC. For further discussion see *supra* Part IV.

309. Connect Am. Fund, 26 FCC Rcd. at 17,669.

310. See *supra* Sections IV.C and IV.D.

311. These are discussed *infra* Section V.C.

enabled services, coupled with substantial precedent supporting a minimalist but federally focused policy for overseeing this technology, makes clear that the latitude afforded to the states vis-à-vis experimenting with policies impacting these services must be limited.³¹² As such, a creative mixture of existing policy tools—federal preemption, public-private partnerships, and incentive-based measures, among others—along with fresh thinking about the proper role and structure of regulation in this space, will be necessary to hasten the ongoing transition to all-IP communications networks.

The following Sections offer three broad guiding principles for accomplishing this task. These are: (1) set a firm deadline and clear transition policy for sun-setting the PSTN; (2) develop and implement a hybrid model of federalism to harmonize state policies and address novel regulatory issues; and (3) rethink the roles of local, state, and federal regulatory entities.

A. SET A FIRM DEADLINE AND CLEAR TRANSITION POLICY FOR SUN-SETTING THE PSTN

The FCC has discussed the possibility of retiring the PSTN as the nation's primary communications platform since at least 2009.³¹³ At that time, data indicated that about fifteen percent of households still relied on POTS as their sole means of voice communications.³¹⁴ Initial policy proposals reflecting these data and public comments were captured in the National Broadband Plan, which recommended only that the Commission open a proceeding to examine the mechanics of such a transition.³¹⁵ The Plan also touched on an array of related policy adjustments that would be

312. It should be noted that the scope of federal regulatory authority over broadband remains unclear. In *Comcast Corp. v. FCC*, 600 F.3d 642 (D.C. Cir. 2010), the Court of Appeals for the D.C. Circuit held that the FCC lacked authority to sanction the allegedly improper network management practices of broadband service provider Comcast. In response, the FCC adopted network neutrality rules in an effort to “preserve the free and open Internet.” Preserving the Open Internet, Report and Order, 25 FCC Rcd 17,905 (2010). In 2014, a federal court struck down many of these new rules, but indicated that the FCC might have broad regulatory authority over broadband services under section 706 of the Telecommunications Act of 1996. For further discussion, see *supra*, notes 234–35 (and accompanying text).

313. See *A National Broadband Plan for Our Future*, FCC, <http://www.fcc.gov/rulemaking/09-51-0/> (last visited Mar. 14, 2014).

314. BLUMBERG & LUKE, *supra* note 299, at 6, tbl.1.

315. See NATIONAL BROADBAND PLAN, *supra* note 2, at 59. In early 2014, the FCC launched a trial to examine the technical contours of the IP transition. Subsequent trials are expected to examine the “legal and policy questions arising from the technology transitions.” Technology Transitions Order, *supra* note 7, at 5.

necessary to facilitate this transition.³¹⁶ By the time the FCC relaunched its TAC in early 2011 and tasked it with examining the legal, regulatory, and technical contours of this transition, the percentage of households dependent on POTS had dropped to eleven percent, which encompassed only nine percent of adults in the United States.³¹⁷ Based on these data and prevailing consumer trends, some have estimated that less than six percent of the population will still rely on the PSTN by 2018,³¹⁸ but data from mid-2013 suggests that such estimates might be understated. Indeed, data released by the Centers for Disease Control in July 2014 noted that the percentage of adults relying on landline telephony had already decreased to seven percent.³¹⁹

In theory, the FCC has already put forward a policy framework for transitioning away from the PSTN. Its modifications to the USF and intercarrier compensation framework were built around the notion of embracing IP networks as the primary communications platform for the twenty-first century.³²⁰ But the FCC only added broadband as a supported service in the USF context³²¹ and outlined a complex, decade-long plan for transitioning subsidies away from supporting the PSTN.³²² In addition, the Commission reinforced its traditional approach to voice service by electing to continue its policy of “focus[ing] on the functionality offered, not the specific technology used to provide the supported service.”³²³ Moreover, progress toward implementing these changes was held up by legal challenges, including those by state PUCs, which viewed the limited attempts by the

316. These touched on issues like reforming the processes by which the FCC permits service providers to retire their copper networks and the policies surrounding how networks interconnect with one another. *See* NATIONAL BROADBAND PLAN, *supra* note 2, at 48–49.

317. *See* STEPHEN J. BLUMBERG & JULIAN V. LUKE, CTR. FOR DISEASE CONTROL & PREVENTION, WIRELESS SUBSTITUTION: EARLY RELEASE OF ESTIMATES FROM THE NATIONAL HEALTH INTERVIEW SURVEY, JANUARY–JUNE 2013, at 1 (2013), *available at* <http://www.cdc.gov/nchs/data/nhis/earlyrelease/wireless201312.pdf>.

318. *See* Tom Evslin, *TAC to FCC: Set a Date Certain for the End of the PSTN*, FRACTALS OF CHANGE (July 5, 2011), <http://blog.tomevslin.com/2011/07/tac-to-fcc-set-a-date-certain-for-the-end-of-the-pstn.html>.

319. BLUMBERG & LUKE, *supra* note 299, at 6, tbl.1.

320. *See supra* Section IV.B for discussion of these reforms.

321. *See* Connect Am. Fund, Report and Order and Further Notice of Proposed Rulemaking, 26 FCC Rcd. 17,663, 17,679 (2011) (“[W]e adopt ‘support for advanced services’ [i.e., broadband] as an additional principle upon which we will base policies for the preservation and advancement of universal service.”).

322. *See generally id.*

323. *Id.* at 17,692.

