EDITOR'S NOTE

Welcome to the second Issue of Volume 66 of the *Federal Communications Law Journal*, the nation's premier communications law journal and the official journal of the Federal Communications Bar Association.

This Issue presents pieces on a variety of important topics in the communications field. The Issue opens with an Article discussing the continued viability of the public switched telephone network ("PSTN") by Kevin Werbach, associate professor of Legal Studies and Business Ethics at the Wharton School in the University of Pennsylvania. Professor Werbach analyzes the public policy principles that have historically justified regulation of the PSTN and develops a conceptual framework for charting a regulatory path as this "network of networks" transitions to an all-IP environment.

Next, the Issue presents an Article from the Phoenix Center for Advanced Legal & Economic Public Policy Studies authored by Chief Economist George S. Ford, President Lawrence J. Spiwak, and Senior Fellows T. Randolph Beard and Michael Stern. The Article discusses the perennial question of efficient spectrum allocation, specifically addressing the mechanisms for managing government spectrum holdings.

In addition to these pieces, this Issue contains three student Notes and one Comment. In the first Note, Meredith Shell examines whether broadband service providers enjoy free speech protections that preclude their regulation under network neutrality principles. Next, Milena Mikailova examines the viability of broadcast advertising restrictions of certain food products during children's programming as a possible solution to the nationwide childhood obesity problem. Then, my Note investigates the state of a circuit split on federal preemption in wireless tower siting, concluding that the Commission is owed deference on its interpretation of section 332 of the Act. The Issue concludes with a Comment by James Chapman that analyzes the Ninth Circuit's recent decision concerning advertising on public broadcast stations in *Minority Television Project, Inc. v. Federal Communications Commission* and identifies shortcomings in the court's intermediate scrutiny analysis.

The *Journal* is committed to providing its readership with substantive coverage of relevant topics in communications law, and we appreciate the continued support of contributors and readers alike. We welcome your feedback and submissions—any questions or comments about this Issue or future issues may be directed to fclj@law.gwu.edu, and any submissions for publication consideration may be directed to fcljarticles@law.gwu.edu. This Issue and our archive are available at http://www.fclj.org.

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Federal Communications Law Journal

The *Federal Communications Law Journal* is published jointly by the Federal Communications Bar Association and the George Washington University Law School. The *Journal* publishes three issues per year and features articles, student notes, essays, and book reviews on issues in telecommunications, the First Amendment, broadcasting, telephony, computers, Internet, intellectual property, mass media, privacy, communications and information policymaking, and other related fields.

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ARTICLES

No Dialtone: The End of the Public Switched Telephone Network

The set of arrangements known as the Public Switched Telephone Network ("PSTN") is the foundation for the modern global communications system and the myriad benefits it delivers. Today, the era of the PSTN is swiftly coming to a close. The transition to a broadband network of networks is the most important communications policy event in at least half a century, yet its significance is not fully appreciated. The time has come to address the situation squarely. What we call the PSTN is actually six different concepts: a technical architecture, a regulatory arrangement, a business and market structure, universal connectivity, strategic national infrastructure, and a social contract. The earlier elements on the list are rooted in the particular historical, legal, and technical circumstances that gave birth to the PSTN. They are anachronistic in the current environment and should be restructured or, when appropriate, eliminated. The later elements are public policy obligations that should be satisfied regardless of the historical circumstances. Separating the dimensions of the transition in this way highlights the central importance of interconnection and coordination mechanisms to meet enduring public interest objectives. By adopting a forward-looking plan for the PSTN transition, the FCC can ensure that the shift to a digital broadband world reinforces, rather than undermines, the achievements of the past century of communications policy.

Market Mechanisms and the Efficient Use and Management of Scarce Spectrum Resources

Today, the federal government has assigned about half of what is considered to be "beachfront" spectrum. However, most agree that government agencies, and the government as a whole, use and manage spectrum resources inefficiently. As such, much attention is now focused on improving the federal government's efficiency in the use and management of its spectrum resources with the aim of freeing up spectrum that can be repurposed for use by the spectrum-constrained commercial sector. In this article, we first tackle government spectrum use and demonstrate that the "ghost market" approaches commonly proposed to enhance public sector efficiency in spectrum—such as a General Services Administration-type model to the recent spectrum sharing proposal by the President's Council of Advisors on Science and Technology use—may not, in the long-term, be effective. Next, we turn to government spectrum management, and present a general equilibrium model addressing spectrum assignment between public and private users, whether allocated through auctions or leasing. We find that government management of spectrum resources is not desirable beyond some minimum level. In fact, any proposal that contemplates the leasing of government-managed spectrum to the private sector may be presumed to include "too little" auctioning of government spectrum to the private sector in the form of exclusive licenses. We conclude that if the goal of spectrum use and management is economic efficiency, then policymakers should expand the private sector's management of the nation's scarce spectrum resources.

NOTES

Network Neutrality and Broadband Service Providers' First Amendment Right to Free Speech

In 2010, the Federal Communications Commission issued the Open Internet Order, a regulation that sought to preserve the "free and open Internet." The Order's core provisions, the "No Blocking" and "No Unreasonable Discrimination" Rules, generally barred broadband service providers from prioritizing, degrading, or blocking Internet traffic based on its content, source, or destination. Although the Commission believed that it had the authority to promulgate these rules, Verizon and other providers challenged the legality of the Order in federal court. Verizon argued, among other things, that the FCC lacked the statutory jurisdiction to impose "open Internet" regulation on broadband service providers, and that the Order violated broadband service providers' First Amendment right to free speech. In 2014, the U.S. Court of Appeals for the District of Columbia Circuit vacated the No Blocking and No Unreasonable Discrimination Rules, agreeing with Verizon's contention that the Communications Act does not authorize the FCC to impose common carrier regulation on information services such as broadband providers. The D.C. Circuit did not address Verizon's First Amendment arguments.

In the past, the Supreme Court has evaluated the extent to which distributors of speech in other media—such as newspapers, radio stations, and cable television providers—enjoy a First Amendment right to modify or block the content they transmit. However, the Court has yet to determine whether the First Amendment protects the right of broadband service providers to filter the traffic on their networks. After carefully applying the precedent set in the prior cases to the current debate over the rights of Internet providers, this Note concludes that First Amendment protections do not extend to broadband service providers because they do not engage in protected speech activity. Instead, they are mere conduits for the speech of others. Furthermore, even if a court were to determine that Internet providers do enjoy First Amendment protection, the FCC would still retain the power to regulate broadband service providers' speech because of the government's substantial social interests in maintaining an open Internet.

Advertising and Childhood Obesity: The Role of the Federal Government in Limiting Children's Exposure to Unhealthy Food Advertisements

The obesity rate among children aged two to eleven has continued to rise in the United States over the past several decades. Consequently, more children in this age group are being diagnosed with obesity-related health conditions such as type 2 diabetes, high cholesterol, and high blood pressure. Exposure to television advertisements for foods that are high in fat, sugar, and sodium has been recognized as a risk factor for childhood obesity because it influences children's dietary preferences and intake. Consequently, both the federal government and the food and beverage industry have attempted to curb children's exposure to such advertisements. However, these efforts have been largely unsuccessful. The federal government should therefore reconsider its role in decreasing the prevalence of childhood obesity by following the example set by the governments of Québec, Canada, the United Kingdom, and other European countries.

Specifically, this Note argues that Congress should instruct the Federal Communications Commission ("FCC") to restrict the advertisement of unhealthy foods during children's programming. To ensure that the FCC can accomplish this, Congress should also direct the Food and Drug Administration to establish nutritional standards identifying which foods are unhealthy for consumption by children between the ages of two and eleven. Because advertising is a form of commercial speech, any regulation that seeks to restrict it will be subject by the courts to the *Central Hudson* fourstep analysis to determine its constitutionality. This Note applies the *Central Hudson* regulation restricting the advertisement of unhealthy foods during children's programming.

The Effective Prohibition Preemption in Modern Wireless Tower Siting

The American telecommunications landscape is shaped by many factors inherited from the nation's unique constitutional structure. Authority over critical inputs in the wireless industry is distributed among federal and state regulatory bodies. Public policies are set by legislative bodies at both the federal and state level, but are ultimately reviewed by courts uninvolved in the creation of the rules they enforce. The Telecommunications Act of 1996 adopted a new legal framework to govern the siting of cellular towers that attempted to balance these competing interests. The mechanisms for this balancing were a narrow set of federal preemptions of state law which limited the discretion of local zoning authorities to deny wireless carriers the ability to deploy cellular towers locally. This Note concerns one such preemption that requires that a state "shall not prohibit or have the effect of prohibiting the provision of personal wireless services."

Since the passage of the Act, a circuit split has developed on what it means for a local government act to have "the effect of prohibiting the provision of personal wireless services." This Note addresses this circuit split, walking through the legislative history of the Telecommunications Act of 1996, the initial circuit splits on the meaning of the Effective Prohibition Preemption codified at 47 U.S.C. section 332(c)(7)(B)(i)(II), and the Commission's 2009 Declaratory Ruling on the subject. Keeping the competition-enhancing goals of the Act in mind, this Note analyzes the deference owed to the Commission under Chevron U.S.A., Inc. v. Natural Resources Defense Council. After concluding that the Commission deserves interpretive deference in its support of the "multiple provider rule", this Note identifies splits unresolved by the Commission's 2009 Declaratory Ruling. The Note concludes by recommending that Congress should amend the Effective Prohibition Preemption to incorporate a clear statutory preference for multifirm competition and that the Commission should supplement its 2009 Declaratory Ruling to resolve the remaining splits.

COMMENT

The First Amendment and Public Television Advertising: The Need for Clarity After *Minority Television*

In Minority Television Project, Inc. v. Federal Communications Commission, a divided en banc Ninth Circuit upheld the content-based restrictions on advertisements broadcast on public television stations contained in 47 U.S.C. section 399b, which prohibits three specific types of advertisements: (1) for goods and services, (2) regarding public issues, and (3) supporting or opposing any political candidate. This Comment examines the factual and procedural history of this case and critically evaluates the en banc court's opinions. Then, the Comment argues that even within the unique analytical framework of First Amendment scrutiny of regulations of broadcast media, the Ninth Circuit failed to take adequately into account three considerations: (1) the full range of relevant First Amendment interests; (2) the proper rigor needed in a League of Women Voters intermediate scrutiny analysis, informed by Turner I and Turner II; and (3) the impact of recent First Amendment case law, especially concerning issue and political advertisements. Finally, after reviewing other questions implicated by the Ninth Circuit's decision, this Comment concludes with an analysis of the implications of Minority Television in future cases and the prospects for Supreme Court review.

No Dialtone: The End of the Public Switched Telephone Network

Kevin Werbach*

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Issue 2

I. INTRODUCTION

All good things must come to an end. The Public Switched Telephone Network ("PSTN") is the foundation for the modern global communications system and the myriad benefits it delivers. Today, the era of the PSTN is swiftly coming to a close. The PSTN's technical, economic, and legal pillars have been undermined in the United States by three developments: the rise of the Internet; customers and providers abandoning wireline voice telephony; and the collapse of the regulatory theory for data services. This Article provides a framework for moving beyond the PSTN, by distinguishing the aspects of the existing system that should be retained, reconstituted, and abandoned.

The transition from the PSTN to a broadband network of networks is the most important communications policy event in at least half a century.¹ It calls into question the viability of the Federal Communications Commission ("FCC"), the Communications Act, and the telecommunications industry as we know it. Yet the significance of the transition is not widely recognized. Attention has focused on specific manifestations and consequences, such as the rise of "wireless-only" households and problems with rural call completion.

The time has come to address the situation squarely. The lesson from prior structural transitions in communications such as digital television, the AT&T divestiture, and the opening of local telephone competition is that, with good planning and the right policy decisions, such shifts can proceed smoothly and open new vistas for competition and innovation. Without this planning, structural transitions are dangerous opportunities for chaos that can gravely harm the public interest.

There are two mainstream views about how to handle the PSTN transition. One is that it represents the completion of a deregulatory arc begun at the AT&T divestiture and accelerated by the Telecommunications Act of 1996. The other is that longstanding regulatory obligations need only be extended to the new world. Both are wrong because they treat the PSTN as a unitary thing. What we call the PSTN is actually six different, but interrelated, concepts:

- 1) a technical architecture;
- 2) a regulatory arrangement;
- 3) a business and market structure;

^{1.} See generally JONATHAN E. NUECHTERLEIN & PHILIP J. WEISER, DIGITAL CROSSROADS: AMERICAN TELECOMMUNICATIONS POLICY IN THE INTERNET AGE (2005) (describing the transformation of communications networks); Michael K. Powell, Comm'r, FCC, The Great Digital Broadband Migration, Remarks Before the Progress and Freedom Foundation (Dec. 8, 2000) (arguing that all communications platforms were in the midst of a transformative "digital broadband migration"), *available at* http://www.fcc.gov/Speeches/Powell/2000/spmkp003.html.

- 4) universal connectivity;
- 5) strategic national infrastructure; and
- 6) a social contract.

The elements earlier on the list are rooted in the particular historical, legal, and technical circumstances that gave birth to the PSTN. They are anachronistic in the current environment. The later elements are public policy obligations that should be satisfied regardless of the historical circumstances. The question for regulators is how to do so in the most efficient and effective manner, given the changed circumstances.

The end of the PSTN involves two primary developments. First, customers are switching from the incumbent wireline telephone companies to alternatives using different networks or technologies, primarily wireless phones and voice over Internet protocol ("VoIP"). Second, those telephone companies themselves are migrating away from the technical underpinnings of the PSTN, seeking to move their own customers to wireless and VoIP-based alternatives.

The initial stage of the PSTN transition is occurring with surprising speed. The PSTN has been around for more than a century, and reached effective ubiquity in U.S. households in the middle of the last century.² It is deeply woven into the fabric of daily life and business. It seems unthinkable that it could disappear in a generation, let alone a decade. Yet for all intents and purposes, the era of the PSTN as the country's dominant communications network is already over. The FCC's Technology Advisory Committee has predicted that by 2018, the PSTN market will reach only six percent of the U.S. population.³

The PSTN is rapidly becoming an afterthought. Its market share will continue to shrink even if the incumbent network operators do nothing. And they are doing significantly more than that. They are putting into motion plans to transition their PSTN customers to VoIP or wireless connections. A small number of Verizon customers have already been transitioned to a wireless service that doesn't provide the full functionality of the PSTN as their only option for phone service.⁴ And AT&T has petitioned the FCC for authorization to switch entire communities over to IP-based technology on an experimental basis.⁵ The endgame for both, and

^{2.} See MILTON L. MUELLER, JR., UNIVERSAL SERVICE: COMPETITION, INTERCONNECTION AND MONOPOLY IN THE MAKING OF THE AMERICAN TELEPHONE SYSTEM 146–48 (1997). Penetration numbers continued to creep up after that. Though some Americans in extremely rural areas of with low incomes never obtained telephone service, their numbers are miniscule.

^{3.} TECH. ADVISORY COUNCIL, FCC, STATUS OF RECOMMENDATIONS (2011), *available at* http://transition.fcc.gov/oet/tac/TACJune2011mtgfullpresentation.pdf.

^{4.} See infra Part II.A.4 (Fire Island discussion).

^{5.} See infra Parts II.A.3 & IV.A (AT&T Petition discussion).

for virtually all PSTN providers, is to move to an all Internet Protocol ("IP") network with no switched wireline voice connections.⁶

The death of the PSTN is a good thing. The reason all new entrants are using IP-based technologies, and all existing providers want to, is that these technologies offer enhanced functionality and cost savings. Both customers and industry will benefit from the switchover. Yet there are two significant and related problems with the transition. The PSTN delivers highly important public interest benefits, not all of which will necessarily be preserved when moving away from traditional telephone service. These benefits range from consumer protections to public safety considerations. Second, the U.S. regulatory regime for telecommunications is tightly connected to the PSTN. Partly as a result, the business arrangements of the telecommunications sector assume the PSTN as a backstop. If all regulatory obligations disappear with the transition, the consequences could be dire.

The transition process is complicated by the past decade of telecommunications policy-making, which has left the legal regime for IP-based services a confusing mess. Fortunately, even without congressional action, the FCC retains sufficient legal authority to address the critical issues. The best way to do so is through the transition process itself, because telecommunications carriers are required to apply for FCC approval whenever they terminate service.⁷ The statutory process under section 214 of the Communications Act offers a unique opportunity to facilitate the PSTN transition without being caught up in the detritus of other policy-making.⁸

The remainder of this paper is organized as follows: Part II describes the PSTN and the IP transition now underway; Part III offers a framework that eliminates legacy requirements while ensuring public interest protections going forward; and Part IV discusses the specifics of the transition process.

^{6.} See Kevin Werbach, Off the Hook, 95 CORNELL L. REV. 535, 543 (2010); Susan P. Crawford, Transporting Communications, 89 B.U. L. REV. 871, 874 (2009); Jonathan Weinberg, The Internet and "Telecommunications Services," Universal Service Mechanisms, Access Charges, and Other Flotsam of the Regulatory System, 16 YALE J. ON REG. 211, 211–12 (1999) ("The communications world is changing, and packet-switched networks are taking over."); Philip J. Weiser, Toward a Next Generation Regulatory Strategy, 35 LOY. U. CHI. L.J. 41, 41 (2003) ("[T]he advent of digital, packet-switched broadband networks that carry all forms of communication will restructure traditional telecommunications markets....").