FCC to preempt aspects of state-level access charge policies as beyond the scope and intent of the 1934 Act.³²⁴

In the absence of a firm deadline and a clear federal policy for transitioning away from the PSTN—and traditional notions of universal service—outdated policies will continue to prevail. As even the FCC has observed, such a situation will quickly become unsustainable, because, as more customers “leave the PSTN, the typical cost per line for [POTS] increases.”³²⁵ Moreover, without clear federal guidance on these issues, a substantial number of states will likely continue to maintain status quo policies for the PSTN while also embracing broadband networks, creating an inefficient duality of communications policy that will strain the resources of legacy providers.³²⁶

Setting a firm deadline and developing a clear transition policy to meet that deadline would not be a novel exercise for the federal government. The FCC has undertaken major platform transitions before, for example, requiring a shift away from analog wireless and television services.³²⁷ In the wireless context, the FCC issued a sunset order in 2002, reasoning that requiring providers to continue offering older analog services along with newer digital ones harmed competition because it “impos[ed] unnecessary operating costs” by mandating that carriers maintain two networks.³²⁸ The FCC articulated a detailed plan for transitioning away from analog service and set a deadline of 2007.³²⁹ Similarly, in the context of the digital television (“DTV”) transition, Congress set a goal to support cutting-edge new television services (e.g., high-definition)³³⁰ and to make available additional spectrum resources to mobile broadband providers,³³¹ ultimately setting a

324. See *supra* Section IV.B for relevant discussion.

325. NATIONAL BROADBAND PLAN, *supra* note 2, at 59 (“Between 2003 and 2009, the average cost per line increased almost 20 percent.”).

326. *Id.* (noting that mandating continued investment in underused telephone networks could “siphon[] investments away from new networks and services.”)

327. *Id.*

328. Year 2000 Biennial Regulatory Review—Amendment of Part 22 of the Commission’s Rules to Modify or Eliminate Outdated Rules Affecting the Cellular Radiotelephone Service and Other Commercial Mobile Radio Services, Report and Order, 17 FCC Rcd 18,401, 18,408–09 (2002).

329. *Id.* at 18,414–38.

330. See, e.g., LENNARD G. KRUGER, CONG. RESEARCH SERV., RL34165, THE TRANSITION TO DIGITAL TELEVISION: IS AMERICA READY? 5 (2009).

331. See Davidson & Santorelli, *supra* note 4, at 40–42.

deadline for 2009.³³² The FCC set rules to govern the auction of the newly freed spectrum in 2007.³³³

The means, however, will be just as important as the ends in this context.³³⁴ A core feature of the FCC's transition policy should be a statement that maintaining the PSTN is no longer in the public interest.³³⁵ Such a statement would untether the PSTN from historical notions of universal service and bolster the view that IP-enabled networks will be the primary medium through which the nation communicates going forward.³³⁶ Equally as important, it would signal to the states that retaining PSTN-focused policies like carrier-of-last-resort rules risks federal preemption since many legacy rules for POTS stem from the regulatory compact forged by monopoly telephone service providers over a century ago.³³⁷

Another key component of the FCC's transition policy should be a modification of the "functional" view of communications, which has resulted in the Commission continuing to build its policies, especially in the context of universal service, around older technology-blind concepts of "voice telephony services."³³⁸ Maintaining such a perspective risks the development of policies that do not accurately reflect the realities of the marketplace or of modern society.³³⁹ A more accurate view of communications would reflect the multi-sector ecosystem that has emerged in tandem with the rise of broadband networks. Equally as important, an effective view would embrace the intermodal nature of the broadband market, a space in which a variety of

332. DTV Delay Act, Pub. L. No. 111-4, § 2, 123 Stat. 112, 112 (2009).

333. This process stretched from 2000 to 2007. *See* Davidson & Santorelli, *supra* note 4, at 40–42.

334. Proposing a detailed plan for the actual transition away from and retirement of the PSTN is beyond the scope of this Article.

335. The Communications Act authorizes the FCC to "repeal or modify any regulation it determines to be no longer necessary in the public interest." 47 U.S.C. § 161(b) (2012). Notions of serving the public interest are at the heart of many provisions included in the Communications Act, including the universal service clauses. *See* 47 U.S.C. § 214 (2012). For additional discussion of how these notions, especially those in section 214, are implicated in the IP transition, see generally Kevin Werbach, *No Dialtone: The End of the Public Switched Telephone Network*, 66 FED. COMM. LAW J. 205 (2014).

336. The FCC's TAC has described this as determining that the PSTN is no longer the "system of record." SUN-SETTING THE PSTN 1, *supra* note 3.

337. *See, e.g.*, NUECHTERLEIN & WEISER, *supra* note 5, at 32–33 (explaining the basis for regulating telephone service—specifically, "to protect consumers from monopoly pricing"); *cf.* Connect Am. Fund, Report and Order and Further Notice of Proposed Rulemaking, 26 FCC Rcd. 17,663, 17,694 (2011) (declining to preempt a variety of traditional state-level PSTN obligations like COLR).

338. *See* Connect Am. Fund, 26 FCC Rcd. at 17,692–93.

339. *See, e.g.*, SUN-SETTING THE PSTN, *supra* note 3 (noting that non-voice communications services have become exceedingly popular among consumers).

platforms built around the Internet Protocol are competing to offer customers an array of voice and non-voice services. Ultimately, adopting this perspective would assure a more focused transition policy that mirrors the modern communications environment and that is reflective of the actual protocols being used to deliver services.

B. DEVELOP AND IMPLEMENT A HYBRID MODEL OF FEDERALISM TO HARMONIZE STATE POLICIES AND ADDRESS NOVEL REGULATORY ISSUES

Establishing a firm deadline for sun-setting the PSTN and implementing a plan to realize it would further underscore the need to recalibrate regulatory federalism for a world in which communications policymaking revolves around IP networks, not POTS and the PSTN.³⁴⁰ The state role in this new world must be clearly defined by the FCC, Congress, or both in an effort to prevent the implementation of laws and policies that impede efforts to retire the PSTN and bolster broadband connectivity. As discussed in previous Sections, the negative consequences of patchwork regulation in the broadband space are significant.³⁴¹ Moreover, the chances of such a patchwork developing are high since states are increasingly taking notice of the disruptive changes broadband has wrought in the communications space and other sectors that have long been heavily regulated at the state level (e.g., healthcare and energy).³⁴² Targeted federal preemption will likely be necessary in some instances (e.g., to assure adequate uniformity in the transition toward all-IP communications networks), but removing the states entirely is both impractical and inefficient.

The hybrid model of regulatory federalism proposed in this Section encompasses many of the tools that have long been employed by policymakers in the telecommunications space: (1) preemption of state-level laws and policies deemed inconsistent with and not conducive to realizing federal policy priorities around the IP transition; (2) deferral to the states to develop and implement laws and policies of general applicability that reflect local conditions and attitudes; and (3) federal-state collaborations forged in

340. The FCC has acknowledged that such a recalibration will likely be necessary over the course of the transition to all-IP networks. *See, e.g.*, Technology Transitions Order, *supra* note 7, at 13–14 (identifying limited roles for states in the initial transition trials and suggesting that formal roles for state PUCs going forward will be based on the data collected during the trials).

341. *See supra* Sections IV.A–C.

342. *See* Santorelli, *supra* note 248, at 114–22 (discussing actual and potential state-federal tensions arising from broadband's disruptions of the U.S. healthcare and energy sectors and proposing a more collaborative, rather than adversarial, way forward).

furtherance of realizing national goals. Ultimately, what makes the model proposed herein different from historical approaches is a matter of degree—i.e., the degree to which these tools are wielded by federal policymakers—and not of kind.

1. Targeted Preemption

In an effort to assure a smooth transition to all-IP networks, federal preemption will be appropriate, and likely necessary, in a variety well-defined of instances.³⁴³ The goal of such targeted preemption would be to ensure that the transition occurs at the same speed across every state in the country. As discussed above in Part IV, the absence of clear federal policies around IP-enabled services invites state policy experimentation, which is anathema to a smooth and equitable transition. The FCC has preempted numerous such policies in the recent past, including many in the context of modernizing the federal USF and the intercarrier compensation framework.³⁴⁴ In furtherance of a federal goal to sun-set the PSTN, federal preemption may be warranted in several additional instances, including reconciling intrastate aspects of the access charge regime,³⁴⁵ eliminating legacy service requirements tied to the PSTN,³⁴⁶ rationalizing copper network retirement policies to speed formal retirement of component parts of the PSTN,³⁴⁷ and otherwise erasing the vestiges of antiquated telephone regulation that might linger in certain states.³⁴⁸

343. Connect Am. Fund, 26 FCC Rcd. at 17,694 (identifying certain “state obligations regarding voice service, including COLR obligations” that the FCC would not preempt “at this time,” suggesting that it could pursue preemption in the future if the case is made that “state service obligations are inconsistent with federal rules and burden the federal universal service mechanisms”). The Communications Act grants the FCC authority to preempt local and state laws and policies for these purposes. For relevant discussion, see *supra* note 140 and accompanying text.

344. See, e.g., Connect Am. Fund, 26 FCC Rcd. at 17,917–18 (establishing the Commission’s authority to implement a national access charge regime vis-à-vis call termination); *Direct Commc’ns Cedar Valley, LLC v. F.C.C.*, 753 F.3d 1015 (10th Cir. 2014) (upholding the *Order*).

345. The FCC declined to preempt the state-by-state approach to access charges vis-à-vis call origination. Connect Am. Fund, 26 FCC Rcd. at 17,922–23.

346. The most notable of these are the COLR obligations, which remain in a majority of states.

347. The FCC’s rules regarding copper loop retirement are detailed in 47 C.F.R. §§ 51.325–51.335 (2012). In the past, the FCC has recognized a state role in overseeing some aspects of copper loop retirement. See *Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers, Report and Order and Order on Remand and Further Notice of Proposed Rulemaking*, 18 F.C.C.R. 16,978, 17,146–48 (2003).

348. Several petitions have been submitted to the FCC to begin the process of rolling back many of these rules. See, e.g., *Petition of USTelecom for Declaratory Ruling that*

Preemption will also play an important role in creating more uniform legal and regulatory responses to novel applications of broadband technology.³⁴⁹ These new applications raise a host of accompanying concerns, including, at a minimum, data privacy, piracy and other content-related issues, and cybersecurity.³⁵⁰ To date, the states have implemented or signaled intent to implement policy responses to each of these issues.³⁵¹ Establishing a state-by-state system of regulation for issues emanating from a network industry like broadband has long been deemed inefficient and contrary to maximizing consumer welfare.³⁵² The rationale put forward in

Incumbent Local Exchange Carriers Are Non-Dominant in the Provision of Switched Access Services, Petition for Declaratory Ruling by USTelecom, at 1 (filed Dec. 19, 2012), *available at* <http://www.ustelecom.org/sites/default/files/documents/USTelecom-Non-Dom%20Petition-FINAL.pdf> (calling on the FCC to “issue a declaratory ruling that incumbent local exchange carriers (ILECS) are no longer subject to dominant-carrier regulation under the Commission’s rules”); United States Telecom Association Petition for Forbearance Under 47 U.S.C. § 160(c) from Enforcement of Certain Legacy Telecommunications Regulations, Petition for Forbearance of USTelecom, WC Docket No. 12-61, at i (filed Feb. 16, 2012) (requesting that the FCC forbear from enforcing dozens of legacy telecommunications regulations that are “vestiges of a bygone era—an era when telephone companies only offered circuit-switched services and consumers could only buy local voice service from their incumbent local exchange carrier.”). In May 2013, the FCC acted on an array of these petitions, moving to “modernize [its] rules by removing outmoded requirements, while preserving requirements that remain essential to [its] fundamental mission to ensure competition, consumer protection, universal service, and public safety.” *See* Petition of USTelecom for Forbearance Under 47 U.S.C. § 160(c) from Enforcement of Certain Legacy Telecommunications Regulations, Order, 28 FCC Rcd 7627, 7630 (2013).

349. Many of these were discussed by the FCC in its National Broadband Plan. *See, e.g.*, NATIONAL BROADBAND PLAN, *supra* note 2, at 249–53 (discussing broadband’s application to the smart electric grid); *id.* at 199–202 (discussing the possibilities for broadband to improve healthcare).

350. *See supra*, Section IV.B, for additional discussion of state motivations for addressing these issues.

351. DAVIDSON & SANTORELLI, *supra* note 249, at 15–16 (discussing the potential for a patchwork of state-level regulatory responses to issues stemming from deployment of the smart grid); *State Laws Related to Internet Privacy*, *supra* note 287; *see also* COMMS. ON CRITICAL INFRASTRUCTURE, NAT’L ASS’N OF REGULATORY UTIL. COMM’RS, RESOLUTION REGARDING CYBERSECURITY (2010), *available at* <http://www.naruc.org/Resolutions/Resolution%20on%20Cybersecurity1.pdf>.