^{7. 47} U.S.C. § 214(a) (2006).

^{8.} *Id.*

II. THE TRANSITION

A. Goodbye to All That

1. The Public Switched Telephone Network

The telephone is among the most profound inventions of the last 150 years.⁹ It is how we stay in touch with friends and family, perform business transactions, and obtain vital information. Without the telephone, modern cities, transportation networks, corporations, law enforcement, and many other attributes of the world we live in would not be possible. The ability to, in the words of a famous AT&T slogan, "reach out and touch someone," in real time, anywhere, has brought massive efficiencies to business and altered the fabric of social interaction.¹⁰ Many decades of technological evolution have led from rotary phones making calls connected by human operators to today's feature-laden digital devices, but the telephone as a universal communications tool has been a constant.

We take all this for granted. We assume we can call a doctor or summon public safety personnel in an emergency, obtain customer service from a business, or put children in touch with grandparents across the country. Like fish swimming in water, we have a hard time imagining a world in which reliable, universal telephone service could not be counted on. Yet today, such disruption is a real possibility.

The telephones in our homes, businesses, pockets, and purses are not islands. They are the visible endpoints of a vast and unbelievably complex edifice built at massive expense over the course of a century. Phones "just work" every day for hundreds of millions of Americans—and billions of people around the world—through the cooperative efforts of many companies, often direct competitors, of varying sizes and configurations. The hidden infrastructure supporting telephones gave us many other things that piggybacked on the network, not least of which is the Internet. The system that enables all this and more is the PSTN.

Colloquially, the PSTN refers to the wired telephone network that reaches into virtually every American home. However, such a definition is misleading. The PSTN is not a particular set of physical components. The same copper wires that deliver telephone service to the home can also

^{9.} *See generally* MASS. INST. OF TECH., THE SOCIAL IMPACT OF THE TELEPHONE 1 (Ithiel de Sola Pool ed., 1977) (offering various perspectives on the societal significance of telephone service delivered through the PSTN).

^{10.} See generally Kevin Werbach, Sensors and Sensibilities, 28 CARDOZO L. REV. 2321, 2322 (2007) (describing the impact of changing communications technologies on modes of social interaction); *The Right Choice*, AT&T TECH CHANNEL (July 25, 2012), http://techchannel.att.com/play-video.cfm/2012/7/25/AT&T-Archives-The-Right-Choice (describing AT&T's "Reach Out and Touch Someone" advertising campaign including video example).

NO DIALTONE

support non-PSTN services such as broadband Internet access and video programming.¹¹ At the same time, traditional telephone service can be delivered to the home over non-PSTN connections. A Comcast Digital Voice customer uses an ordinary telephone to dial ordinary telephone numbers to make and receive ordinary telephone calls, but technically that customer is using VoIP technology rather than the PSTN.¹²

A more precise definition is implicit in the term itself. The Code of Federal Regulations ("CFR") defines the Public Switched Network as "[a]ny common carrier switched network, whether by wire or radio, including local exchange carriers, interexchange carriers, and mobile service providers, that use the North American Numbering Plan in connection with the provision of switched services."¹³ While this definition does not capture all the dimensions of the PSTN, it identifies its most basic elements.¹⁴ As the CFR definition suggests, the PSTN is the interconnected network of communications networks that are:

• <u>Public</u> (available to all, which is implied by the CFR term "common carrier");¹⁵

^{11.} For example, AT&T's U-verse service offers voice, broadband, and multichannel video over a new fiber-optic digital network infrastructure that still uses the existing copper wires for the final connection into the home. Om Malik, *Hey DSL, It's Time for Goodbye*, BLOOMBERGBUSINESSWEEK (Nov. 8, 2012), http://www.businessweek.com/articles/2012-11-08/hey-dsl-it-s-time-for-goodbye (explaining differences between FiOS and U-verse).

^{12.} See IP-Enabled Servs.; E911 Requirements for IP-Enabled Serv. Providers, *First Report and Order and Notice of Proposed Rulemaking*, FCC 05-166, 20 FCC Rcd. 10245, para. 24 (2005) [hereinafter *VoIP 911 Order*], *aff'd*, Nuvio Corp. v. FCC, 473 F.3d 302 (D.C. Cir. 2006); 47 C.F.R. §§ 9.3, 54.5 (2013) (defining "interconnected VoIP service").

^{13. 47} C.F.R. § 20.3 (2013). "Public Switched Network" is not exactly the same phrase as "Public Switched Telephone Network," but the two are generally coterminous. It bears noting that this definition appears in the C.F.R., which collects rules issued by the FCC, and not in the FCC's authorizing statute, the Communications Act. Communications Act of 1934, Pub. L. No. 73-416, 48 Stat. 1064 (codified as amended at 47 U.S.C. §§ 151–615b (2006)). The Communications Act gives the FCC several grants of legal authority in the telecommunications space, but these are only indirectly tied to the concept of the PSTN. This creates significant problems in ascertaining the agency's authority to apply its public interest rules when network operators change from the PSTN to other network architectures. *See infra* Part II.B.

^{14.} This paper focuses on the PSTN transition in the United States. The PSTN is a global system, and similar developments are occurring in other parts of the world. The ultimate transition from the PSTN to an Internet Protocol environment will be a worldwide phenomenon. The regulatory obligations on the network operators and other service providers involved in the PSTN, however, are specified on the national and sub-national levels. Each country (or region, in the case of the European Union) has its own telecommunications laws, which are better or worse adjusted in their current form to the evolution of the network. Thus, while there will be similar questions as France Telecom or Japan's NTT go through the transition, the specific legal considerations will differ.

^{15.} Under the Communications Act, "[a] telecommunications carrier shall be treated as a common carrier under this chapter only to the extent that it is engaged in providing telecommunications services," 47 U.S.C. \S 153(51) (2006), which are defined as "the

- <u>Switched</u> (routing calls within and between networks by creating a dedicated end-to-end communications path);¹⁶ and
- <u>Telephone</u> (implied by the reference to the North American Numbering Plan,¹⁷ which defines the familiar dialing system of a three-digit area code and seven-digit phone number).¹⁸

The CFR definition includes wireless networks as part of the interconnected mesh of the PSTN.¹⁹ While this is accurate from a high-level perspective, the core of the PSTN is the legacy wireline infrastructure that was in place before the growth of mobile phones. That is the portion that functions as a bedrock reliable connection and is subject to special regulatory obligations.²⁰

2. The Incredible Shrinking Network

For several decades, all but a small percentage of Americans used a home telephone. Those wires are still there today. Yet in just over a decade, there has been a massive shift away from the PSTN.²¹ Whereas previously virtually all telephones were connected through the wired PSTN, today substantially less than half of American households use it for their primary telephone connection.²² Subscribers are choosing in droves to give up their

offering of telecommunications for a fee directly to the public, or to such classes of users as to be effectively available directly to the public." 47 U.S.C. § 153(53) (2006).

^{16.} In telecommunications policy, "switched" refers to switching of dedicated circuits, rather than the switching of individual packets as on the Internet, a technology that developed much later. *See* Kevin Werbach, *Digital Tornado: The Internet and Telecommunications Policy* 10, 17 (FCC Office of Plans & Policy, Working Paper No. 29, 1997), *available at* http://www.fcc.gov/Bureaus/OPP/working_papers/oppwp29pdf.html (describing packet switching); Access Charge Reform, *Notice of Proposed Rulemaking, Third Report and Order, and Notice of Inquiry*, FCC 96-488, 11 FCC Rcd. 21354, para. 311 (1996) (noting that "[o]ur existing rules have been designed for traditional circuit-switched voice networks, and thus may hinder the development of emerging packet-switched data networks").

^{17.} See 47 C.F.R. § 52.5(c) (2013) ("The 'North American Numbering Plan' is the basic numbering scheme for the telecommunications networks located in [North America and the Caribbean].").

^{18.} See 47 C.F.R. § 20.3 (2013).

^{19.} *Id*.

^{20.} See discussion infra Part II.B.-C.

^{21.} See generally Richard Taylor, Issues in the Transition of the U.S. PSTN from TDM to IP (2013) (unpublished manuscript presented at the International Telecommunications Society 6th Africa-Asia-Australasia Regional Conference, Perth, Australia), *available at* http://psu-us.academia.edu/RichardTaylor (describing the transition away from the PSTN).

^{22.} *Id.* at 5–6.

conventional landline telephones and replace them with services using different technologies. $^{\rm 23}$

The pace of change has been breathtaking. The total number of residential switched access lines, the term used in FCC statistical reports for traditional local telephone service accounts, peaked at 194 million in 2000.²⁴ That number fell to 101 million in 2012,²⁵ a drop of 48% in a dozen years. As dramatic as those statistics are, they understate the trend. The U.S. population grew by over 30 million from 2000-2012, even as the number of switched access lines fell.²⁶ In total, according to USTelecom, the trade association for local telephone carriers, the percentage of U.S. households with traditional phone service fell from 93% in 2003 to 25% in 2013.²⁷

Where are all those subscribers going? Virtually all of them still have telephone service. ²⁸ They are simply obtaining it in different ways, primarily via wireless and VoIP.

As of December 2012, there were 326.4 million wireless subscriber connections in the U.S., counting phones, tablets, and other devices.²⁹ Most

25. INDUS. ANALYSIS & TECH. DIV., WIRELINE COMPETITION BUREAU, FCC, LOCAL TELEPHONE COMPETITION: STATUS AS OF JUNE 30, 2012, at 3 fig.2 (2013), *available at* http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-321568A1.pdf.

26. *Resident Population Data*, U. S. CENSUS BUREAU, http://www.census.gov/2010 census/data/apportionment-pop-text.php (last visited Jan. 24, 2014).

27. PATRICK BROGAN, USTELECOM, EVIDENCE OF VOICE COMPETITION AND ILEC NON-DOMINANCE MOUNTS 1 (2013), *available at* http://www.ustelecom.org/sites/default/files/documents/130403_Voice_Comp_Update.pdf. The report sourced data from several governmental sources including the FCC, Centers for Disease Control, and Census, as well as industry reports. *Id.* at 2. *See also* Reply Comments of AT&T at 21, Connect Am. Fund et al., FCC WC Docket No. 10-90 (rel. Apr. 2, 2012) (reporting that as of December 2012, only 29% of customers in the states where AT&T provides service were using residential wireline phone service from the incumbent local exchange carriers).

28. BROGAN, *supra* note 27, at 2. A portion of the fall-off in switched access lines is from households eliminating second phone lines that were purchased for fax machines or dial-up Internet access. With the shift to residential broadband since 2000, fewer households found a second line necessary, even if they kept their original wired phone connection. *See* INDUS. ANALYSIS & TECH. DIV., WIRELINE COMPETITION BUREAU, TRENDS IN TELEPHONE SERVICE 7-1 (2005), *available at* http://transition.fcc.gov/Bureaus/Common_Carrier/Reports/FCC-State_Link/IAD/trend605.pdf (noting the likely effects of broadband on second lines); Seth Schiesel, *The Bells Struggle to Survive a Changing Telephone Game*, N.Y. TIMES, Nov. 24, 2003, at C1 ("[C]onsumers started shutting off their second lines as they moved toward Internet services that do not require tying up a normal phone line.")._The drop in access lines to the current number of households in the U.S. by a significant amount. However, the current level is well below the baseline prior to the second-line boom.

29. Wireless Quick Facts, CTIA-THE WIRELESS ASSOCIATION, http://www.ctia.org/ advocacy/research/index.cfm/aid/10323 (last updated Nov. 2013). Astute observers will note that this number exceeds the total U.S. population. The explanation is that some people

^{23.} Id.

^{24.} INDUS. ANALYSIS DIV., COMMON CARRIER BUREAU, FCC, LOCAL TELEPHONE COMPETITION: STATUS AS OF DEC. 31, 2000, at 1 (2001), *available at* http://transition.fcc.gov/Bureaus/Common_Carrier/Reports/FCC-State_Link/IAD/lcom0501.pdf.

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Americans who have a mobile phone also have a wired connection at home, but a growing percentage relies solely on their mobile device.³⁰ If a mobile phone can provide all the functionality of their traditional wired service, with the added benefits of mobility and smartphone features, many Americans have decided against continuing to pay a monthly fee for the landline as well. Although such "cord cutting" is especially prominent among young people, who had gotten used to mobile phones as their primary communications device before living on their own, the practice has now spread more broadly. The Centers for Disease Control, which conducts annual health surveys of U.S. households, has for several years asked about phone service. It found that 35.8% of households reported using only wireless service at home during the first half Of 2012.³¹

The second major category of non-PSTN phone service is wireline service using VoIP. With a small converter device at the customer premises, it is possible to carry telephone calls from ordinary phones transparently through a broadband Internet connection.³² The experience is effectively unchanged for the subscriber, but the PSTN has been removed from the connection.

This can be done in two ways.³³ First, an independent company can provide the VoIP service across the public Internet. Vonage, the largest such provider in the U.S., reported 2.3 million customers in the second quarter of 2013.³⁴ Vonage and other companies like it make voice into an

have more than one wireless subscription, such as a personal mobile phone and one for work, or a mobile phone and a tablet with a cellular wireless data connection.

^{30.} As noted above, the C.F.R. definition includes "mobile service providers" in its definition of "public switched network." 47 C.F.R. § 20.3 (2013). While it is true that today's mobile phone networks use the circuit-switching technology, mobile phones avoid the infrastructure of the landline PSTN. Home telephone subscribers who switch to a mobile phone as their primary connection are abandoning their existing connection for one that uses very different technology and has a somewhat different regulatory regime. *See generally* 47 U.S.C. § 332 (2006) (defining regulatory obligations for commercial mobile radio service). Further, mobile networks are evolving away from circuit-switching towards data-centric architectures. A technology called Voice Over Long Term Evolution (VoLTE) is now being deployed to handle wireless voice calls through VoIP. *See generally* MIIKKA POIKSELKÄ ET AL., VOICE OVER LTE (VOLTE) (2012).

^{31.} STEPHEN J. BLUMBERG & JULIAN V. LUKE, NAT'L CTR. FOR HEALTH STATISTICS, CTR. FOR DISEASE CONTROL, WIRELESS SUBSTITUTION: EARLY RELEASE OF ESTIMATES FROM THE NATIONAL HEALTH INTERVIEW SURVEY, JANUARY–JUNE 2012, at 6 tbl.1 (2012).

^{32.} This does not include services such as Skype that ride on top of a broadband connection and do not require dedicated hardware at the customer premises. While users employ these services to substitute for PSTN calls, especially for international connections, only a small percentage use them as their sole telecommunications link due to inconsistent reliability.

^{33.} Both of these mechanisms are considered "interconnected VoIP service" under FCC rules. 47 C.F.R. §§ 9.3, 54.5 (2013).

^{34.} Press Release, Vonage, Vonage Holdings Corp. Reports Second Quarter 2013 Results (July 31, 2013), *available at* http://pr.vonage.com/releasedetail.cfm?ReleaseID=781 567.

application, similar to the way Netflix delivers video programming "over the top" of an Internet connection.

Alternatively, an Internet access provider can sell VoIP as a service offering, along with broadband data. In addition to the potential synergies in network operations and billing, the broadband providers can route the VoIP traffic over managed connections and voice peering links with other operators, resulting in improved performance and lower cost.³⁵ The largest cable VoIP provider, Comcast, now has over 10 million subscribers, making it the third largest local phone company after AT&T and Verizon.³⁶

In all, the USTelecom report concluded that by the end of 2013, 43% of U.S. households would be wireless-only, and 32% would use VoIP or other non-PSTN landline technologies.³⁷ Taking into account homes that subscribe to landline service but use a mobile phone for all or almost all calls, the percentage of American households using any form of wired telephone fell below half in the first half of 2012, and has continued dropping since.³⁸ All indications are that these trends will continue.³⁹

Wireless phone service was introduced in the U.S. at the end of the 1970s and was not a mainstream consumer service until the 1990s, while robust VoIP services only became available with the growth of broadband around the turn of the millennium. Yet in that short time period, these two alternatives have dethroned the mighty PSTN. The incumbent local telephone providers are looking to capitalize on this switch.

3. The Carriers Make Their Move

The major telephone companies that provide PSTN service are not ignorant of the massive shifts occurring around them. Even without changing their own operations, the incumbent local exchange carriers use the PSTN transition in their arguments to regulators. They claim that so many subscribers moving to other platforms means the market is sufficiently competitive to eliminate legacy obligations on incumbents.

^{35.} See Carol Wilson, VON: Cable Close to National VoIP Peering, CONNECTED PLANET (Mar. 21, 2007, 6:28 PM), http://connectedplanetonline.com/VoIP/technology/cable _VoIP_peering_032107/.

^{36.} Press Release, Comcast, Comcast Reports 2nd Quarter 2013 Results (July 31, 2013), *available at* http://www.cmcsk.com/releasedetail.cfm?ReleaseID=781496; Karl Bode, *Comcast Now Third Largest Phone Company*, BROADBAND DSLREPORTS.COM (Mar. 11, 2009, 4:01 PM), http://www.dslreports.com/shownews/Comcast-Now-Third-Largest-Phone-Company-101317.