352. *See, e.g.*, Cooper & Koukoutchos, *supra* note 4, at 294 (“Interstate commerce must be federally regulated, and the most natural subjects for exclusive federal regulation are network industries—trucking, railroads, and airlines—whose operations and markets span multiple state borders. Congress has recognized as much in each such industry by consistently following an evolutionary regulatory path of preempting inefficient state-by-state regulation when the industry’s network became largely interstate in nature, and then deregulating the industry entirely when its network had matured to the point where the forces of competition could be relied upon to operate freely. Deregulation of these interstate network industries invariably lowered prices, improved service, and spurred innovation and competition.”).

favor of national regulatory frameworks in these contexts is that, without uniformity, a “patchwork of State laws creates significant burdens for [service providers] without much countervailing benefit for consumers.”³⁵³

In sum, federal policymakers should use preemption as a tool to solve an emerging national collective action problem: how to retire the PSTN and embrace all-IP networks in as efficient and timely a manner as possible.³⁵⁴ Continuing to maintain inconsistent state-level PSTN policies negatively impacts consumers by diverting critical resources away from broadband networks.³⁵⁵ Preserving such autonomy for the sake of upholding theoretical notions of federalism and states’ rights simply disregards these harms, as well as the borderless nature of broadband services. Whereas a more state-centric approach may have been a rational response to prevailing market dynamics during previous eras,³⁵⁶ the current advanced communications arena requires a regulatory structure that reflects the inherently interstate nature of IP services. Thus, targeted preemption—and even the threat of preemption—will likely prove to be a useful tool in positioning all-IP networks as the primary communications platform for the twenty-first century.

2. *State Experimentation with Laws of General Applicability*

An equally important component of any recalibrated model of regulatory federalism will be allowing states to operate as laboratories with the freedom to experiment in developing their own legal responses in narrowly defined instances.³⁵⁷ The primary example in this context is removing monopoly-era service requirements for and economic regulation of service providers and

353. CONSUMER DATA PRIVACY IN A NETWORKED WORLD, *supra* note 291, at 39. This rationale was also used to justify the national embrace of deregulation in the 1970s and early 1980s. *See, e.g.*, Hazlett, *supra* note 106, at 183–89 (discussing deregulation and federal preemption in the context of food labeling and trucking).

354. The notion of “collective action federalism” posits that “much of what the federal government does best is to solve collective action problems that the states cannot solve on their own.” Robert D. Cooter & Neil S. Siegel, *Collective Action Federalism: A General Theory of Article I, Section 8*, 63 STAN. L. REV. 115, 118 (2010).

355. By one estimate, the continued existence and application of legacy PSTN-focused telecommunications laws and policies, many of which are imposed and enforced at the state level, has had significant negative impacts on investment levels in next-generation IP networks. *See generally* ANNA-MARIA KOVACS, TELECOMMUNICATIONS COMPETITION: THE INFRASTRUCTURE-INVESTMENT RACE (2013), available at http://internetinnovation.org/images/misc_content/study-telecommunications-competition-09072013.pdf.

356. *See supra* Parts II and III.

357. *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; and try novel social and economic experiments without risk to the rest of the country.”).

replacing them with laws of general applicability (i.e., rules that are not specific to a particular sector or service). Many of the states that have modernized their telecommunications regulatory frameworks have chosen to follow this route and now subject communications service providers to laws that reach across all sectors.³⁵⁸ Moreover, attempts by the FCC to preempt the application of these laws in the communications context have been rebuffed by the courts, suggesting that there is ample ground for the states to experiment with determining the right mixture of generally applicable laws and regulations to police the modern communications space.³⁵⁹

The latitude afforded to states generally, however, may be shrinking as a result of the twin forces of a more technology-focused economy³⁶⁰ and an evolving vision of the appropriate balance of state and federal regulatory authority in the twenty-first century.³⁶¹ Indeed, a “creeping federalization” that “has sufficiently blurred the boundaries of traditional areas of state authority to render them of little conceptual use” has been observed in many areas of the law and public policy.³⁶² Many of these perceived intrusions have been based on a “muscular reading of the Commerce Clause” and a general willingness by the Supreme Court to uphold preemption in many cases.³⁶³ But so long as even some uncertainty remains regarding the legal efficacy of

358. *See, e.g.*, FLA. STAT. § 364.01(3) (2011) (“Communications activities that are not regulated by the Florida Public Service Commission are subject to this state’s generally applicable business regulation and deceptive trade practices and consumer protection laws, as enforced by the appropriate state authority or through actions in the judicial system.”). For additional examples, see generally LICHTENBERG, *UPDATING THE SCORECARD FOR 2013*, *supra* note 221.

359. *See, e.g.*, Nat’l Ass’n of State Util. Consumer Advocates v. FCC, 457 F.3d 1238, 1258 (11th Cir. 2006) (vacating an FCC order that sought to preempt the states from requiring or prohibiting the use of line-items in customer billing for cellular wireless services), *modified*, 468 F.3d 1272 (11th Cir.). The Court found that the FCC had exceeded its authority and that bill line-items fell squarely within the regulatory purview of the states. *Id.* at 1242.

360. *See, e.g.*, SCHAPIRO, *supra* note 83, at 10 (noting that “[t]echnology has rendered state boundaries less significant”).

361. *See generally* Gillian E. Metzger, *Federalism Under Obama*, 53 WM. & MARY L. REV. 567 (2011) (discussing modern notions of federalism and states’ rights in the context of major federal legislative reforms enacted during the first term of the Obama administration and noting that many major legislative achievements—from healthcare reform to banking regulation—espoused a decidedly top-down federal vision of governance, even while carving out significant implementation roles for the states).

362. SCHAPIRO, *supra* note 83, at 102–03.

363. *See* Samuel Issacharoff & Catherine M. Sharkey, *Backdoor Federalization*, 53 UCLA L. REV. 1353, 1365 (2006). Modern notions of federalism and states’ rights may change significantly in light of major cases recently decided by the U.S. Supreme Court. *See* Richard A. Epstein and Mario Loyola, *Saving Federalism*, NAT’L AFF. (summer 2014) (examining the impact of recent Supreme Court jurisprudence on notions of federalism).

preemption, the states will likely continue exploring the outer bounds of their authority in areas like broadband policy and applying laws of general applicability to various aspects of modern communications.

3. *Federal-State Partnership and Collaboration*

In the broad middle ground between federal preemption and state experimentation, the hybrid approach to regulatory federalism proposed herein should, where feasible, embrace partnerships between the states and the federal government.³⁶⁴ While the exact nature of the federal-state balance would vary depending on the context, such collaborations should be built around three driving principles: (1) respecting and harnessing, in the most efficient manner possible, the core competencies, resources, and expertise of state policymakers;³⁶⁵ (2) recognizing the value of national policy frameworks that carve out narrowly defined roles for the states;³⁶⁶ and (3) developing incentive-based models for realizing national goals wherever possible.³⁶⁷ In short, these collaborative enterprises should seek to move beyond the model of cooperative federalism that has prevailed in the telecommunications space since 1996 in an effort to more clearly define the parameters of state regulatory authority³⁶⁸ and to prevent costly jurisdictional clashes.³⁶⁹

364. Similar approaches have been proposed in the past. *See, e.g.*, Kyle D. Dixon & Philip J. Weiser, *A Digital Age Communications Act Paradigm for Federal-State Relations*, 4 J. ON TELECOMM. & HIGH TECH. L. 321, 326 (2006) (proposing an “integrated” approach to balancing federal-state relations, one that “make[s] clear, with important limitations, that state agencies should be given greater solicitude on matters of social policy than on economic policy.”). The model proposed in this Article differs from previous proposals with regard to the degree to which state and local roles in communications policymaking and implementation are narrowed.

365. *See Summary Remarks of Ind. Util. Regulatory Comm’r Larry S. Landis, Hearing on Early Termination Fees Before the FCC*, at 3 (June 12, 2008), available at <http://www.naruc.org/Testimony/08%200612%20ETF%20Testimony%20before%20FCC.pdf> (summarizing the unique set of core competencies, resources, and expertise that the states possess).

366. *See, e.g.*, NARUC POLICY STATEMENT RESOLUTION, *supra* note 276; *see also* TONY CLARK & MICHAEL J. SANTORELLI, FEDERALISM IN WIRELESS REGULATION: A NEW MODEL FOR A NEW WORLD 16–21 (2009), <http://www.nyls.edu/advanced-communications-law-and-policy-institute/wp-content/uploads/sites/169/2013/08/Clark-Santorelli-Wireless-Federalism-February-2009.pdf> (articulating a similar approach to implementing a national regulatory framework for wireless consumer complaints).

367. *See* Santorelli, *supra* note 248, at 120–21 (“Forgoing preemption whenever possible lowers the risk of legal challenges by the states and positions the federal government as a partner rather than an adversary.”).

368. *See, e.g.*, Weiser, *supra* note 68, at 1698 (noting that “the cooperative federalism regulatory strategy makes sense where the benefits of allowing for diversity in federal regulatory programs outweigh the benefits of demanding uniformity in all situations”); *cf.* Michael S. Greve, *Against Cooperative Federalism*, 70 MISS. L.J. 557, 559 (2000) (“Cooperative

There are several ways these collaborations could be structured. For example, policymakers at the federal, state, and local levels could work together to raise awareness of the benefits of broadband connectivity for individuals and firms in a range of sectors.³⁷⁰ This model has been used in several other contexts in the communications space, including during the DTV transition.³⁷¹ More recently, a similar partnership was struck in an effort to raise awareness of the availability of subsidies for traditional telephone service.³⁷²

Another potential model of collaboration between federal and state entities could involve incentives for states to work toward specific federal goals. A leading model in this instance is “Race to the Top,” a federal grant program that the Obama administration developed and deployed in the education space.³⁷³ The administration rewarded states for modeling education reforms on “predetermined federal criteria”³⁷⁴ and thereby “encourag[ed] greater innovation [at the state level] in line with the administration’s [education] policy priorities.”³⁷⁵ This approach could be

federalism undermines political transparency and accountability, thereby heightening civic disaffection and cynicism; diminishes policy competition among the states; and erodes self-government and liberty.”).

369. See, e.g., Metzger, *supra* note 361, at 571–97 (highlighting several significant federalism disputes faced by the Obama administration); Santorelli, *supra* note 248, at 117–18 (highlighting the potential for legal clashes between state and federal regulatory entities in the smart grid space).

370. See *infra* Section V.C for additional discussion.

371. See, e.g., *FCC Announces the Rechartering of the Intergovernmental Advisory Committee* (June 8, 2007), http://hraunfoss.fcc.gov/edocs_public/attachmatch/DA-07-2427A1.pdf (noting that the IAC was rechartered in recognition of the fact that “[c]ollaboration and coordination with local, state and tribal governments is crucial to the Commission’s goal of ensuring that all consumers, especially elderly, low-income, people with disabilities, people living in rural areas and non-English speaking consumers, are aware of the transition and understand what specific steps, if any, they must take to continue watching television after the transition is complete”).

372. See, e.g., COMMS. ON CONSUMER AFFAIRS & TELECOMMS., NAT’L ASS’N OF REGULATORY UTIL. COMM’RS, RESOLUTION PROCLAIMING NATIONAL TELEPHONE DISCOUNT LIFELINE AWARENESS WEEK (2009), *available at* <http://www.naruc.org/Resolutions/Resolution%20on%20Lifeline%20Awareness%20Week.pdf> (“The FCC, [NARUC], the National Association of State Utility Consumer Advocates . . . other State and federal agencies, cities, counties, organizations, and telecommunications companies are committed to increasing awareness about the availability of the Link-Up and Lifeline programs and are encouraging eligible consumers to sign up for the programs.”).

373. *Race to the Top Fund*, U.S. DEP’T OF EDUC., <http://www2.ed.gov/programs/racetothetop/index.html> (last visited Feb. 4, 2014).