^{37.} See BROGAN, supra note 27, at 1.

^{38.} See Stacey Higginbotham, Over Half of American Homes Don't Have or Use Their Landline, GIGAOM (Dec. 26, 2012, 10:58 AM), http://gigaom.com/2012/12/26/over-half-of-american-homes-dont-have-or-use-their-landline/.

^{39.} See TECH. ADVISORY COUNCIL, FCC, STATUS OF RECOMMENDATIONS (2011), *available at http://transition.fcc.gov/oet/tac/TACJune2011mtgfullpresentation.pdf* (predicting continued migration away from the PSTN).

However, they are not stopping there. They are moving to a bandon the PSTN themselves. $^{40}\,$

On November 7, 2012, AT&T filed a document with the FCC innocuously titled, "Petition to Launch a Proceeding Concerning the TDM-to-IP Transition."⁴¹ AT&T asked the Commission to authorize a series of geographically limited experiments by what it called "the 'telephone' industry[]," pointedly adding quotes to reinforce its message.⁴² According to AT&T, these "geographically limited trial runs . . . will help guide the Commission's nationwide efforts to facilitate the IP transition."⁴³ After listing what it claimed were outmoded regulatory obligations on telecommunications carriers, AT&T sought authorization to take three steps in specified wire centers:

- Remove legal requirements that carriers maintain legacy PSTN networks after IP-based alternatives are in place.
- Eliminate the carriers' obligation to interconnect with other TDM-based networks.
- Permit carriers to transition customers to alternative IPbased networks with notification, but without requiring subscriber approval.⁴⁴

AT&T did not reject the notion that some FCC and state regulation might remain in place for IP-based networks, but it urged the Commission to "keep IP services free of legacy regulation so that the trial may proceed without the distorting and investment-chilling effects of such regulation."⁴⁵ In essence, these trial areas would inhabit a largely regulatory-free zone.

Though couched in limited terms, AT&T's petition is a dagger to the heart of the telecommunications regulatory structure of the Communications Act. The clear implication is that, if the trials AT&T proposes were implemented and were deemed successful, the FCC should expand the same approach to the entire industry. Under AT&T's proposed framework, the post-transition telecommunications network would start with a largely blank regulatory slate, rather than evolving from the

^{40.} See Rob Frieden, The Mixed Blessing of a Deregulatory Endpoint for the Public Switched Telephone Network, 37 TELECOMM. POL'Y 400 (2013).

^{41.} See AT&T Petition to Launch a Proceeding Concerning the TDM-to-IP Transition, FCC WC Docket No. 12-353 (rel. Dec. 18, 2012) [hereinafter AT&T Petition], *available at* http://apps.fcc.gov/ecfs/document/view?id=7022086087. AT&T's petition was consolidated with a similar request filed by the National Telecommunications Cooperative Association ("NTCA"), which represents certain rural carriers. Petition of the Nat'l Telecomms. Coop. Ass'n for a Rulemaking to Promote and Sustain the Ongoing TDM-to-IP Evolution, FCC WC Docket No. 12-353 (rel. Dec. 18, 2012), *available at* http://apps.fcc.gov/ecfs/document/view?id=7022086108.

^{42.} AT&T Petition, *supra* note 41, at 1.

^{43.} *Id* at 20.

^{44.} Id. at 21–22.

^{45.} See id. at 22.

regulatory obligations on TDM networks.⁴⁶ Under AT&T's three conditions, carriers could make the transition without requiring authorization from regulators, other networks they interconnect with, or customers.⁴⁷

If the FCC implemented AT&T's proposed regime nationwide, it would be, in effect, formally abdicating its historic regulatory role. Whether the time has come to move in that direction is valid question, and AT&T's petition is a legitimate request. The point to emphasize is that the stakes are that high. AT&T acknowledged the magnitude of its request by proposing initially a set of trials limited in time and geographic scope. It framed these as opportunities for the FCC to gather data and evaluate the proper course forward, recognizing that a frontal assault on the agency would be less likely to succeed.⁴⁸ Of course, AT&T's petition didn't appear out of the blue. AT&T and other incumbent carriers have been pushing for the elimination of "outmoded" regulatory obligations for some time.⁴⁹ The petition represents a new stage of the debate, obliging the FCC to respond formally.

The same day it filed its petition with the FCC for "all-IP" experiments, AT&T made a major public announcement. The carrier declared it would spend an additional \$14 billion over a three-year period to upgrade 75% of its customers to its U-verse IP-based broadband wireline platform, and cover virtually all the remainder with high-speed wireless connections.⁵⁰ AT&T stated this investment was part of an overall effort to decommission its copper infrastructure.⁵¹ In effect, AT&T was saying that by the end of 2015, it anticipated being in position to transition completely away from the PSTN to an all-IP architecture. And in rural areas, where U-verse is uneconomical to deploy, AT&T plans to replace landlines with wireless alternatives.⁵²

AT&T's primary competitor, Verizon, has similar plans. In transcribed remarks at an investor conference in July 2012, Verizon CEO Lowell McAdam indicated the company planned to shut down its copper

49. *See, e.g.*, Comments of Verizon at 1, Petition of AT&T Inc. for Forbearance Under 47 U.S.C. § 160(c), FCC WC Docket No. 06-120 (rel. July 25, 2006).

50. See Anton Troianovski, AT&T Move Signals End of the Copper-Wire Era, WALL ST. J. (Nov. 7, 2012, 6:55 PM), http://online.wsj.com/news/articles/SB10001424127887324 439804578104820999974556.

51. Id.

^{46.} *See id.* at 21–22.

^{47.} See id.

^{48.} It is worth mentioning that the petition was filed the day after Barack Obama was re-elected. Had Republican Mitt Romney captured the White House, the environment for direct elimination of the FCC's primary regulatory functions would have been considerably more favorable.

^{52.} See Joan Engebretson, Wireless Landline Replacement is Part of AT&T's Rural Plans, TELECOMPETITOR (Nov. 15, 2012, 9:59 AM), http://www.telecompetitor.com/ wireless-landline-replacement-is-part-of-atts-rural-plans/.

PSTN infrastructure. ⁵³ In rural areas, he said, "we are going to cut the copper off there. We are going to do it over wireless."⁵⁴ McAdam also expressed his intent to eliminate copper within the footprint of Verizon's fiber-optic FiOS service, which reaches about 18 million homes.⁵⁵ "[E]very place we have FiOS, we are going to kill the copper. We are going to just take it out of service and we are going to move those services onto FiOS."⁵⁶ In contrast to AT&T, Verizon has not announced an all-IP upgrade for the non-rural portions of its network that do not have FiOS, but such a plan cannot be far from announcement.⁵⁷

4. Changing Facts on the Ground

Verizon has also developed a product called Voice Link to replace PSTN phone service with wireless.⁵⁸ Voice Link offers the major voice features of the PSTN, such as 911 access and caller ID.⁵⁹ It also offers 36-hour battery backup power because wireless networks, unlike the wireline PSTN, depend on the commercial power grid.⁶⁰ However, Voice Link currently only supports voice calling, meaning that it does not handle faxing, dial-up modems, burglar alarm monitoring, or other activities that many subscribers engage in over the PSTN.⁶¹

Verizon in 2011 began promoting Voice Link to subscribers who had required frequent customer service visits because of connection problems.⁶² A year or so later, it took a more significant step. Hurricane Sandy

54. *Id*.

56. Dampier, *supra* note 53.

58. See Samantha Bookman, Verizon Goes on Offensive in Voice Link Deployment, FIERCETELECOM (May 23, 2013), http://www.fiercetelecom.com/story/verizon-goes-offensive-voice-link-deployment/2013-05-23.

59. Id.

^{53.} See Phillip Dampier, Verizon CEO Ponders Killing Off Rural Phone/Broadband Service & Rake in Wireless Profits, STOP THE CAP! (July 17, 2012), http://stopthecap. com/2012/07/17/verizon-ceo-ponders-killing-off-rural-phonebroadband-service-rake-in-wireless-profits/.

^{55.} See Jeff Baumgartner, Verizon FiOS Rolls Out 500-Meg Internet Tier, MULTICHANNEL NEWS, (July 22, 2013, 2:14 PM), http://www.multichannel.com/distribution/verizon-fios-rolls-out-500-meg-internet-tier/144521.

^{57.} Under pressure from Wall Street, Verizon has said it plans no further geographic expansion of FiOS. *See* Susan P. Crawford, *The Communications Crisis in America*, 5 HARV. L. & POL'Y REV. 245 (2011); Peter Svensson, *Verizon Winds Down Expensive FiOS Expansion*, USA TODAY, (Mar. 26, 2010, 5:02 PM), http://usatoday30.usatoday.com/money/industries/telecom/2010-03-26-verizon-fios_n.htm. The company can be expected to fill in the donut hole between 4G wireless and FiOS with a hybrid fiber copper system along the lines of AT&T's U-verse.

^{60.} While this is not the same as the powered network of the wired PSTN, the battery power can be extended by the customer by replacing three ordinary AAA batteries. *See id.*

^{61.} Verizon says it will offer this functionality in the future. See id.

^{62.} Tom Maguire, *Setting the Record Straight on Fire Island and Voice Link*, VERIZON POLICY BLOG (Jul. 11, 2013), http://publicpolicy.verizon.com/blog/entry/setting-the-record-straight-on-fire-island-and-voice-link.

damaged or destroyed the PSTN connections to a few thousand subscribers on Fire Island in New York and coastal communities in New Jersey. Rather than rebuild the copper infrastructure, Verizon unilaterally replaced those PSTN connections with Voice Link.⁶³

The Fire Island situation was unusual, in that it resulted from a natural disaster that literally destroyed significant portions of Verizon's physical plant. By deploying Voice Link, Verizon was restoring at least some form of home phone service to those subscribers. It is not surprising, therefore, that the New York Public Service Commission gave interim approval to Verizon's actions.⁶⁴ The net result, however, was the same as if Verizon itself had removed existing copper PSTN connections and replaced them with Voice Link.

After significant public outcry, Verizon eventually announced that it would deploy its FiOS fiber optic service on the Western portion of Fire Island, giving residents a more full-featured alternative to Voice Link.⁶⁵ It subsequently withdrew its petition to the New York Public Service Commission to allow Voice Link to serve as a replacement for its PSTN service on Fire Island.⁶⁶ This effectively ended the controversy, although Verizon never disclaimed the possibility that it would impose Voice Link elsewhere.

In fact, Verizon is still offering Voice Link to customers complaining about service quality problems in some other areas, allegedly on a purely voluntary basis. However, after consumers in the Catskills area of New York reported that Verizon customer service agents were insisting that Voice Link was their only alternative, the New York Attorney General's Office asked the state regulator to take action.⁶⁷ These scattered incidents, together with Fire Island, represent only a tiny percentage of Verizon's subscribers. There is no question, however, that Verizon, AT&T, and other major local exchange carriers are actively looking to transition away from their traditional PSTN connections.

^{63.} Jon Brodkin, Verizon Would End "Century of Regulation" by Killing Wireline Phone, Says NY AG, ARS TECHNICA (July 5 2013, 2:50 PM), http://arstechnica.com/ information-technology/2013/07/verizon-would-end-century-of-regulation-by-killingwireline-phone-says-ny-ag/. Verizon also used Voice Link as a replacement for wireline connetions damaged by Superstorm Sandy in Mantoloking, New Jersey. *See* Edward Wyatt,

On a New Jersey Islet, Twilight of the Landline, N.Y. TIMES, Oct. 15, 2013, at B1.

^{64.} See Bookman, supra note 58.

^{65.} Candace Ruud, *Verizon Offers Alternative to Voice Link on Fire Island*, NEWSDAY (Sept. 10, 2013, 8:19 PM), http://www.newsday.com/long-island/towns/verizon-offers-alternative-to-voice-link-on-fire-island-1.6046505; Wyatt, *supra* note 63.

^{66.} Letter from Keefe B. Clemons, Gen. Counsel, Verizon, to Kathleen H. Burgess, Sec'y, N.Y. State Pub. Serv. Comm'n (Sept. 11, 2013), *available at* http://documents.dps. ny.gov/public/Common/ViewDoc.aspx?DocRefId={AC010697-BFCA-4C9C-851F-E62C138DA862}

^{67.} Patrick McGeehan, *Fight With Verizon Over Ending Landline Service Has New Front: Catskills*, N.Y. TIMES (June 26, 2013), http://www.nytimes.com/2013/06/27/ny region/fight-with-verizon-over-ending-landline-service-has-new-front-catskills.html?_r=0.

5. FCC Response

The FCC was established during the New Deal in 1934 as the federal regulator for the PSTN. For much of its history, its primary role in telecommunications consisted of overseeing AT&T, which was the government-sanctioned monopoly provider of telephone service to most Americans. In recent decades, it has shifted its efforts toward fostering and overseeing a competitive telecommunications marketplace. Throughout, however, its statutorily defined mission has been to promote a "rapid, efficient, nationwide . . . communications service with adequate facilities at reasonable charges."⁶⁸ The FCC is responsible for promoting the benefits of the PSTN through universal service programs, ⁶⁹ consumer protection activities, ⁷⁰ interconnection and non-discrimination policies, ⁷¹ network reliability coordination, ⁷² disability access requirements, ⁷³ and many other initiatives.

The FCC has been monitoring the PSTN transition. It sought public comment on two petitions regarding copper loop retirement filed in 2007, but it has not acted on them.⁷⁴ As part of the run-up to the release of America's National Broadband Plan in 2009,⁷⁵ the FCC issued a public notice asking for input on the transition from the PSTN.⁷⁶ The FCC made no specific proposals at that time, but it highlighted the emerging issues. As the PSTN transition on the ground kicked into high gear, the FCC convened two experts' forums in 2011 and 2012.⁷⁷ More recently, the FCC's Technology Advisory Council ("TAC"), a group of outside experts who advise the agency, took on the sunset of the PSTN as one of its major

74. Petition for Rulemaking & Clarification of BridgeCom Int'l, Inc., et al., Policies & Rules Governing Retirement of Copper Loops, FCC WC Docket No. RM-11358 (rel. Jan. 23, 2007); Petition for Rulemaking XO Commc'ns, LLC, et al., Amend Certain Part 51 Rules Applicable to Incumbent LEC Retirement of Copper Loops & Copper Subloops, FCC WC Docket No. RM-11358 (rel. Jan. 23, 2007). In February 2013, petitions were filed with the FCC to update and refresh the record in those proceedings. *See* Wireline Competition Bureau Seeks Comment on Request to Refresh Record & Amend the Comm'n's Copper Retirement Rules, *Public Notice*, FCC WC Docket No. 12-353, at 1 (rel. Feb. 4, 2013), *available at* http://hraunfoss.fcc.gov/edocs_public/attachmatch/DA-13-147A1.pdf.

75. FCC, CONNECTING AMERICA: THE NATIONAL BROADBAND PLAN (2010), *available at* http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-296935A1.pdf.

76. Comment Sought on Transition from Circuit-Switched Network to All-IP Network, *NBP Public Notice #25*, FCC GN Docket Nos. 09-47, 09-51, 09-137 (rel. Dec. 1, 2009).

77. FCC Workshops on the Pub. Switched Tel. Network in Transition, *Public Notice*, DA 11-1882 (rel. Nov. 10, 2011).

^{68. 47} U.S.C. § 151 (2006).

^{69.} See 47 C.F.R. §§ 54.1–54.1010 (2013).

^{70.} See 47 C.F.R. §§ 4.1–4.13 (2013).

^{71.} See, e.g., 47 C.F.R. §§ 64.1100–64.1195, 64.2001–64.2011, 64.2400–64.2401 (2013).

^{72.} See 47 C.F.R. §§ 64.1401–64.1402 (2013).

^{73.} See 47 C.F.R. §§ 64.601–64.636 (2013).

projects.⁷⁸ Internally, the FCC formed a Technology Transitions Task Force in 2012, which has held its own public meetings to solicit input on various issues.⁷⁹

In response to AT&T's petition, the FCC took the standard route of soliciting public comment.⁸⁰ It then issued a request of its own in May 2013.⁸¹ The FCC asked for comment on potential trials to evaluate three specific issues: interconnection between VoIP networks; the transition of the 911 public safety system to an IP environment; and the substitution of wireline voice services with wireless connections.⁸² In its public notice, the Commission briefly sought additional comment on AT&T's proposed "geographic all-IP" trials, but took no position on AT&T's petition.⁸³

The May 2013 public notice is the first time the FCC has put concrete proposals on the table. In all likelihood, AT&T's filing was designed to force the FCC's hand, after several years of inconclusive discussion. The Fire Island situation may have done so anyway. The end of the PSTN is no longer merely a theoretical possibility.