374. Santorelli, *supra* note 248, at 120.

375. Metzger, *supra* note 361, at 590.

adapted for the purpose of harmonizing legal and regulatory approaches to broadband-enabled innovation in sectors like healthcare.³⁷⁶ Similar efforts are already underway. For example, federal and state policymakers are actively working together to develop common standards and polices to govern various aspects of the emerging smart-grid infrastructure.³⁷⁷

In the near-term, however, the primary model of collaboration will likely be one in which the states are tasked with implementing federal frameworks that act as both “floors” and “ceilings.” Under the model of cooperative federalism in the telecommunications sector that emerged after the 1996 Act,³⁷⁸ Congress or the FCC would typically only set a “floor,” or minimum set of standards, providing the states with “flexibility” to “adapt [policies] to local conditions, compete for superior regulatory approaches, and experiment with various arrangements.”³⁷⁹ As previously noted, the assumptions undergirding this approach are no longer adequate for the post-PSTN world, which will be dominated by borderless IP-enabled networks and services.³⁸⁰ Indeed, the absence of a “ceiling,” or maximum standard, in this context risks creating further tension between federal and state regulatory entities by creating opportunities for wayward state experimentation. This disjointed approach would threaten the certainty and stability that the hybrid model of federalism strives to achieve.³⁸¹ The federal legislature should thus utilize both a floor and a ceiling where the development of inconsistent state-level policies could have immediate negative impacts on the provision of core broadband services.³⁸²

376. *Id.*

377. *See, e.g.*, DAVIDSON & SANTORELLI, *supra* note 249, at 26–27 (detailing an array of federal-state actions in this space); Andeas S.V. Wokutch, *The Role of Non-Utility Service Providers in Smart Grid Development: Should They Be Regulated, and If So, Who Can Regulate Them?*, 9 J. ON TELECOMM. & HIGH TECH. L. 531 (2011) (providing an overview of jurisdictional challenges stemming from smart grid deployment).

378. *See supra* Section III.B for additional discussion.

379. Weiser, *supra* note 68, at 1701.

380. *See supra* Part IV and Subsection V.B.1 (discussing the negative aspects associated with patchwork regulation in the modern communications sector).

381. *See, e.g.*, Robert A. Schapiro, *Toward a Theory of Interactive Federalism*, 91 IOWA L. REV. 243, 284 (2005) (“[C]ooperative federalism gives an incomplete specification of federal-state relations. Cooperative federalism blesses the voluntary interaction of state and national governments. The theory does little to sort out the conflicts that may arise in that relationship. The interaction of state and national authority may be competitive or even confrontational.”).

382. One issue that might benefit from this type of approach is IP-to-IP interconnection. The FCC has reiterated that interconnection obligations remain in the post-PSTN era. Connect Am. Fund, Report and Order and Further Notice of Proposed Rulemaking, 26 FCC Rcd. 17,663, 17,678 (2011) (noting that there is an expectation for “all

* * *

Two main benefits of adopting the hybrid approach to regulatory federalism proposed herein are its adaptability and its de facto requirement that stakeholders look beyond traditional models of preemption or federal-state collaboration. Such a model provides policymakers with several options for addressing the political elements of federalism³⁸³ and states' rights.³⁸⁴ Indeed, in an era when intense ideological battles are being waged over these issues, having a sufficiently flexible framework will be useful when navigating the political and policy contours of recalibrating regulatory federalism for the twenty-first-century communications market.

C. RETHINKING THE ROLES OF LOCAL, STATE, AND FEDERAL REGULATORY ENTITIES

The larger question that policymakers must address as they contemplate the transition away from POTS and the PSTN is how the roles of regulatory entities at the local, state, and federal levels could and should change as a result of a full embrace of all-IP networks. The vast majority of policymaking in the communications space has been built around and informed by a

carriers to negotiate in good faith in response to requests for IP-to-IP interconnection for the exchange of voice traffic"). But in the absence of specific guidance about how IP networks are to interconnect and the extent to which state PUCs might arbitrate these negotiations, the possibility exists for erratic state-level action when resolving disputes. *See, e.g.*, Petition of CRC Commc'ns of Me., Inc. & Time Warner Cable Inc. for Preemption Pursuant to Section 253 of the Commc'ns Act, as Amended, Declaratory Ruling, 26 FCC Rcd 8259, 8269–73 (2011) (clarifying the role of state PUCs in interconnection disputes and outlining additional duties to foster competition in the provision of IP services); Petition of Sprint for Arbitration Pursuant to Section 252(b) of the Telecomm's Act of 1996 to Establish Interconnection Agreements with Mich. Tel. Co. d/b/a AT&T Mich., Case No. U-17349 (Mich. Pub. Serv. Comm'n Dec. 2013), *available at* http://www.dleg.state.mi.us/mpsc/orders/comm/2013/u-17349_12-6-2013.pdf (requiring IP-to-IP interconnection by interpreting the interconnection clause in the Communications Act as technology neutral and using that interpretation as the basis for rejecting an argument that IP-enabled services like VoIP are exempt from Title II requirements because they are information services, not telecommunications services). Ultimately, if the FCC develops a formal framework for IP-to-IP interconnection and carves out a role for the states, the scope of state action in this context should be narrowly defined and governed by floor and ceiling rules in an effort to protect against the development of a patchwork of interconnection regulations.

383. *See, e.g.*, Metzger, *supra* note 361 (discussing the political elements of federalism vis-à-vis enactment of several federal initiatives); Memorandum for the Heads of Executive Departments and Agencies Regarding Preemption, 74 Fed. Reg. 24,693, 24,693 (May 20, 2009) (recognizing the political and policy-oriented impacts of preempting state laws).