The FCC took its next step forward in January 2014, following the confirmation of Tom Wheeler as its new Chairman.⁸⁴ It fully embraced the concept of the PSTN transition and declared its intent to manage the process in order to protect enduring public policy values.⁸⁵ It effectively granted AT&T's request for trials, but emphasized that the goal of such experiments would be to examine customer impacts, rather than to serve as a dry run for deregulation.⁸⁶ It also launched a set of research and data collection initiatives to understand better how the transition would impact on important policies such as universal service and 911 access.⁸⁷

82. See id.

83. See id.

^{78.} See TECH. ADVISORY COMM., CRITICAL LEGACY TRANSITION WORKING GRP., FCC, SUN-SETTING THE PSTN (2011), available at http://transition.fcc.gov/oet/tac/tacdocs/meeting 92711/Sun-Setting_the_PSTN_Paper_V03.docx.

^{79.} Press Release, FCC, FCC Chairman Julius Genachowski Announces Formation of 'Tech. Transitions Pol'y Task Force,' (Dec. 10, 2012), *available at* http://www.fcc.gov/ document/fcc-chairman-announces-technology-transitions-policy-task-force.

^{80.} Pleading Cycle Established on AT&T and NTCA Petitions, *Public Notice*, FCC GN Docket No. 12-353 (rel. Dec. 14, 2012), *available at* http://www.fcc.gov/document/ pleading-cycle-established-att-and-ntca-petitions.

^{81.} Technology Transitions Policy Task Force Seeks Comment on Potential Trials, *Public Notice*, FCC GN Docket 13-5 (rel. May 10, 2013), *available at* http://hraunfoss.fcc.gov/edocs_public/attachmatch/DA-13-1016A1.pdf.

^{84.} See Technology Transitions, Order, Report and Order and Further Notice of Proposed Rulemaking, Report and Order, Order and Further Notice of Proposed Rulemaking, Proposal for Ongoing Data Initiative, FCC 14-5 (rel. Jan. 31, 2014) [hereinafter Technology Transitions Order].

^{85. &}quot;[W]e stand today at the precipice of a . . . technology transition – the turning off of the legacy suite of services that has served our nation well. Our mission and statutory responsibility are to ensure that the core statutory values endure as we embrace modernized communications networks." *Id.* at paras. 3-4.

^{86.} *See id.* at para. 8.

^{87.} See id. at paras. 6–7.

While it may seem that the PSTN transition is essentially a set of business decisions, the public policy implications are profound. The movement of subscribers and carriers away from wired PSTN connections has the potential to eviscerate the entire regulatory structure of telecommunications in America. Without careful management, the end of the PSTN may represent the end of much more. The attributes that made the PSTN such a beneficial force in society may be at risk.

B. What We Talk About When We Talk About the PSTN

1. Unpacking the Concept

In order to determine which aspects of the communications regulatory regime should remain in place through the PSTN transition, we must examine not just what the PSTN is, but what it represents.

The definition of the PSTN as the network of networks that is public, switched, and designed for telephone service⁸⁸ fails to adequately capture its significance. The function of the PSTN is to provide ubiquitous, open, reliable communications connectivity for all Americans.⁸⁹ Even when there are many competing networks that provide different levels of functionality to different groups of customers, such baseline features remain vitally important. In fact, ensuring that the benefits of universal connectivity continue to be available becomes an even more critical role for regulation when there is no dominant backstop network.

The essential character of the PSTN can be understood in more than one way. In fact, there are six common explanations:

- 1) Technical architecture
- 2) Regulatory arrangement
- 3) Market structure
- 4) Universal connectivity
- 5) Strategic infrastructure
- 6) Social contract

Some describe attributes that are historically contingent. These were important for the PSTN in the past, but they can be abandoned now without harming the public interest. Others, however, remain relevant in the current, converged digital competitive environment. The FCC's regulatory

^{88.} *See supra* note 13 (describing FCC regulations defining the PSTN at 47 C.F.R. section 20.3).

^{89.} The FCC adopted a similar viewpoint in the *Technology Transitions Order*, identifying the four "core statutory values" of the PSTN as public safety, ubiquitous and affordable access, competition, and consumer protection. *See Technology Transitions Order*, *supra* note 84, at para. 1.

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regime may need to be revamped substantially, but it should remain capacious and flexible enough to ensure these objectives are met.

In essence, the first three conceptions of the PSTN are essentially descriptive while the other three are normative. What the PSTN *is*, should be allowed and even encouraged to change; what the PSTN *does*, should be protected.

2. The Legacy PSTN

The first three visions of the PSTN describe the network as it historically developed. Some of these attributes have already broken down, and the IP transition will accelerate those trends. Policy initiatives should not focus on preserving these aspects.

a. Technical Architecture

The PSTN was developed with engineering parameters geared to providing what is colloquially known as POTS: plain old telephone service. Technically, this has evolved over time to mean a real-time voice channel, touchtone dialing through the familiar 10-digit area code and numbering structure to reach any other subscriber, a basket of basic features such as busy signals, toll-free calling, E911 emergency calling,⁹⁰ caller ID, and a high level of reliability. When providing "universal service" subsidies for phone service in high-cost areas, these are the essential functions the FCC requires carriers to offer.⁹¹

To make connections, the PSTN uses a technology called circuit switching.⁹² When you make a telephone call, a dedicated path is opened through the network from endpoint to endpoint, and kept open for the duration of the call.⁹³ Today's digital networks multiplex multiple calls onto the same lines for greater efficiency.⁹⁴ The PSTN uses an approach called time-division multiplexing ("TDM"), which is sometimes used as shorthand for circuit-switched PSTN connections.⁹⁵ Even with multiplexing, every part of the call travels the same physical route.⁹⁶

^{90. 47} U.S.C. § 251(e)(3) (2006). E911 refers to the 911 service that automatically identifies the location of the caller. *VoIP 911 Order, supra* note 12, at para. 13.

^{91.} Fed.-State Joint Bd. on Universal Serv., *Report and Order*, FCC 97-157, 12 FCC Rcd. 8776, para. 61 (1997) [hereinafter *Joint Bd. on Universal Serv. Report and Order*] (defining features to be supported through universal service funding).

^{92.} Douglas C. Sicker, *The End of Federalism in Telecommunication Regulations*?, 3 Nw. J. TECH. & INTELL. PROP. 130, 147 (2005).

^{93.} Id.

^{94.} K.V. PRASAD, PRINCIPLES OF DIGITAL COMMUNICATION SYSTEMS AND COMPUTER NETWORKS 85 (2004).

^{95.} Id.

^{96.} Id. at 139.

Mainframe computers known as switches route the call across the country and onto other networks as needed. Since the 1980s, the PSTN has used parallel digital signaling channels, known as the signaling system 7 ("SS7") network to manage calls and associated functions. The dedicated SS7 network speeds the process of setting up and tearing down call circuits, and also supports billing and features such as call waiting and call forwarding.⁹⁷ In the PSTN architecture, therefore, call channels are reserved for voice and signaling channels are reserved for the special SS7 signals. The Internet architecture, by contrast, has only one channel, but it can carry any kind of information.

Based on specifications developed by Bell Labs when it was part of the old AT&T, the PSTN uses 64 kilobit per second (kbps) communications channels and 8 kilohertz (kHz) sampling for analog-todigital audio conversion.⁹⁸ These provide for reliable and consistent voice quality, in contrast to mobile phones and some VoIP services where quality can vary based on congestion and other local conditions. On the other hand, the audio quality of a PSTN phone call will never be better than the specified encoding.⁹⁹ Anyone who has used Skype or a business VoIP phone system from vendors such as Cisco and Polycom has experienced clarity and sound quality far exceeding what we have come to expect from a telephone call.¹⁰⁰

As noted, all these standards were devised to support voice phone service. However, because other forms of communication such as alarm monitoring systems and dial-up modems can convert their signals into formats intelligible to the PSTN, the network is not limited to that offering. The PSTN is a universal network offering "dialtone," so it supports whatever communication meets its technical requirements.¹⁰¹ However, these requirements significantly limit the flexibility of the network. For example, the SS7 network is designed specifically to set up and tear down phone calls, not for carrying email or movies.

The PSTN is built on engineering trade-offs that made sense based on the state of technology at the time and the need to support voice calling. With massive advances in computing and networking, however, they no longer do.

The technical infrastructure of the legacy PSTN is fast reaching its end-of-life state. The switching fabric is based on room-filling, purposebuilt mainframe computers. Most of these are now decades old, to the point at which parts are in short supply.¹⁰² The VoIP infrastructure that replaces

^{97.} Id. at 394-402.

^{98.} Id.

^{99.} Id.

^{100.} See id. at 401, 536.

^{101.} See id. at 140–43.

^{102.} See Richard Shockey, Technical Challenges in the PSTN Transition from Plain Old Telephone Service (POTS) 3 (2012) (unpublished manuscript) (on file with the *Federal Communications Law Journal*). This problem of repairing and updating old switches is

circuit-switching, by contrast, uses "softswitches" based on generalpurpose servers and easily-updated software.¹⁰³ No greenfield network operator today would deploy a circuit-switching infrastructure.¹⁰⁴ Instead, new entrants, even when providing telephone service, create networks based on the Internet Protocol and related technologies.¹⁰⁵ The major telephone companies that continue to operate PSTN networks are, understandably, looking to make that same leap.¹⁰⁶

If the PSTN is defined solely as TDM and circuit switching, it should be allowed to die. IP-based networks can deliver the same basic telephone service more efficiently, at the same time as they enable an array of new broadband data services and applications.

b. Regulatory Arrangement

Many of the regulatory obligations associated with the PSTN predate the development of the telephone. The concept of common carriage—a set of requirements that operators treat customers equally and charge just and reasonable rates—was developed in the 19th century for other utilities.¹⁰⁷ The FCC, created in 1934, was in many ways modeled on the Interstate Commerce Commission that oversaw railroads.¹⁰⁸ The Communications Act of 1934 enshrined a set of requirements for common carriers, most notably that their charges be "just and reasonable,"¹⁰⁹ that they avoid "unjust or unreasonable discrimination" in provision of service,¹¹⁰ and that they "establish physical connections with other carriers."¹¹¹

Another set of requirements associated with the PSTN came not from administrative regulation but from antitrust. In 1913, AT&T and the U.S. Department of Justice entered into an agreement known as the Kingsbury commitment,¹¹² in which AT&T agreed to interconnect with independent

111. 47 U.S.C. § 201(a) (2006).

accentuated by the fact that one of the two major switch vendors (Nortel) was liquidated in bankruptcy, while the other (Lucent) was substantially downsized and merged into another company, Alcatel.

^{103.} See PRASAD, supra note 94, at 207.

^{104.} See CRC HANDBOOK OF MODERN TELECOMMUNICATIONS § 1.2 (Patricia A. Morreale & Kornel Terplan eds., 2d ed. 2010).

^{105.} See id.

^{106.} See id.

^{107.} BRUCE WYMAN, THE SPECIAL LAW GOVERNING PUBLIC SERVICE CORPORATIONS AND ALL OTHERS ENGAGED IN PUBLIC EMPLOYMENT 115–16 (1911); Kevin Werbach, *Only Connect*, 22 BERKELEY TECH. L.J. 1233, 1246–50 (2008).

^{108.} See Werbach, supra note 107, at 1246–50.

^{109. 47} U.S.C. § 201(b) (2006).

^{110. 47} U.S.C. § 202(a) (2006).

^{112.} Letter from N.C. Kingsbury, Vice President, AT&T, to J.C. McReynolds, Att'y Gen., U.S. Dep't of Justice (1913) (on file with the *Federal Communications Law Journal*) [hereinafter N.C. Kingsbury Letter]. *See generally* Mueller, *supra* note 2 (describing the antitrust case against AT&T).

telephone companies. Later consent decrees in 1956 and 1983 further defined expectations about the PSTN.¹¹³ Although only binding on the old AT&T, which effectively disappeared after the post-1983 divestiture, the effects of these agreements are still being felt today. For example, the 1956 consent decree, by precluding AT&T from offering non-common carrier services, created the independent data processing industry that ultimately evolved into today's Internet services marketplace.¹¹⁴ The most recent significant legal evolution was the Telecommunications Act of 1996 ("1996 Act").¹¹⁵ The primary thrust of the 1996 Act was to open up local telephone markets to competition, while in return allowing the local incumbents to offer long-distance and other services.¹¹⁶

In addition to these specific requirements for network operators, the PSTN has been carved out of the normal regulatory regime for consumer protection superintended by the Federal Trade Commission ("FTC"). The Federal Trade Commission Act expressly excludes common carrier services from FTC jurisdiction.¹¹⁷ This means consumers who feel, for example, that they have been misled by phone companies must use FCC processes rather than the processes available to similarly situated consumers in other contexts. Similarly, the Supreme Court has held that antitrust remedies that would otherwise be available are not applicable in the telecommunications context.¹¹⁸

Like the technical attributes, the regulatory structure for the PSTN is deeply rooted in history. Even after the 1996 Act, communications services are divided into all-or-nothing silos, even as convergence and competition undermine those distinctions.¹¹⁹ Regulation, like technology, is a means to an end. If there are more effective ways to achieve the goals that the current regulatory structure serves, legacy rules need not be preserved. However, the regulator needs a statutory mandate or the legal authority to replace those rules with a new framework. As discussed below, the PSTN

^{113.} *See* United States v. Am. Tel. & Tel. Co., 524 F. Supp. 1336, 1353 n.70 (D.D.C. 1981) (describing United States v. W. Elec. Co., 1956 Trade Cas. ¶ 68,246, 1956 WL 95755 (D.N.J. 1956)).

^{114.} See Kevin Werbach, *The Network Utility*, 60 DUKE L.J. 1761, 1803–04 (2010) (discussing the importance of the 1956 consent decree).

^{115.} Telecommunications Act of 1996, Pub. L. No 104-104 § 3(a)(2), 110 Stat. 56. (1996).

^{116.} See NUECHTERLEIN & WEISER, *supra* note 1, at 69–74; Charles B. Goldfarb, *Telecommunications Act: Competition, Innovation, and Reform, in* TELECOMMUNICATIONS ACT: COMPETITION, INNOVATION, AND REFORM 1, 8–10 (Charles B. Goldfarb ed., 2006).

^{117. 15} U.S.C. § 45(a)(2) (2012).

^{118.} Verizon Comme'ns Inc. v. Law Offices of Curtis V. Trinko, LLP, 540 U.S. 398 (2004). While this decision was not premised specifically on a distinction between the PSTN and other communications networks, it was based on the comprehensive regulatory scheme that Congress adopted in the Telecommunications Act of 1996 for the telephone market.

^{119.} See Kevin Werbach, A Layered Model for Internet Policy, 1 J. ON TELECOMM. & HIGH TECH. L. 37, 58 (2002).

transition has the potential to undermine the FCC's authority over the telecommunications market across the board. That would threaten not only the old rules, but also the public policy objectives the rules were designed to achieve.

c. Market Structure

The PSTN has traditionally implied a market structure with one or more regulated dominant providers. Even after the nationwide AT&T monopoly was broken up, there were seven "Baby Bells" with monopolies on local service in their territories.¹²⁰ Those seven providers, and others, have since consolidated back to AT&T and Verizon, who are now also the largest wireless service providers.¹²¹ The prevalence of monopolistic and oligopolistic providers in telecommunications led to regulatory categories such as "incumbent local exchange carrier"¹²² and "dominant" provider, which imposed special obligations to protect against abuse of market power.¹²³

The economics of the PSTN are driven by the fact that telephone networks involve huge fixed costs and relatively low variable costs, especially for the "last mile" connections into homes.¹²⁴ It was received economic wisdom for many years that telephone service was a natural monopoly. Even after AT&T was broken up and competition brought to long-distance service, local phone companies retained their monopoly status for more than a decade. Only recently has it been feasible for cable and wireless providers to offer facilities-based last-mile alternatives at scale, which they were able to do by selling customers services that initially supplemented, rather than replaced, conventional phone service.

The monopoly market structure that was historically associated with the PSTN has now given way in most of the country to oligopoly.¹²⁵ Virtually all Americans have alternatives for phone service, especially when VoIP and wireless options are included. However, high fixed costs and scale economies still mean that only a limited number of physical platforms provide direct connectivity to the home.¹²⁶ Those facilities-based providers, primarily the legacy telephone companies and cable television

^{120.} See Susan P. Crawford, Transporting Communications, 89 B.U. L. REV. 871, 894–95 (2009).

^{121.} See id. at 908–09.

^{122. 47} U.S.C. § 153(26) (2006).

^{123.} *See* 47 C.F.R. § 51.5 (2013); *see, e.g.*, Qwest Corp. v. FCC, 689 F.3d 1214, 1217 (10th Cir. 2012) (noting special obligations on dominant provider).

^{124.} See Brett M. Frischmann, Infrastructure: The Social Value of Shared Resources 12–14 (2012).

^{125.} See Howard Shelanski, Adjusting Regulation to Competition: Toward a New Model for U.S. Telecommunications Policy, 24 YALE J. ON REG. 55, 84 (2007).

^{126.} See Crawford, supra note 57, at 248.

operators, are also now the dominant providers of Internet access.¹²⁷ Thus, while there is significant competition in many communications markets that previously were controlled by monopolies, substantial concentration remains, producing concerns about market power.¹²⁸

3. Enduring Objectives

Despite everything that is changing in the telecommunications market, some aspects must stay the same. The PSTN has provided huge economic and social benefits to America. As the legacy technical, regulatory, and business elements of the PSTN change, those benefits should not be lost. The following goals, therefore, provide guidance on the proper role of public policy in the post-PSTN era.

a. Universal Connectivity

The PSTN allows anyone to connect to anyone. There are many other networks that offer voice telephony or similar services on a private basis, for example, by connecting different offices of a company or connecting account-holders of a specific service such as Skype. A core element of the PSTN is the idea that access to the network allows direct calling to and from any other subscriber.¹²⁹

In the early years of the 20th century, AT&T's refusal to interconnect its long-haul network to competing local exchange carriers, or to exchange local traffic with those carriers, was its primary tool to consolidate market domination after the expiration of Alexander Graham Bell's foundational patents. AT&T understood as a matter of business strategy what economists and network scientists have now demonstrated formally as network effects.¹³⁰ All other things being equal, the largest network has a structural advantage over smaller networks, because the value of a service like telephony increases with the ability to call and be called by more people.¹³¹

AT&T's refusal to interconnect was its most powerful competitive weapon. Appropriately, it was there that the federal government targeted its efforts to regulate the dominant telephone network. In the Kingsbury Commitment, AT&T agreed to interconnect its long-distance network with independent local exchange carriers.¹³² This became the foundation of

^{127.} See id.

^{128.} See generally SUSAN P. CRAWFORD, CAPTIVE AUDIENCE: THE TELECOM INDUSTRY AND MONOPOLY POWER IN THE NEW GILDED AGE (2013).

^{129.} See Thomas B. Nachbar, The Public Network, 17 COMMLAW CONSPECTUS 67, 70 (2008).

^{130.} See generally Mark A. Lemley & David McGowan, Legal Implications of Network Economic Effects, 86 CAL. L. REV. 479 (1998).

^{131.} See Werbach, supra note 107, at 1246–50.

^{132.} See N.C. Kingsbury Letter, supra note 112.

interconnection obligations in the 1934 Communications Act and the further requirements in the 1996 Act. For all this time, the concept of universal connectivity has been built into telephone service and the other functions delivered through the PSTN.

b. Strategic Infrastructure

Like the electricity grid, the PSTN has strategic national importance as a piece of critical infrastructure.¹³³ The PSTN is essential to the smooth functioning of the U.S. economy. For individuals, a PSTN connection is a lifeline to the world. A serious outage of the PSTN, or a PSTN that does not provide service to some Americans, would be far more harmful than a similar outage of a television network or a major highway.

Strategic aspects of the PSTN include reliability, security, law enforcement access, and public safety. In each case, there are either public processes or legislative requirements to ensure these functions are achieved. For example, carriers, including "interconnected" VoIP providers, are required to report outages above a specified threshold to the FCC.¹³⁴ Additionally, VoIP providers are required to make their networks accessible for law enforcement wiretaps, subject to search warrant requirements, under the Communications Assistance for Law Enforcement Act ("CALEA").¹³⁵

As an interconnected network of networks touching billions of endpoints, the global PSTN has been called "possibly the largest distributed system in existence." ¹³⁶ The technical and operational challenges of providing robust connectivity with minimal downtime are immense, even under normal conditions, let alone during natural disasters or in the face of attempted intrusions. As former FCC Chairman Julius Genachowski noted after Superstorm Sandy damaged communications networks on the East Coast, "Our nation's communications infrastructure is a vital part of our

^{133.} See 42 U.S.C. § 5195c (2006) (defining "critical infrastructure").

^{134.} See Proposed Extension of Part 4 of the Comm'n's Rules Regarding Outage Reporting to Interconnected Voice Over Internet Protocol Serv. Providers & Broadband Internet Serv. Providers, *Report and Order*, FCC 12-22, 27 FCC Rcd. 2650, paras. 89, 98 (2012) [hereinafter *Part 4 Extension to VoIP Order*].

^{135.} Pub. L. No. 103-414, 108 Stat. 4279 (1994) (codified as amended at scattered sections of 18 U.S.C. and 47 U.S.C.); *see* Comm'cns Assistance for Law Enforcement Act & Broadband Access & Servs., *Second Report and Order and Memorandum Opinion and Order*, FCC 06-56, 21 FCC Rcd. 5360 (2006).

^{136.} D. Richard Kuhn, *Sources of Failure in the Public Switched Telephone Network*, 30 COMPUTER 4, 31 (1997).

public safety and national security."¹³⁷ The FCC held field hearings after Sandy to identify ways to limit damage in future storms.¹³⁸

The strategic importance of the PSTN makes telecommunications different from most other industries. The government has a strong interest in ensuring the PSTN's smooth functioning that does not depend on particular technologies or market conditions.

c. Social Contract

The final defining aspect of the PSTN is the notion of a social contract. Historically, this involved government tolerance of AT&T as a private monopoly in return for its commitment to provide affordable service to all Americans.¹³⁹

Even after the opening of all telecommunications markets to competition, incumbent service providers supporting the PSTN still receive a variety of benefits.¹⁴⁰ These include low-cost access to pole attachments and rights-of-way, receipt of universal service subsidies when serving high-cost areas, free spectrum for the initial offering of mobile phone service, and protection against antitrust liability on the grounds that the Communications Act comprehensively regulates the field.¹⁴¹

The notion of the social contract is thus: In return for these benefits, the traditional telecommunications providers took on certain obligations.¹⁴² For example, PSTN service providers had to provide universal service, protect subscribers' privacy, interconnect on reasonable terms, and charge just and reasonable rates.¹⁴³ Market changes that undermine either the benefits or the obligations side of the equation run the risk of destabilizing the arrangement.

Perhaps the clearest example of the social contract around the PSTN is universal service. Originally an AT&T marketing slogan, universal service came to be accepted as a national policy to provide ubiquitous phone service throughout the country.¹⁴⁴ For circuit-switched telephone service, the great challenges for universal service are density and geography. Because phone service requires a wire into every home and

^{137.} Julius Genachowski, Chairman, FCC, Statement at Superstorm Sandy Field Hearing (Feb. 5, 2013), *available at* http://hraunfoss.fcc.gov/edocs_public/attachmatch/ DOC-318754A1.pdf.

^{138.} Press Release, FCC, Chairman Genachowski Convenes First Post-Sandy Field Hearing (Feb. 5, 2013), *available at* http://www.fcc.gov/document/chairman-genachowski-convenes-first-post-sandy-field-hearing.

^{139.} See MUELLER, supra note 2, at 4–10.

^{140.} See Frieden, supra note 40.

^{141.} Id.; see also Law Offices of Curtis V. Trinko, 540 U.S. 398.

^{142.} *See* Frieden, *supra* note 40; JODIE GRIFFIN & HAROLD FELD, FIVE FUNDAMENTALS FOR THE PHONE NETWORK TRANSITION (2013), *available at* http://www.publicknowledge.org/files/PKThinks5Fundamentals.pdf.

^{143.} See 47 U.S.C. §§ 151, 251 (2006).

^{144.} See MUELLER, supra note 2, at 96–101.
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localized switching facilities, providing service in sparsely populated rural areas and difficult geographies is substantially more expensive than providing the same service in urban areas.¹⁴⁵ Universal service policy embodied a commitment to providing comparable service to any customer, regardless of the expense, and also embodied a commitment to pricing that service at a rate comparable to denser areas.

Historically, universal service involved a combination of service mandates, complicated hidden cross-subsidies, rate-averaging requirements, and other regulatory arrangements. Many of these mechanisms depended on the absence of competition, and thus had to be dramatically revamped after the 1996 Act. The PSTN transition puts further strain on the system.

C. The Regulatory Dead-End

1. All or Nothing

The changeover from circuit-switched landline connections to VoIP and wireless may seem like a straightforward evolution. Subscribers are still getting something that feels like the PSTN phone service they always had, especially for those using interconnected wireline VoIP. The problem is that, from a regulatory standpoint, the change is significantly more dramatic.

Over the past ten years, the FCC has interpreted the Communications Act, its authorizing statute, in a way that has backed it into a corner. The things the FCC retains clear authority to regulate are increasingly not the things that network operators do. growing share Α of communications-even voice or video communications that directly substitute for telephone calls-inhabit an area of uncertain regulatory status. And if they wanted to, the major regulated carriers could quickly reconfigure themselves into the same legal white space.¹⁴⁶ That they have failed to do so yet seems purely a matter of strategic calculus. This seemingly odd result is an unintended consequence of years of wellmeaning but shortsighted FCC decisions. As a consequence, unless the FCC intends to go out of business, it must take action.

Most of the rules governing the PSTN apply to providers of "telecommunications," which is defined as "the transmission, between or among points specified by the user, of information of the user's choosing, without change in the form or content of the information as sent and received."¹⁴⁷ The statute contrasts these telecommunications services with

^{145.} See Jim Chen, Subsidized Rural Telephony and the Public Interest: A Case Study in Cooperative Federalism and Its Pitfalls, 2 J. TELECOMM. & HIGH TECH. L. 307, 318–23 (2003).

^{146.} See Werbach, supra note 6, at 541–45.

^{147. 47} U.S.C. § 153(50) (2006).

"information services."¹⁴⁸ However, the 1996 Act, which inserted these two terms, gives the FCC no specific direction on the treatment of information services. And this lack of direction creates inherent confusion.¹⁴⁹ A circuit-switched wireline voice telephone connection is clearly a telecommunications service. A VoIP call, even one between two ordinary telephones, is not. And if a VoIP call is an information service, the FCC's ability to impose any obligations on the providers involved is contestable.

The FCC and others saw the 1996 Act's distinction as a continuation of prior FCC practice.¹⁵⁰ Before the Communications Act created a category for information services, the FCC had developed a parallel distinction between "basic" and "enhanced" services in its *Computer II* proceeding.¹⁵¹ Enhanced services were unregulated, but there was a critical difference from the information service classification in the 1996 Act: local telephone carriers could only provide enhanced services subject to stringent restrictions.¹⁵² The 1996 Act contained no restrictions on who could provide information services, and no distinctions between information service providers.¹⁵³ Accordingly, local phone providers now offer information services without the previous stringent restrictions.

The FCC compounded this problem by holding that "telecommunications services" and "information services" were mutually exclusive.¹⁵⁴ Something could be one or the other, but not both. This decision created a conundrum. Either something is "telecommunications" and thus subject to a wide variety of rules designed for traditional

^{148.} Information service is defined as "the offering of a capability for generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information via telecommunications, and includes electronic publishing, but does not include any use of any such capability for the management, control, or operation of a telecommunications system or the management of a telecommunications service." 47 U.S.C. § 153(24) (2006).

^{149.} See Werbach, supra note 6, at 543-45.

^{150.} See Werbach, supra note 114, at 1774; Appropriate Framework for Broadband Access to the Internet over Wireline Facilities, *Report and Order and Notice of Proposed Rulemaking*, FCC 05-150, 20 FCC Rcd. 1, para. 29 (2005) ("[T]he Commission has previously determined that Congress intended the statutory categories [of information service and telecommunications service] to parallel the categories [of enhanced service and basic service that] the Commission established in the *Computer Inquiry* proceeding.").

^{151.} See Werbach, supra note 114, at 1788; Robert Cannon, The Legacy of the Federal Communications Commission's Computer Inquiries, 55 FED. COMM. L.J. 167, 191 (2003); See generally Amendment of Section 64.702 of the Comm'n's Rules & Regulations (Second Computer Inquiry), Final Decision, FCC 80-189, 77 F.C.C. 2d 384 (1980).

^{152.} *See generally* Amendment of Sections 64.702 of the Comm'n's Rules & Regulations (Third Computer Inquiry) (Computer III), *Report and Order*, FCC 86-252, 104 F.C.C. 2d 958 (1986).

^{153.} See generally Telecommunications Act, supra note 115.

^{154.} Fed.-State Joint Bd. on Universal Serv., *Report to Congress*, FCC 98-67, 13 FCC Rcd. 1, para. 13 (1998) [hereinafter *VoIP Report to Congress*]; *see also* Inquiry Concerning High-Speed Access to the Internet Over Cable & Other Facilities, *Declaratory Ruling and Notice of Proposed Rulemaking*, FCC 02-77, 17 FCC Rcd. 1, para. 41 (2002), *aff'd*, Nat'l Cable & Telecomms. Ass'n v. Brand X Internet Servs., 545 U.S. 967 (2005).

telephony, or it is an "information service" arguably subject to no rules at all. In other words, the FCC now faces the choice of regulating too much or not enough.

2. The Perseverance of Unregulation

The FCC's initial concern was to avoid over-regulating nascent Internet-based services.¹⁵⁵ It systematically avoided classifying Internet-based services as "telecommunications," out of concern that doing so might chill innovation and investment.¹⁵⁶ The FCC's hesitation to impose rules designed for legacy industries and market structures to the emerging Internet was a powerful spur to the subsequent flowering of Internet development.¹⁵⁷ However, the agency's actions also had a downside. By placing virtually all Internet-based services outside the statutory provisions where the FCC's authority is clear, the agency created the hole that the major telecommunications carriers are now attempting to run through.

Beginning in 2002, the FCC classified broadband Internet access as an information service.¹⁵⁸ Even though broadband involves both a pure transmission function and information processing, the FCC determined that it was impossible to split off the telecommunications functionality.¹⁵⁹ This decision became problematic when the Commission later decided to impose network neutrality obligations to prevent those broadband providers from blocking or discriminating against unaffiliated content, applications, or devices.¹⁶⁰

The FCC unambiguously has legal authority to adopt such rules for telecommunications services.¹⁶¹ For information services, by contrast, the statute is silent about the scope of FCC authority. The FCC attempted to justify its network neutrality rules based on its "ancillary authority" under

^{155.} See Werbach, supra note 6, at 564–65; Rob Frieden, *The FCC's Name Game: How Shifting Regulatory Classifications Affect Competition*, 19 BERKELEY TECH. L.J. 1275, 1286–87 (2004); Jason Oxman, *The FCC and the Unregulation of the Internet* 11 n.27 (FCC Office of Plans & Policy, Working Paper No. 31, 1999), *available at* http://www.fcc.gov/ Bureaus/OPP/working_papers/oppwp31.pdf.

^{156.} *See* Kathleen Q. Abernathy, Comm'r, FCC, Remarks Before the Federal Communications Bar Association: The Nascent Services Doctrine 1, 3 (July 11, 2002).

^{157.} See Werbach, supra note 6. The FCC's "unregulation" of Internet-based services was only part of the equation. The Internet was about to develop and thrive because the FCC also took affirmative steps to prevent telephone network operators and other incumbents from stifling it. See Kevin Werbach, The Federal Computer Commission, 84 N.C. L. REV 1, 8 (2005); Steve Bickerstaff, Shackles on the Giant: How the Federal Government Created Microsoft, Personal Computers, and the Internet, 78 TEX. L. REV. 1, 6 (1999).

^{158.} *See* Werbach, *supra* note 6, at 576 (discussing the FCC's broadband classification proceedings).

^{159.} Id. at 590–91.

^{160.} See id. at 548–49; see also Preserving the Open Internet, Report and Order, FCC 10-201, 25 FCC Rcd. 17905 (2010) [hereinafter Open Internet Order].

^{161.} See, e.g., 47 U.S.C. §§ 201, 202 (2006).

Title I of the Communication Act^{162} and specifically the advanced services provisions of section 706.¹⁶³ In *Verizon v. FCC*, decided in January 2014, the U.S. Court of Appeals for the D.C. Circuit upheld the FCC's authority to adopt network neutrality provisions, but overturned the non-blocking and non-discrimination requirements as impermissibly similar to common carrier regulation.¹⁶⁴ As the decision demonstrates, the FCC's power under its current classification of broadband Internet access is circumscribed.¹⁶⁵ Just how far its authority under *Verizon v. FCC* extends is yet to be seen.

The FCC's treatment of VoIP has proven especially problematic. The FCC was understandably reluctant early in the history of VoIP to impose unnecessary rules on a nascent industry.¹⁶⁶ It was also legitimately concerned that a blanket decision to regulate VoIP as a telecommunications service would sweep in many offerings, such as free end-user software, that were not appropriately treated as carriers.¹⁶⁷ When pressured by Congress in 1998 to impose per-minute access charges on all VoIP providers, the FCC was right to demur.¹⁶⁸

However, that was fifteen years ago. VoIP then was used by a relatively small number of hobbyists, typically communicating through software on their personal computers that allowed for private real-time voice connections. VoIP today is something quite different. Legitimate concerns remain about the potential for unnecessary obligations on some VoIP services, but exempting all forms of VoIP from all telecommunications regulation purely on the basis of the protocol used would be illogical and problematic. For example, a customer picking up her home telephone and dialing 911 in an emergency should be able to reach an emergency operator regardless of whether that phone happens to connect to a circuit-switched network.

^{162.} The FCC's ancillary authority was first affirmed in *United States v. Southwestern Cable Co.*, 392 U.S. 157 (1968). There, the FCC attempted to impose requirements on cable television service, which at the time it had no statutory grant of regulatory authority over. The Supreme Court concluded that the FCC could take action "reasonably ancillary to the effective performance of the Commission's various responsibilities." *Id.* at 178. In *Southwestern Cable*, that holding pertained to the FCC's authority over television broadcasters, who were subject to competition from the new cable TV providers.

^{163.} See Open Internet Order, supra note 160, at para. 155.