384. *See, e.g.*, Paul L. Posner, *The Politics of Preemption: Prospects for the States*, 38 POL. SCI. & POL. 371, 371 (2009) (discussing the impacts of "coercive federalism" on traditional notions of states' rights).

shared national imperative to provide basic and affordable voice telephony to every household in the United States. Notions of universality have been so pervasive that some have sought to extend them, as a matter of course, to new technologies like cable television, wireless telephony, and broadband, often without regard to the impacts that these policies might have on the still-emergent ecosystems.³⁸⁵ In addition, state PUCs and municipalities have also attempted to assert their authority in areas like broadband regulation and network deployment.³⁸⁶ In these instances, both state- and municipal-level entities have sought to substantiate their efforts as an extension of traditional public-utility regulation.³⁸⁷

Although the hybrid approach to regulatory federalism discussed above would likely result in a significant narrowing of state and municipal authority over many aspects of broadband,³⁸⁸ a formal embrace of all-IP networks should instead be seen as an opportunity to reallocate resources in an effort to maximize availability and enhance informed utilization of these new tools. The FCC and many others have recognized that policymakers at the local and state levels are uniquely positioned to assist in these tasks.³⁸⁹

385. See, e.g., Susan Crawford, *The Radio and the Internet*, 23 BERKELEY TECH. L.J. 933 (2008) (calling on the FCC to embrace notions of common carriage when regulating ISPs).

386. See, e.g., Michael J. Santorelli, *Rationalizing the Municipal Broadband Debate*, 3 I/S: J.L. & POL'Y FOR INFO. SOC'Y 43, 65–67 (2007) (providing an overview of municipal attempts to build proprietary broadband networks).

387. See, e.g., CRAWFORD, CAPTIVE AUDIENCE, *supra* note 232, at 270 (calling on Americans to “encourage[] towns and municipalities to oversee their own open-access, nondiscriminatory, fast fiber networks”); Hannibal Travis, *Wi-Fi Everywhere: Universal Broadband Access as Antitrust and Telecommunications Policy*, 55 AM. U. L. REV. 1697, 1780–87 (2006) (discussing legal and policy justifications for deploying municipal Wi-Fi systems); cf. Santorelli, *supra* note 386, at 76–78 (arguing that municipal broadband networks are only appropriate in instances of clear market failure). For a comprehensive rebuttal of arguments in favor of unfettered broadband network deployment by municipalities, see generally CHARLES M. DAVIDSON & MICHAEL J. SANTORELLI, N.Y. LAW SCH., UNDERSTANDING THE DEBATE OVER GOVERNMENT-OWNED BROADBAND NETWORKS: CONTEXT, LESSONS LEARNED, AND A WAY FORWARD FOR POLICY MAKERS (2014), available at <http://www.nyls.edu/advanced-communications-law-and-policy-institute/wp-content/uploads/sites/169/2013/08/ACLP-Government-Owned-Broadband-Networks-FINAL-June-2014.pdf>.

388. See *supra* Section V.B.

389. See, e.g., NATIONAL BROADBAND PLAN, *supra* note 2, at 171 (“Local leaders can play an important role by building on existing social programs and partnering with community organizations that non-adopters already rely on as trusted sources of information. They can tailor adoption efforts to address language barriers, lack of credit, low basic literacy levels and other issues faced by non-adopters.”) (citations omitted); Charles M. Davidson, Michael J. Santorelli & Thomas Kamber, *Broadband Adoption: Why it Matters & How it Works*, 19 MEDIA L. & POL'Y 14, 54–55 (2009) (“Coordination at the local, state and national levels regarding best practices could bolster adoption efforts.”).

Municipal policymakers and other local leaders are well positioned to work collaboratively with local stakeholders to bolster broadband on both the supply side (i.e., network availability) and the demand side (i.e., adoption and use). On the supply side, municipalities should seek to serve as hubs for channeling funding and forging public-private partnerships with experts in the private and nonprofit sectors.³⁹⁰ Indeed, the most cost-effective way to bridge broadband availability gaps is to position substantial private investments of time, capital, and expertise as core animating features of public-private partnerships focused on network expansion.³⁹¹ There are also opportunities for municipalities to work with stakeholders in the private sector and policymakers at the state and federal levels to streamline processes for siting and managing rights-of-way—key infrastructure inputs for all broadband networks.

On the demand side, local policymakers and government institutions could strategically help to raise awareness of and demand for broadband services. Such demand aggregation activities are essential first steps to creating attractive economic incentives for private firms to build out networks to unserved or under-served areas.³⁹² In addition, local governments could work within existing social infrastructures to ensure that residents have ready access to digital literacy training services and other such programs aimed at assuring equal opportunity to harness the transformative power of broadband.³⁹³ Finally, municipalities could work to gather granular data regarding broadband availability and adoption, which can help to more narrowly tailor strategies for bringing networks to unserved areas.³⁹⁴

At the state level, policymakers and regulators are similarly situated to serve as vital resources in the realization of local, state, and national goals for

390. *See, e.g.*, CHARLES M. DAVIDSON & MICHAEL J. SANTORELLI, N.Y. LAW SCH., BROADBAND AND THE EMPIRE STATE: TOWARD UNIVERSAL CONNECTIVITY IN NEW YORK 27–31 (2012), available at <http://nysbroadband.ny.gov/assets/documents/ACLPReporteSeptember2012.pdf>.

391. *See generally id.* For a discussion of the many benefits of public-private partnerships generally, see FREEDMAN CONSULTING, LLC & BLOOMBERG PHILANTHROPIES, THE COLLABORATIVE CITY (2013), http://www.nyc.gov/html/fund/downloads/pdf/ppp_report_112013.pdf (examining the many successful public-private partnerships launched in New York City between 2002 and 2013).

392. *See, e.g.*, DAVIDSON & SANTORELLI, *supra* note 390, at 27–31 (providing a framework for forging partnerships and policies and creating attractive economic incentives in support of broadband network deployment).

393. *Id.* at 29.