^{164.} Verizon v. FCC, 740 F.3d 623 (D.C. Cir. 2014).

^{165.} Similarly, the FCC failed in its attempt to use ancillary authority to justify its "broadcast flag" mandates to protect intellectual property distributed through television broadcasts. *See* Am. Library Ass'n v. FCC, 406 F.3d 689 (D.C. Cir. 2005) (finding that the FCC had insufficient legal authority to adopt the broadcast flag rules).

^{166.} See Rob Frieden, What Do Pizza Delivery and Information Services Have in Common? Lessons from Recent Judicial and Regulatory Struggles with Convergence, 32 RUTGERS COMPUTER & TECH. L.J. 247, 274–77 (2006).

^{167.} *Id*.

^{168.} *See VoIP Report to Congress, supra* note 154. The Commission carefully worded its statements to suggest that "phone to phone" VoIP might ultimately be classified as a telecommunications service, without formally reaching that conclusion.

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Rather than confront these issues directly and consistently, the FCC addressed them in an ad hoc manner.¹⁶⁹ The Commission was willing to act in particular cases, but refused to adopt general principles. Thus, in 2004, it preempted a Minnesota decision that would have subjected Vonage's VoIP service to traditional state telephone rules and taxes, but it refused to determine the status of VoIP under federal law.¹⁷⁰ That same year, when AT&T attempted to evade obligations to pay interstate "access charges" to local telephone companies by converting its existing traffic into VoIP form, the FCC rejected its argument, again limiting its decision to the facts at hand.¹⁷¹

Today, not only are VoIP solutions such as Skype significant businesses with hundreds of millions of users and hundreds of millions of dollars in annual revenue, but VoIP has become the core technology for all new telephone service offerings. ¹⁷² Cable operators have built their telephony offerings, which they bundle on top of their broadband and television packages, using VoIP technology. ¹⁷³ Comcast is now the third-largest local telephone company in America, and it exclusively uses VoIP for transmission. ¹⁷⁴ To end-users, the Comcast Digital Voice service works exactly like its traditional telephone service: it involves the same phones, telephone numbers, features, and other aspects. Overall, roughly a third of Americans get their home phone service through VoIP. ¹⁷⁵ Yet the FCC has failed to squarely declare that such VoIP-based services fall under the same rules as other forms of telephony.

The FCC could take the step it has heretofore resisted and declare some forms of VoIP to be telecommunications services. However, such authority would be limited to retail VoIP service offerings, so long as the FCC maintains its current classification of broadband. Within the network,

^{169.} *See* GRIFFIN & FELD, *supra* note 142, at 7 ("[T]he result is an inconsistent hodgepodge that has segregated nearly all critical policy obligations to the 'copper safety net' of the traditional phone system.").

^{170.} Vonage Holdings Corp. v. Minn. Pub. Utils. Comm'n, 290 F. Supp. 2d 993, 999 (D. Minn. 2003); Vonage Holdings Corp. Petition for Declaratory Ruling Concerning an Order of the Minn. Pub. Utils. Comm'n, *Memorandum Opinion and Order*, FCC 04-267, 19 FCC Rcd. 22404 (2004); Sunny Lu, Cellco Partnership v. FCC & Vonage Holdings Corp. v. Minnesota Public Utilities Commission: *VoIP's Shifting Legal and Political Landscape*, 20 BERKELEY TECH. L.J. 859, 860 (2005).

^{171.} See Petition for Declaratory Ruling that AT&T's Phone-to-Phone IP Telephony Servs. are Exempt from Access Charges, Order, FCC 04-97, 19 FCC Rcd. 7457, paras. 12–17 (2004) [hereinafter AT&T Phone-to-Phone Order].

^{172.} See, e.g., Comcast Now the Third Largest Residential Phone Services Provider in the U.S., COMCAST (March 11, 2009), http://corporate.comcast.com/news-information/news-feed/comcast-now-the-third-largest-residential-phone-services-provider-in-the-us.

^{173.} See Werbach, *supra* note 107, at 1267; Crawford, *supra* note 57, at 245; CRAWFORD, *supra* note 128, at 224 (describing the growing power of cable operators offering "triple play" services including VoIP).

^{174.} See Comcast, supra note 172.

^{175.} See BROGAN, supra note 27, at 2–3.

VoIP traffic is just data, and the FCC has already concluded that broadband data transmission is an information service.¹⁷⁶

Regulations operating at the wholesale level, most notably interconnection obligations, would not automatically be extended to a VoIP world, even if the FCC took action for retail VoIP services. Nor would such a step solve new problems that arise in a VoIP-centric world, such as numbering conversion and service continuity in emergencies. These issues turn out to be critically important to preserving the normative goals of the PSTN.

The result of a decade and a half of FCC efforts to wrestle with the regulatory status of Internet-based communications services is a confusing amalgam of distinctions, exceptions, and uncertainties. There is no question that the things the FCC has always regulated are increasingly moving from the world of circuit switching to the world of packet switching. Nor is there any doubt that the policy considerations animating that regulation remain important, and in some cases have grown in significance. And yet, what happens next is far from clear. There is no guarantee that the FCC, without further action, will be able to maintain its historic role as the safeguard of essential values and economic opportunities in the post-PSTN era.

III. RECONCEIVING THE INTERNETWORK

A. What Falls Away

The switched telephone network and its accompanying regulatory and business arrangements deserve to die. Their era has passed. However, that does not mean that the idea of a public network has no enduring relevance.¹⁷⁷ To the contrary, some aspects of the PSTN are not tied to the particular technical, legal, or economic conditions that prevailed in 1934 or 1996. There are good economic and public interest reasons to continue treating communications network operators differently than ordinary businesses. The task is therefore to define a regime for today's world that preserves the enduring aspects of the PSTN and jettisons those that are no longer applicable.

^{176.} The exception is if a regulated carrier took circuit-switched voice traffic, converted it within the network to IP format, and then converted it back solely for the purpose of avoiding regulatory obligations or fees. The FCC rejected one such attempt by AT&T, which was a pure long-distance carrier prior to its merger with SBC, in 2004. *See AT&T Phone-to-Phone Order, supra* note 171, paras. 12–17 (2004).

^{177.} In fact, the concept of a "public network" is at the heart of the common carriage regime that predates the Communications Act. *See* Nachbar, *supra* note 129, at 68. Nachbar locates the essential "publicness" of the network in term of rules barring user discrimination, as opposed to use discrimination. *See id.* at 70. The concept described here is broader, referring to the network of interconnected networks rather than the carriage policies of a particular network operator.

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In effect, the Internet will become the new PSTN. In the process, however, the Internet has already changed and will continue to do so. As it becomes the default communications infrastructure, the Internet can no longer depend, as it has to date, on access to physical infrastructure regulated as telecommunications. Moreover, public policy considerations such as universal access, interoperability, reliability, privacy, access for persons with disabilities, emergency services, and law enforcement access become questions for Internet-based services.¹⁷⁸ As noted above, the last two decades of communications policy have created largely incompatible regulatory domains for the Internet and the PSTN at the same time as market forces joined them together.

The FCC has taken some steps in this direction in its treatment of VoIP. In a series of proceedings, it extended telecommunications regulation to "interconnected" VoIP providers; that is, those offering the familiar experience of dialing a telephone number on an ordinary phone. ¹⁷⁹ Interconnected VoIP providers must now contribute to universal service funding, ¹⁸⁰ offer access to E911 emergency service, ¹⁸¹ provide access to law enforcement subject to legitimate wiretaps, ¹⁸² accommodate persons with disabilities, ¹⁸³ adhere to privacy rules for the customer information they use to complete calls, ¹⁸⁴ support the ability of existing subscribers to

^{178.} Public Knowledge, a public interest and advocacy group in Washington, D.C., has proposed "five fundamentals" to guide FCC involvement after the PSTN transition. These include service to all Americans, interconnection and competition, consumer protection, network reliability, and public safety. *See* Comments of Public Knowledge at 14, Technological Transition of the Nation's Comme'ns Infrastructure, FCC GN Docket No. 12-353 (rel. Jan. 28, 2013).

^{179.} See Frieden, supra note 40.

^{180.} See Universal Serv. Contribution Methodology, *Report and Order and Notice of Proposed Rulemaking*, FCC 06-94, 21 FCC Rcd. 7518, para. 2 (2006), *affd*, Vonage Holdings Corp. v. FCC, 489 F.3d 1232, 1241 (D.C. Cir. 2007) (upholding universal service contribution obligations on interconnected VoIP providers).

^{181.} See VoIP 911 Order, supra note 12, at para. 1.

^{182.} See Commc'ns Assistance for Law Enforcement Act & Broadband Access & Servs., *First Report and Order and Further Notice of Proposed Rulemaking*, FCC 05-153, 20 FCC Rcd. 14989, paras. 1, 4 (2005).

^{183.} See IP-Enabled Servs., Report and Order, FCC 07-110, 22 FCC Rcd. 11275, para. 1 (2007); IP-Enabled Servs., Implementation of Sections 255 & 251(a)(2) of the Communications Act of 1934, Order and Public Notice, DA 07-4178, 22 FCC Rcd. 18319, paras. 1–3 (2007) (granting in part and denying in part waivers of the FCC order); see also Contributions to the Telecomms. Relay Servs. Fund, Report and Order, FCC 11-150, 26 FCC Rcd. 3285, para. 1 (2011).

^{184.} See Telecomms. Carriers' Use of Customer Proprietary Network Info. & Other Customer Info., *Report and Order and Further Notice of Proposed Rulemaking*, FCC 07-22, 22 FCC Rcd. 6927, para. 1 (2007), *aff'd*, Nat'l Cable & Telecomms. Ass'n v. FCC, 555 F.3d 996, 1003 (D.C. Cir. 2009) (upholding customer privacy requirements on interconnected VoIP providers).

keep their existing telephone numbers when switching services, ¹⁸⁵ and report service outages to the Commission.¹⁸⁶

One problem with the FCC's approach is that it imposed these obligations pursuant to its ancillary authority under Title I of the Communications Act.¹⁸⁷ It thus did not have to decide whether any component of the VoIP offerings was a telecommunications service subject to Title II. In most cases, the FCC justified its actions on the grounds that even if VoIP was an information service, interconnected VoIP calls were likely to pass over the regulated telecommunications networks of the PSTN.¹⁸⁸ If and when those networks themselves move to VoIP, the legal rationale evaporates.

A second problem with the FCC's actions is they are ad hoc. The FCC has not adopted principles for what forms of regulation should remain in the shift from TDM to IP and what may be abandoned. The six dimensions of the PSTN offer a framework for making such decisions.¹⁸⁹ Rules that are rooted in technology, regulatory arrangements, or market structure are likely to be anachronisms that can be abandoned. Those based around universal connectivity, strategic infrastructure, and a social contract retain their significance as the network evolves.¹⁹⁰ The regulatory framework for the PSTN transition should be based on evolving regulatory policies to support these goals in a new environment.

Pulling apart and constituting the PSTN in this way clarifies that two kinds of regulatory initiatives should endure: those involving interconnection and coordination. The first involves rules to ensure the network of networks retains its universal character. The second reflects the persistence of the PSTN as critical and essential infrastructure. Together, they form the nucleus of a new social contract for the emerging IP-based communications environment.

B. Interconnection

1. Importance of Interconnection

Smooth interconnection between communications networks is necessary to support many essential functions, but often goes unnoticed

^{185.} See Tel. No. Requirements for IP-Enabled Servs. Providers, *Report and Order*, *Declaratory Ruling, Order on Remand, and Notice of Proposed Rulemaking*, FCC 07-188, 22 FCC Rcd. 19531, para. 1 (2007) (imposing local number portability requirements on interconnected VoIP providers).

^{186.} See Part 4 Extension to VoIP Order, supra note 134, at para. 1.

^{187.} See Werbach, supra note 6, at 550; Southwestern Cable, 392 U.S. at 178 (concluding that the FCC could regulate cable television under its ancillary authority, even though it had no specific grant of authority over cable in the Communications Act).

^{188.} See VoIP 911 Order, supra note 12, at para. 128.

^{189.} See supra Part II.B.

^{190.} See id.

until something goes wrong. State troopers in western Montana found this out in summer 2013.¹⁹¹ The mobile phones they carried with them, and the laptop computers in their cruisers, had service provided by Verizon Wireless.¹⁹² However, because Verizon's network coverage wasn't ubiquitous in the rural area, the troopers—and all other mobile phone subscribers in the area—were actually "roaming" on a network owned by AT&T.¹⁹³ When the roaming agreement between the two companies expired, things changed. Suddenly, areas that previously had good service provided no reception at all.¹⁹⁴ The state troopers often had to drive thirty miles or more to get a usable signal.¹⁹⁵ Public safety services were adversely affected for residents of that part of Montana.¹⁹⁶

This example illustrates the power of interconnection. Few communications networks, services, or applications can survive without linkages to other networks. The only player to be successful without interconnection is an operator sufficiently ubiquitous to reach a substantial portion of the market on its own—as in the case of pre-divestiture AT&T. For anyone else seeking to deliver a network-based service, reaching customers requires some path through networks controlled by others.

In telecommunications, interconnection is, in the words of Eli Noam, "the paramount tool of regulation." ¹⁹⁷ This is true at every stage of competition. In an era of regulated monopoly, the government mandates interconnection to ensure ubiquitous service and regulates interconnection charges to allocate costs across the network. ¹⁹⁸ In a period of market opening, such as prevailed in the U.S. in the 1980s and 1990s, interconnection rules are the means of breaking down monopolies. ¹⁹⁹ And as markets become competitive, interconnection prevents holdouts and fosters efficient network integration. ²⁰⁰

As Howard Shelanski observes, the rationale for interconnection obligations differs from that for most other telecommunications

^{191.} See Phillip Dampier, AT&T/Verizon Roaming Agreement Ends in Montana; Rural Customers Left Without Service, STOP THE CAP! (July 9, 2013), http://stopthecap.com/2013/07/09/verizon-ends-at-rural-customers-left-without-service/.

^{192.} Id.

^{193.} Id. Such roaming arrangements are common, especially in more rural areas.

^{194.} Id.

^{195.} Id.

^{196.} Id.

^{197.} Eli Noam, *Interconnection Practices*, *in* 1 HANDBOOK OF TELECOMMUNICATIONS ECONOMICS 385, 387 (Martin E. Cave et al. eds., 2002).

^{198.} See id. at 389.

^{199.} *See id.*; *see also* Werbach, *supra* note 107, at 1294–1301 (describing the centrality of interconnection to communications regulation).

^{200.} See GRIFFIN & FELD, supra note 142, at 11 ("As we saw more than 100 years ago, without mandatory interconnection the phone network will slide inevitably toward monopoly as the largest carriers can gain anticompetitive advantages by withholding access to their customers from competitors.").

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regulation.²⁰¹ It is not necessarily tied to the monopoly history of the U.S. telecommunications market because interconnection remains important even when there are multiple competitors with significant market shares.²⁰² As Noam explains, interconnection is a kind of anti-fragmentation policy that reduces transaction costs.²⁰³ Having more competing networks doesn't eliminate the need for interconnection; in fact, it amplifies it.²⁰⁴ An uneven interconnection environment produces situations like the one in Montana, which belie the universality of the PSTN.

In the traditional PSTN environment, interconnection obligations are clear. Section 201(a) of the Communications Act obligates all common carriers "to establish physical connections with other carriers."²⁰⁵ Section 251, added by the Telecommunications Act of 1996, further states, "Each telecommunications carrier has the duty . . . to interconnect directly or indirectly with the facilities and equipment of other telecommunications carriers." ²⁰⁶ A network operator simply cannot refuse to offer interconnection to another network, although there is room for negotiation on some economic terms and the physical points of connection.²⁰⁷ Nor can carriers refuse to carry certain traffic across their interconnection links, because they are bound by the non-discrimination provisions of section 202.²⁰⁸

When carriers have failed to honor their connectivity obligations, the FCC has been willing to step in. When conference calling services began to offer free services by exploiting high terminating access charges in rural areas, some telephone companies responded by blocking calls to those numbers.²⁰⁹ The FCC acknowledged the services were problematic but ordered the carriers not to engage in "self help."²¹⁰ More recently, the FCC adopted rules to address problems of calls not being completed to some rural subscribers.²¹¹ The problem appears to be the inadvertent result of a variety of technical decisions, but the FCC recognized that non-universal connectivity undermines the essential promise of the PSTN.²¹²

- 207. 47 U.S.C. § 251(c) (2006).
- 208. 47 U.S.C. § 202 (2006).

^{201.} See Shelanski, supra note 125, at 68.

^{202.} Id.

^{203.} ELI M. NOAM, INTERCONNECTING THE NETWORK OF NETWORKS 15 (2001).

^{204.} Id.

^{205. 47} U.S.C. § 201 (2006).

^{206. 47} U.S.C. § 251(a) (2006).

^{209.} Establishing Just & Reasonable Rates for Local Exch. Carriers, *Declaratory Ruling and Order*, FCC 07-2863, 22 FCC Rcd. 11629, para. 5 (2007).

^{210.} See id.

^{211.} Rural Call Completion, *Report and Order and Further Notice of Proposed Rulemaking*, FCC 13-135 (2013), *available at* http://hraunfoss.fcc.gov/edocs_public/attach match/FCC-13-135A1.pdf.

^{212.} *See id.* at para. 13 ("The inability to complete calls reliably threatens public safety and contravenes the public interest.").

In some markets, pressure to interconnect is sufficiently great that competitors are able to negotiate reasonable commercial arrangements on a private basis.²¹³ The fact that private interconnection regimes sometimes develop, however, does not mean that they always do or that they necessarily produce a well-functioning market.²¹⁴ An interconnection dispute that cuts off service for some customers to other subscribers is a major public policy harm.²¹⁵ This is true regardless of the underlying technology involved.

The Montana situation illustrates the challenge in a post-PSTN world. On the wireline PSTN, it would be impermissible for AT&T to cut off Verizon customers. Because this was a roaming arrangement between two mobile phone networks, however, it was essentially an unregulated commercial arrangement. As mobile and VoIP connections become the new PSTN, this dichotomy becomes increasingly untenable.

2. Internet Interconnection Disputes

The Internet provides a glimpse of the post-PSTN future of interconnection. Interconnection is as important to the Internet as to the PSTN, but it has traditionally operated differently, both in technical and regulatory terms.²¹⁶ In recent years, however, the Internet's model of purely voluntary, private interconnection has begun to fray, as the Internet and legacy communications networks converge.

Internet service providers can choose whether to interconnect with one another.²¹⁷ Any provider offering transmission using the Internet protocol is technically free to interconnect and join the Internet, but companies must agree on the terms and location of interconnection.²¹⁸ Unlike the PSTN, the Internet uses a packet-switching architecture, with traffic routed dynamically from router to router.²¹⁹ The same traffic can be

^{213.} RICHARD LEVINE & RANDOLPH MAY, INTERCONNECTION WITHOUT REGULATION: LESSONS FOR TELECOMMUNICATIONS REFORM FROM FOUR NETWORK INDUSTRIES 3 (2005), *available at* http://www.pff.org/issues-pubs/communications/books/051018Interconnection. pdf.

^{214.} See generally Frieden, supra note 40 (describing examples of interconnection failures).

^{215.} See GRIFFIN & FELD, supra note 142, at 12 ("If NBC and AT&T have a retransmission dispute and AT&T video subscribers temporarily lose NBC programs, it is annoying. But if Comcast and AT&T have a 'peering dispute' and millions of AT&T wireless customers can't call Comcast landlines, it is a communications disaster.").

^{216.} See generally Werbach, supra note 107.

^{217.} See Michael Kende, The Digital Handshake: Connecting Internet Backbones, 11 COMMLAW CONSPECTUS 45, 45–46 (2003). The situation is similar in Europe. See INGO VOGELSANG, THE FUTURE OF IP INTERCONNECTION: TECHNICAL, ECONOMIC, AND PUBLIC POLICY ASPECTS (2008) (prepared for the European Commission).

^{218.} Id. at 45, 49–52.

^{219.} See Werbach, supra note 16, at 10, 17 (explaining packet switching).

routed between endpoints through multiple paths, with different financial terms and technical conditions.

Traditionally, interconnection between Internet networks used one of two arrangements: peering and transit.²²⁰ Peering agreements were historically done on a settlement-free basis between the largest, so-called "Tier 1" networks.²²¹ The other distinctive feature of a peering arrangement is that it involves the agreement only to route traffic to customers of the terminating network.²²² A transit agreement, by contrast, involves a payment by one network to another network, which agrees to deliver traffic anywhere on the Internet.²²³

In recent years, more complex arrangements have developed, as companies constantly seek to optimize performance along both financial and engineering dimensions.²²⁴ Some networks now pay for peering in order to guarantee performance on the terminating network.²²⁵ The rise of content delivery networks, which store content close to its destination using caching servers for improved performance, has also changed Internet interconnection dynamics ²²⁶ The environment is considerably more complex today than in the days of "Tier 1" peering.²²⁷

The FCC has declined to address backbone interconnection, finding it unnecessary because the market is sufficiently competitive. ²²⁸ Nonetheless, some authors have pointed out the similarity between Internet interconnection issues and those the FCC regulates.²²⁹ And thanks to the growth of video streaming services such as Netflix and YouTube, Internet interconnection disputes have become more prominent.²³⁰ Because it uses

^{220.} See Kende, supra note 217, at 45.

^{221.} See id. at 49, 51; see also Peyman Faratin et al., *The Growing Complexity of Internet Interconnection*, COMM. & STRATEGIES, 4th Quarter 2008, at 51, *available at* http://www.akamai.de/dl/technical_publications/growing_complexity_of_internet.pdf.

^{222.} David Clark et al., Interconnection in the Internet: The Policy Challenge 2–3 (Aug. 9, 2011) (unpublished manuscript) (prepared for the 39th Research Conference on Communication, Information and Internet Policy), *available at* http://ssrn.com/abstract=1992641.

^{223.} See id.

^{224.} See generally Faratin et al., supra note 221.

^{225.} See id. at 58–61.

^{226.} See generally Faratin et al., supra note 221; Werbach, supra note 107, at 1254.

^{227.} See Faratin et al., supra note 221, at 65–67.

^{228.} See Kende, supra note 217, at 52.

^{229.} See generally James Speta, A Common Carrier Approach to Internet Interconnection, 54 FED. COMM. L.J. 225 (2002); Werbach, supra note 107, at 1255–57.

^{230.} See Jon Brodkin, Why YouTube Buffers: The Secret Deals That Make—and Break—Online Video, ARS TECHNICA (Jul. 28, 2013, 9:00 PM), http://arstechnica. com/information-technology/2013/07/why-youtube-buffers-the-secret-deals-that-make-and-break-online-video/ (noting recent examples from 2010–2013 of Internet interconnection disputes).

such enormous bandwidth, video content now comprises the dominant share of Internet traffic.²³¹

As the Internet becomes the medium for voice traffic and other essential communications services, the question of whether a totally unconstrained interconnection environment can function effectively becomes increasingly salient. Because Internet interconnection agreements are private, it is impossible to get a full picture of the marketplace. However, a number of recent disputes have flared up in public and highlighted potential concerns.²³²

In 2010, after Level 3 became a major delivery network for Netflix, an interconnection dispute erupted between Level 3 and Comcast.²³³ Comcast previously had been paying Level 3 for transit, but Level 3 was now delivering huge volumes of Netflix video traffic to Comcast's network.²³⁴ Comcast therefore insisted that Level 3 pay it a termination fee.²³⁵ The disagreement threatened to disrupt the connection between the country's largest broadband access provider and the largest source of Internet traffic.²³⁶ The FCC, however, declined to intervene, even as it adopted open Internet rules prohibiting broadband providers such as Comcast from blocking content and services to their end-users.²³⁷

In July 2013, the two companies issued a terse press release stating that they had "resolved their prior interconnection dispute on mutually satisfactory terms." ²³⁸ Presumably, the companies had continued to exchange traffic the past three years under some interim arrangement,

^{231.} See SANDVINE INTELLIGENT BROADBAND NETWORKS, GLOBAL INTERNET PHENOMENA REPORT (2013) [hereinafter SANDVINE GLOBAL INTERNET REPORT], available at http://www.sandvine.com/downloads/documents/Phenomena_1H_2013/Sandvine_Global_I nternet_Phenomena_Report_1H_2013.pdf.

^{232.} See, e.g., Werbach, supra note 114, at 1779–83.

^{233.} See Daniel L. Brenner & Winston Maxwell, The Network Neutrality and the Netflix Dispute: Upcoming Challenges for Content Providers in Europe and the United States, 23 INTELL. PROP. & TECH. L.J. 3, 4 (2011); Cecilia Kang, Level 3 Communications Calls Comcast Fees for Netflix Feeds Unfair, WASH. POST (Nov. 29, 2010), http://www.washingtonpost.com/wp-dyn/content/article/2010/11/29/AR2010112907024.

html; Nate Anderson, *Peering Problems: Digging into the Comcast/Level 3 Grudgematch*, ARS TECHNICA (Dec. 9, 2010), http://arstechnica.com/tech-policy/news/2010/12/comcast level3.ars; *Peer Pressure*, ECONOMIST (Dec. 23, 2010), http://www.economist.com/blogs/ babbage/2010/12/connecting_internets; Brian Stelter, *Netflix Partner Says Comcast 'Toll' Threatens Online Video Delivery*, N.Y. TIMES (Nov. 29, 2010, 6:13 PM), http://mediade coder.blogs.nytimes.com/2010/11/29/netflix-partner-says-comcast-toll-threatens-onlinevideo-delivery; Frieden, *supra* note 40.

^{234.} See Brenner & Maxwell, supra note 233, at 4.

^{235.} See id. at 4.

^{236.} See SANDVINE GLOBAL INTERNET REPORT, supra note 231; Stelter, supra note 233.

^{237.} See Open Internet Order, supra note 160.

^{238.} Level 3 and Comcast Issue Statement, LEVEL 3 (July 16, 2013), http://level3.mediaroom.com/index.php?s=23600&item=136853; see also Joan Engebretson, Behind the Level 3-Comcast Peering Settlement, TELECOMPETITOR (July 17, 2013, 11:42 AM), http://www.telecompetitor.com/behind-the-level-3-comcast-peering-settlement/.

before agreeing to new terms. While their agreement could be seen as evidence that the market can resolve backbone interconnection disputes without interference, the fact that it took three years (an eternity in Internet time) should give one pause. As with most Internet interconnection arrangements, the terms are private, so there is no way to evaluate the agreement.²³⁹ The fact that both parties agreed to a deal does not prove the deal was favorable to competition and innovation; only that the less-powerful party felt signing was better than walking away.

In June 2013, Cogent Communications, another major Internet backbone provider, complained that Verizon was allowing connection quality to degrade across its peering points with Cogent, by not upgrading equipment to handle the volume of traffic.²⁴⁰ Verizon argued that, because Cogent was sending significantly more traffic than it was receiving from Verizon customers, it should instead use Verizon's paid peering option to deliver content closer to end users for better performance.²⁴¹ Of course, that would also impose additional costs on Cogent compared to the current peering arrangement.²⁴² The future of the Internet video market, and other markets dependent on significant broadband capacity, hinges on the terms spelled out in these interconnection agreements.

The major incumbent telephone companies argue that the competitive concerns that motivated interconnection obligations for the PSTN are unnecessary for IP services.²⁴³ Competition, however, may not be a sufficient check. Even when there is widespread competition to provide IP transit, access providers still have market power in controlling the ability to reach their customers.²⁴⁴ In other words, a network seeking to deliver video or voice content to an AT&T U-verse broadband access

^{239.} See, e.g., Level 3 and Comcast Issue Statement, LEVEL 3 (July 16, 2013), http://level3.mediaroom.com/index.php?s=23600&item=136853 (providing that the details of the agreement between Level 3 and Comcast will not be released); see also William B. Norton, A Study of 28 Peering Policies, DRPEERING INT'L, http://drpeering.net/white-papers/Peering-Policies/StudyOf28/Contracts-and-NDA-Peering-Policy-Clause.html (last visited Feb. 6, 2014) (describing some of the privacy-related contractual provisions in the peering policies of several ISPs).

^{240.} Joan Engebretson, *Verizon, Netflix Dispute Not Just Over Peering; Servers are New Battlefield*, TELECOMPETITOR (June 20, 2103, 12:26 PM), http://www.telecompetitor. com/verizon-netflix-dispute-not-just-over-peering-servers-are-new-battlefield/.

^{241.} See David Young, Unbalanced Peering, and the Real Story Behind the Verizon/Cogent Dispute, VERIZON POLICY BLOG (June 19, 2013), http://publicpolicy.verizon.com/blog/entry/unbalanced-peering-and-the-real-story-behind-the-verizon-cogent-dispute.

^{242.} *See id.* ("When the traffic loads are not symmetric, the provider with the heavier load typically pays the other for transit.").

^{243.} See, e.g., Comments of AT&T at 7, Connect Am. Fund, FCC WC Docket No. 10-90 (rel. Feb. 24, 2013) [hereinafter AT&T Universal Service Comments] (arguing that IP interconnection obligations are unnecessary).

^{244.} *See* Letter from Global Crossing at 2, Preserving the Open Internet, FCC GN Docket No. 09-191 (rel. Feb. 4, 2011); Letter from Level 3 at 1–2, Preserving the Open Internet, FCC GN Docket No. 09-191 (rel. Feb. 16, 2011).

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subscriber needs to terminate that traffic on AT&T's network.²⁴⁵ The fact that AT&T has many broadband competitors is irrelevant once the customer has chosen a particular one.²⁴⁶ In the telecommunications market, this concept is known as the terminating access monopoly.²⁴⁷

The difference between the PSTN and the Internet is that there can be multiple paths between two points.²⁴⁸ A network seeking to reach AT&T's customers that finds AT&T's peering terms excessive can instead pay transit to an intermediary network that has a peering arrangement with AT&T.²⁴⁹ According to AT&T, "the multiplicity of alternative transit routes into a given ISP's network, combined with the interdependence of every IP network on every other, deprives any ISP of the ability to coerce inefficiently high payments from any other IP network."²⁵⁰

There are, however, reasons for skepticism. It is questionable whether alternative transit will be a sufficiently coercive mechanism on broadband access providers. The use of an intermediary network makes it difficult to ensure end-to-end performance.²⁵¹ The need for reliable performance and the efficiencies involved in caching content closer to its destination is the very reason network providers have gone to paid peering and content delivery networks.²⁵² Broadband access providers can make this problem worse by refusing to upgrade the port capacity on interconnection links, as Cogent alleged Verizon was doing.253 European antitrust authorities are examining similar complaints that failure to congested Internet upgrade а interconnection link constitutes anticompetitive conduct.²⁵⁴

^{245.} See Patrick DeGraba, Bill and Keep at the Central Office as the Efficient Interconnection Regime 25–26 (FCC Office of Plans & Policy, Working Paper No. 33, 2000), available at http://transition.fcc.gov/Bureaus/OPP/working_papers/oppwp33.pdf.

^{246.} See id.

^{247.} See id.

^{248.} Werbach, *supra* note 107, at 1294 (describing Internet interconnection as a means of "routing around" hold-ups).

^{249.} See Clark et al., supra note 222, at 2.

^{250.} See AT&T Universal Service Comments, supra note 243, at 2.

^{251.} The content provider does not control the performance of the transit network, nor does it control the interconnection relationship between that network and the broadband ISP. Furthermore, unlike peering, transit intermingles traffic from many providers to many destinations, which makes it harder to optimize performance. There have been efforts to standardize so-called interdomain quality of service ("QOS") mechanisms that would provide greater guarantees across third-party networks, but implementation of these technologies has proven significantly more difficult than engineers anticipated. *See* Werbach, *supra* note 107, at 1284.

^{252.} Dennis Weller, *Blurring Boundaries: Global and Regional IP Interconnection, in* INT'L TELECOMM. UNION, TRENDS IN TELECOMMUNICATION REFORM 2013: TRANSNATIONAL ASPECTS OF REGULATION IN A NETWORKED SOCIETY 101, 108 (2013), *available at* http://www.iadb.org/intal/intalcdi/PE/2013/12850.pdf.

^{253.} See Brad Reed, Verizon Accused of Throttling Netflix Traffic, BGR (June 19, 2013, 11:30 AM), http://bgr.com/2013/06/19/verizon-netflix-traffic-throttling-accusations/.

^{254.} See James Kanter, Antitrust Scrutiny of Telecoms in Europe, N.Y. TIMES (July 11,

^{2013),} http://www.nytimes.com/2013/07/12/business/global/eu-investigates-telecom-firms-

The other development that could change the dynamics of Internet interconnection involves the end-user pricing. Broadband access providers have been exploring the use of data caps and usage based pricing, allegedly to deal with network congestion caused by the rise in high-bandwidth video traffic.²⁵⁵ They have also begun to enter into agreements, such as a recent arrangement between Comcast and Microsoft for content delivered through Xbox 360 consoles in the home, which exempt certain traffic from those restrictions.²⁵⁶

As David Clark, Bill Lehr, and Steven Bauer explain in their analysis of Internet interconnection questions, such end-user policies allow broadband access providers to neutralize transit as a disciplining factor on peering practices.²⁵⁷ Data caps or usage charges could make watching videos on a regular Internet connection less desirable or overly expensive. Content received by the broadband ISP through direct paid-peering arrangements would still be available to subscribers without caps or additional charges. Such arrangements could force originators or distributors of content to pay the peering charges for riding on the "favored" connection.²⁵⁸

3. VoIP Interconnection

The end of the PSTN means that carriers will switch from TDM to IP-based transmission. During a transitional period, some networks will continue to interconnect through TDM connections, either because one party still operates a legacy network, or by converting from IP to TDM and

over-internet-access.html; Benoît Felten, There's No Economic Imperative to Reconsider an Open Internet (Apr. 3, 2013) (unpublished manuscript), *available at* http://ssrn.com/abstract=2244335 (describing allegations in France that broadband provider Free is deliberately under-provisioning interconnection links).