394. *See, e.g.*, Charles M. Davidson, Michael J. Santorelli & Tom Kamber, *Toward an Inclusive Measure of Broadband Adoption*, 6 INT'L J. COMM. 2555 (2012) (discussing the importance of such data and proposing a new model for collecting and analyzing it and putting it to effective use in communities).

broadband. Increasingly, many different state-level entities are working to fulfill new mandates for broadband set forth by legislatures and governors.³⁹⁵ Indeed, much like at the municipal level, state authorities are embracing broadband as an essential tool for economic transformation and for remaking government. State legislators and executives are thus well positioned to set statewide goals for broadband and allocate funding and regulatory authority accordingly.³⁹⁶ In New York, for example, the governor has earmarked tens of millions of dollars to bring broadband to the state's remaining unserved areas via public-private partnerships.³⁹⁷ In addition, state legislatures should focus on removing the dozens of barriers to more robust broadband adoption and use in certain user communities and across key sectors.³⁹⁸

State PUCs have also proven to be important actors in realizing state and national goals for broadband. Several PUCs were tasked with overseeing broadband mapping initiatives, which were launched as a result of federal legislation.³⁹⁹ Moreover, as the DTV transition demonstrated, state PUCs have the ability to deploy public awareness campaigns in furtherance of federal and state public policy goals.⁴⁰⁰ Adapting these approaches in the broadband adoption and training context could be a natural expansion of states' core competencies.

Finally, at the federal level, a national embrace of all-IP networks should be coupled with a reexamination of the efficacy of locating primary oversight authority for these services at the FCC. The need for such a reevaluation has taken on some urgency in recent years as the Commission has struggled to reconcile its minimal regulatory authority over broadband, the result of classifying it as an information service, with its desire to implement and

395. See, e.g., *Broadband Statutes*, NAT'L CONF. OF STATE LEGISLATURES, <http://www.ncsl.org/issues-research/telecom/broadband-statutes.aspx> (last updated Dec. 16, 2013) (providing an overview of dozens of broadband-related state laws that have been considered in recent years).

396. See, e.g., DAVIDSON & SANTORELLI, *supra* note 390, at 23–31 (discussing proposals to increase broadband connectivity in New York).

397. See N.Y. Gov. Proposes \$25 Million for Rural Broadband, CED MAG. (Mar. 6, 2012), <http://www.cedmagazine.com/news/2012/03/ny-gov-proposes-25m-for-rural-broadband/>.

398. See, e.g., DAVIDSON & SANTORELLI, *supra* note 288 (identifying dozens of barriers impeding more robust broadband adoption by senior citizens and people with disabilities and across the education, healthcare, energy, and government sectors).

399. For an overview of state-level mapping programs, see *About: State Broadband Programs*, NAT'L BROADBAND MAP, <http://www.broadbandmap.gov/about/state-broadband-programs/> (last visited Mar. 15, 2014).

400. For examples of these types of resources, see *DTV Transition*, NAT'L ASS'N OF REG. UTIL. COMM'RS, <http://www.naruc.org/dtv/> (last visited Mar. 15, 2014).

enforce network neutrality principles and other such regulations.⁴⁰¹ Some have argued in favor of eliminating FCC authority in this space and replacing it with antitrust enforcement by other federal authorities.⁴⁰² Others have called for systemic deregulation in light of current market forces and dynamics in the broadband ecosystem.⁴⁰³ In the post-PSTN world, recalibrating and clarifying the FCC's authority over broadband should be guided not by traditional notions of natural monopoly regulation, which undergirds its common carrier approach to POTS, but by more modern notions of innovation and competition in interdependent and multi-sector ecosystems.⁴⁰⁴

VI. CONCLUSION

Regulatory federalism has played a central role in the communications marketplace since the birth of the telephone. State regulatory entities focused on assuring universal service and low rates by implementing exacting economic and social regulation of the local telephone monopoly. The federal government, primarily through the FCC, supplemented these efforts by developing national policies to govern the interstate aspects of basic telephony. Over the course of much of the twentieth century, it was essential to maintain some semblance of the historical federal-state balance, despite significant tension and frequent jurisdictional squabbles, because POTS, with its identifiable intra- and inter-state elements, remained the only means of voice communication. But once alternatives emerged, efforts to recalibrate

401. The FCC's first attempt was rebuked by the Court of Appeals for the D.C. Circuit in *Comcast Corp. v. FCC*, 600 F.3d 642 (D.C. Cir. 2010). Its second attempt was largely struck down, but the Court of Appeals for the D.C. Circuit seemed to suggest that the FCC nevertheless possesses broad authority to implement rules that promote deployment of broadband networks. *See Verizon v. FCC*, 740 F.3d 623 (D.C. Cir. 2014). In response, the Commission opened yet another rulemaking proceeding to explore the feasibility of adopting network neutrality regulation based on either an expansive reading of section 706, per *Verizon*, or reclassification of broadband as a common carrier service. *See* Notice of Proposed Rulemaking, Protecting and Promoting the Open Internet, GN Docket 14-28 (May 15, 2014).

402. *See, e.g.*, Jonathan E. Nuechterlein, *Antitrust Oversight of an Antitrust Dispute: An Institutional Perspective on the Net Neutrality Debate*, 7 J. ON TELECOMM. & HIGH TECH. L. 19, 56–64 (2009) (discussing the need for antitrust enforcement in the context of net neutrality disputes).

403. *See, e.g.*, Christopher S. Yoo, *Deregulation vs. Reregulation of Telecommunications: A Clash of Regulatory Paradigms*, 36 J. CORP. L. 847, 866–67 (2011).

404. *See, e.g.*, Tom Nicholas, *What Drives Innovation?*, 77 ANTITRUST L.J. 787 (2011) (noting that “[e]stablishing an optimal institutional framework for getting innovation incentives right is complex” and analyzing the efficacy of antitrust law and policy to foster technological innovation in the United States).

regulatory federalism became remarkably complex. Now, with the United States in the midst of a communications revolution that promises to rapidly usher the country into a post-PSTN era, determining the proper federal-state balance in such a new world is of paramount concern.

As policymakers and stakeholders at the local, state, and federal levels contemplate and address these foundational issues, they would be wise to recalibrate regulatory federalism as outlined herein. Equally important, regulatory entities should put aside their self-interest and come together for frank discussions regarding what will likely be a fundamental reordering of authority in this space. Indeed, successful completion of this historic transition will require more than just a recalibration of regulatory federalism—it will also require a fundamental rethinking of the appropriate role and structure of regulation in this dynamic sector.⁴⁰⁵

405. For an incisive analysis of the dynamics of disruption in the modern economy, see Larry Downes & Paul F. Nunes, *Big-Bang Disruption*, HARV. BUS. REV., Mar. 2013, at 44.