^{255.} See Jacob Minne, Data Caps: How ISPs are Stunting the Growth of Online Video Distributors and What Regulators Can Do About It, 65 FED. COMM. L.J. 233, 246 (2013); Stacey Higginbotham, Which ISPs are Capping Your Broadband, and Why?, GIGAOM (Oct. 1, 2012, 12:03 PM) http://gigaom.com/2012/10/01/datacaps-chart/; Roger Yu, Cable Companies Cap Data Use for Revenue, USA TODAY (Oct. 1, 2012), http://www.usatoday. com/story/tech/2012/10/01/internet-datacap/1595683/.

^{256.} See Stacey Higginbotham, *The Technical and Legal Realities of Comcast's Xbox Cap Spat*, GIGAOM (Mar. 27, 2012, 12:53 PM), http://gigaom.com/2012/03/27/the-technical-and-legal-realities-of-comcasts-xbox-cap-spat/.

^{257.} See Clark et al., supra note 222, at 6.

^{258.} Pricing structures that advantage content through the broadband access provider's "fast lane" in this manner might run afoul of the FCC's Open Internet Rules. *See Open Internet Order, supra* note 160. However, portions of those rules were recently struck down by the D.C. Circuit. *See Verizon*, 740 F.3d 623. Even if they had been upheld, it is not certain that the FCC's rules would cover these practices. Usage-based pricing and data caps are arguably neutral mechanisms that affect all content equally. The question is whether the arrangement to exempt traffic through certain peering arrangements from the cap changes the outcome. The FCC did not act to prohibit Comcast's partnership with Microsoft to offer such an exemption for the Xbox. *See* Higginbotham, *supra* note 255. The Open Internet rules allow for "managed services" to be treated differently than general Internet traffic.

back. Ultimately, though, the efficient interconnection of post-PSTN networks will involve direct IP links.²⁵⁹

VoIP-based service providers can voluntarily connect their networks, and indeed several cable operators reportedly have done so.²⁶⁰ However, most interconnection for voice services, even when delivered through VoIP, today still involves conversion to TDM in the middle.²⁶¹ Telecommunications service providers are required to provide TDM interconnection by section 251 of the Communications Act.²⁶² Because the FCC has never decided the legal status of VoIP, however, carriers currently do not have to offer IP interconnection, even where it is technically feasible and the networks involved use IP on both ends.²⁶³

Even worse, because interconnection negotiations outside the Communications Act are private business transactions, most agreements are treated as confidential. A few disputes have become public when one party goes to the media or the FCC, but there is no reason to believe those are the only ones that have occurred. AT&T has suggested to the FCC that, prior to imposing any regulatory obligations, the FCC should "compile hard evidence of how IP-to-IP interconnection arrangements have played out in practice."²⁶⁴ This comment is unintentionally ironic. It would be next to impossible to compile such information, because the agreements are confidential, and the FCC's ability to compel data collection is limited because the IP providers are not regulated as carriers.

In 2011, as part of the reform of its inter-carrier compensation rules, the FCC sought comment on direct IP interconnection for VoIP.²⁶⁵ While it reached no tentative conclusions, the agency made an intriguing statement in the notice of proposed rulemaking:

We recognize the importance of interconnection to competition and the associated consumer benefits. . . . We also make clear that even while our FNPRM is pending, we expect all carriers

^{259.} See Connect Am. Fund, Report and Order and Further Notice of Proposed Rulemaking, FCC 11-161, 26 FCC Rcd. 17663, paras. 1009–11, 1335–73 (2011) [hereinafter VoIP Interconnection Notice].

^{260.} See Wilson, supra note 35; VoIP Peering Shapes Up to Disrupt, FIERCEENTERPRISE COMM. (Aug. 16, 2007), http://www.fierceenterprisecommunications. com/story/VoIP-peering-shapes-disrupt/2007-08-16. Sprint, which provides wholesale services to cable VoIP operators, established a direct voice peering exchange service in 2009. See Press Release, Sprint, Sprint Establishes New Voice over IP (VoIP) Community Solution to Provide Significant Cost Savings to Wholesale VoIP Customers (Oct. 12, 2009), available at http://newsroom.sprint.com/article_print.cfm?article_id=1258.

^{261.} See VoIP Interconnection Notice, supra note 259, at paras. 1336–39.

^{262. 47} U.S.C. § 251 (2006).

^{263.} *VoIP Interconnection Notice, supra* note 259, at para. 1339. The FCC has sought comment on this issue, as discussed below.

^{264.} Reply Comments of AT&T at 19, Connect Am. Fund, FCC WC Docket No. 10-90 (rel. Mar. 30, 2013).

^{265.} See VoIP Interconnection Notice, supra note 259.

to negotiate in good faith in response to requests for IP-to-IP interconnection for the exchange of voice traffic.²⁶⁶

Such a good faith requirement seems reasonable, but without FCC legal authority and rules obligating carriers to interconnect through IP, it is entirely hortatory.²⁶⁷ Clearly, the FCC recognizes that as the PSTN migrates to IP technology, the need for interconnection to ensure universal connectivity does not evaporate.

AT&T and Verizon claim that the FCC has no authority to mandate interconnection when either the requesting or the interconnecting operator uses VoIP.²⁶⁸ Carriers are also making this argument at the state level, where VoIP-based operators have been rebuffed when seeking direct IP interconnection.²⁶⁹ At first glance, the FCC's determination that broadband Internet access is an integrated information service would seem to bar imposition of Title II interconnection obligations.²⁷⁰ As I have elsewhere

270. The FCC theoretically could reverse itself and reclassify some portion of Internet access as a telecommunications service. The Verizon court recognized that the FCC's existing classification was not compelled by the statute. See Verizon, 740 F.3d at 628 ("[T]he Commission has chosen to classify broadband providers in a manner that exempts them from treatment as common carriers"). The fact of the matter is that the FCC's classification of broadband access has now been in force for a decade, and it has been repeatedly reaffirmed, creating settled expectations in the marketplace that the agency will hesitate to overturn. Moreover, the intense opposition to Title II reclassification that the FCC declined to confront when adopting the Open Internet Order in 2010 will no doubt reappear if it attempts to move in that direction now. On February 19, 2014, FCC Chairman Wheeler announced that the agency would move forward under the section 706 theory it used in the Open Internet Order. Although the docket regarding Title II reclassification remains open, Wheeler was clear that his preference was not to go that route. See Statement by FCC Chairman Tom Wheeler on the FCC's Open Internet Rules, FCC (Feb. 19, 2014), http://www.fcc.gov/document/statement-fcc-chairman-tom-wheeler-fccs-open-internetrules.

^{266.} *Id.* at para. 42.

^{267.} The "good faith" language parallels the FCC's mandate in another controversial area involving distribution arrangements between content producers and distributors: the retransmission consent process between television broadcasters and cable television providers (or their competitors). One notable difference is that the FCC has direct statutory authority to define and impose good-faith obligations on retransmission consent agreements. *See* 47 U.S.C. § 325(b)(3)(C)(ii)–(iii) (2006) (directing the commission to promulgate rules requiring broadcast stations and MVPDs to negotiate in good faith); Amendment of the Comm'n's Rules Related to Retransmission Consent, *Notice of Proposed Rulemaking*, FCC 11-31, 26 FCC Rcd. 2718 (2011).

^{268.} See AT&T Universal Service Comments, supra note 243, at 4.

^{269.} See GRIFFIN & FELD, supra note 142, at 12; Petition for a Determination that Verizon IP-to-IP Interconnection Agreements Must Be Filed for Review & Approval & for Associated Relief, Order Opening an Investigation, Declining to Issue an Advisory Ruling, and Denying Verizon MA's Motion to Dismiss or Stay the Proceeding, D.T.C. 13-2 (Mass. Dep't of Telecomms. & Cable 2013), available at http://www.mass.gov/ocabr/docs/dtc/dockets/13-2/end132open136.pdf (considering a request from competitors for IP interconnection with Verizon).

explained, however, the statutory scheme of the 1996 Act is more nuanced. $^{\rm 271}$

While the old section 201 applies to the narrower class of common carriers, section 251 applies to "telecommunications carriers."²⁷² That is defined as all providers of "telecommunications service,"²⁷³ which is in turn defined as provision of telecommunication to the public for a fee.²⁷⁴ The interconnection obligation applies under section 251(a) to any telecommunications carrier; it is not limited to interconnection for provision of telecommunications" to the public for a fee must interconnect with other such providers. The "telecommunications service" definition in the statute expressly applies "regardless of the facilities used."²⁷⁶ Congress understood that voice services would not always be delivered over the same technical platform.

Although it has not yet moved forward on IP interconnection for VoIP, the FCC has taken action to require interconnection between the data services offered by mobile phone providers on a roaming basis.²⁷⁷ Roaming, the kind of arrangement that allows subscribers of one network to get service from a cellular tower on another network, subject to a charge, is common in the mobile phone world and particularly important to ensure service in rural areas where every carrier cannot economically build out a complete network. The FCC has existing roaming rules for voice service, but its recent decision extended those to mobile data connectivity.²⁷⁸

Data roaming provides a template for VoIP interconnection. The data-roaming rule requires providers to "offer data roaming arrangements on commercially reasonable terms and conditions." ²⁷⁹ In contrast to common carriage, however, carriers may "negotiate the terms of their roaming arrangements on an individualized basis." ²⁸⁰ They may also

^{271.} *See* Werbach, *supra* note 6, at 585–92 (discussing the nuances of sections 251 and 256 interconnection language).

^{272. 47} U.S.C. § 251(a) (2006).

^{273. 47} U.S.C. § 153(51) (2006).

^{274. 47} U.S.C. § 153(53) (2006).

^{275. 47} U.S.C. § 251(a) (2006); *see also* Werbach, *supra* note 6, at 585–89 (explaining the scope of interconnection obligations under the 1996 Act).

^{276. 47} U.S.C. § 153(53) (2006).

^{277.} Reexamination of Roaming Obligations of Commercial Mobile Radio Serv. Providers & Other Providers of Mobile Data Servs., *Second Report and Order*, FCC 11-52, 26 FCC Rcd. 5411, paras. 1–2 (2011) [hereinafter *Data Roaming Order*], *aff'd*, Cellco P'ship v. FCC, 700 F.3d 534 (D.C. Cir. 2012); *see also* Dampier, *supra* note 191 (involving a roaming agreement that lapsed and was not renewed).

^{278.} See Data Roaming Order, supra note 277.

^{279.} Data Roaming Order, supra note 277, at para. 43.

^{280.} Id.

decline data roaming interconnection if it is not technically feasible.²⁸¹ Where conflicts arise, there is a dispute resolution process.²⁸²

Limited rules of this sort would ensure that the universality of the PSTN endures in the new IP-based communications environment, without retaining the burdensome aspects of legacy telecommunications regulation.

C. Coordination

1. Role of Coordination

The PSTN, the Internet, and whatever comes of their union share a fundamental characteristic: they are networks of networks. No one entity serves every customer, partly because of the massive capital costs involved, and partly because providers can no longer monopolize the market. As a system, therefore, the PSTN and its successors are modular in structure, with functionality divided among different entities.²⁸³

The challenge in any modular system is that those entities make independent decisions about investments, technologies, and business models. When each provider optimizes for its own needs, the overall result may not be optimal.²⁸⁴ This is true even when all the participants would agree on certain system-wide goals. Unlike interconnection, where every network has a private incentive to limit connectivity but a public incentive to expand it, coordination issues are fundamentally collective action problems.

Modular systems, by definition, lack a strong central control mechanism that controls the actions of all participants.²⁸⁵ Therefore, the only means of addressing areas of global concern that may be poorly served by local decisions is for the government to impose system-wide mandates, or for the participants to communicate directly and make commitments through some coordination mechanism. The social policy aspects of the PSTN can be seen as examples of the former approach. Communications networks are unlikely to be fully accessible to those with

^{281.} Id.

^{282.} Id. at para. 74.

^{283.} See generally CARLISS Y. BALDWIN & KIM B. CLARK, DESIGN RULES: THE POWER OF MODULARITY (2000); see also Joseph Farrell & Philip J. Weiser, Modularity, Vertical Integration, and Open Access Policies: Towards a Convergence of Antitrust and Regulation in the Internet Age, 17 HARV. J.L. & TECH. 85, 90–96 (2003).

^{284.} Christopher Yoo, Modularity Theory and Internet Policy 34–36 (May 2013) (unpublished manuscript), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id= 2032221; Henry W. Chesbrough & David J. Teece, *When Is Virtual Virtuous?: Organizing for Innovation*, HARV. BUS. REV., Jan.–Feb. 1996, at 65, 67–69 (describing how going "virtual" for an organization does not necessarily mean more innovation).

^{285.} *See, e.g.*, BALDWIN & CLARK, *supra* note 283, at 63 ("A module is a unit whose structural elements are powerfully connected among themselves and relatively weakly connected to elements in other units. . . . [T]here are degrees of connection, thus there are gradations of modularity.").

disabilities, and the costs of building and managing E911 emergency service infrastructure are unlikely to be borne, for example, if the decisions rest solely in the hands of individual providers. Here, government serves the role of spreading a collective burden across all market participants.

In other areas, however, government mandates are less appropriate. When it comes to the management and operation of networks, the providers themselves are best positioned to make the requisite technical decisions. Sometimes the most essential need is for all providers to come to the table to work out cooperative arrangements. And in some cases, the market failure is primarily informational: the industry participants need to give government and the public appropriate data to make decisions.

In recent years, scholars of administrative law have increasingly looked to cooperative "new governance" mechanisms instead of traditional direct mandates.²⁸⁶ In Internet policy specifically, "co-regulation" and "multi-stakeholder processes" have generated significant interest as means of addressing thorny issues related to Internet governance, content regulation, and network neutrality.²⁸⁷ With these mechanisms, government can set a policy goal while allowing industry and public interest representatives to define and commit to specific requirements.²⁸⁸ Alternatively, the multi-stakeholder process may narrow the scope of disagreement and identify safe harbors that are clearly permissible or impermissible.²⁸⁹

When the PSTN was primarily operated by AT&T, coordination functions could be handled within that corporate entity or through affiliates such as Bell Labs. In today's environment, where all providers are independent, there is a need for separate coordination mechanisms. The Communications Act recognizes this. Section 256, for example, directs the FCC to "establish procedures for Commission oversight of coordinated network planning by telecommunications carriers and other providers of telecommunications service."²⁹⁰

Section 256 is limited on its face to providers of telecommunications service.²⁹¹ The FCC would need to articulate a theory of legal authority to continue acting in this area following the PSTN transition. Under the FCC's current interpretation of telecommunications and information

^{286.} See generally Richard Stewart, Administrative Law in the Twenty-First Century, 78 N.Y.U. L. REV. 437, 448–55 (2003) (assessing the new methods for achieving regulatory goals and their implications).

^{287.} Joe Waz & Phil Weiser, *Internet Governance: The Role of Multistakeholder Organizations*, 10 J. ON TELECOMM. & HIGH TECH. L. 331, 334 (2013); CHRISTOPHER MARSDEN, INTERNET CO-REGULATION: EUROPEAN LAW, REGULATORY GOVERNANCE AND LEGITIMACY IN CYBERSPACE 68 (2011).

^{288.} See Waz & Weiser, supra note 287, at 336 n.15; MARSDEN, supra note 287, at ch. 4.

^{289.} See Waz & Weiser, supra note 287, at 338.

^{290. 47} U.S.C. § 256(b)(1) (2006).

^{291.} See id.

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services, the easiest way to do so is under ancillary authority.²⁹² Coordination activities are not about promoting competition or overcoming market power; they are about reducing transaction costs and ensuring public interest goals are met for the network as a whole.

The two most essential areas for coordination in the post-PSTN environment are numbering and network reliability.

2. Numbering

Any communications network requires a system of identifiers. The nodes on the network can only route information correctly if endpoints are uniquely identified in some consistent manner. Similarly, end users need some way to specify which users or systems they wish to contact. The end-user identifiers must be simple enough for people to remember and use. Coordination is essential so that two endpoints are not assigned the same identifier, and to ensure that connections are made smoothly to the desired destination across independent networks.²⁹³

The system of using numbers to dial telephone calls has been around since the 19th century.²⁹⁴ The international technical standard for the familiar arrangement of country code, area code, and telephone number (seven digits in the U.S.) is called E.164.²⁹⁵ Local and regional authorities around the world handle the allocation and management of numbers within their territories.²⁹⁶ Section 251(e)(1) of the Communications Act directs the FCC to "create or designate one or more impartial entities to administer telecommunications numbering and to make such numbers available on an equitable basis."²⁹⁷ The FCC oversees processes such as adding new area codes when numbers are exhausted, and establishing special numbers such as 311 for non-emergency local services.²⁹⁸ The NANP administrator assigns blocks of numbers to carriers, who then assign them to end-users.²⁹⁹

VoIP developed outside the numbering framework of the PSTN.³⁰⁰ Standalone VoIP services such as Skype could assign their own private

^{292.} See Werbach, supra note 6, at 571-85.

^{293.} Rudolf van der Berg, *ENUM: Dragging Telephone Numbers into the Internet Age*, ARS TECHNICA (Jan. 14, 2010, 12:30 AM), http://arstechnica.com/business/2010/01/enum-dragging-telephone-numbers-into-the-internet-age/ (explaining the importance and value of unique identifiers).

^{294.} See id.

^{295.} See Craig McTaggart, *The ENUM Protocol, Telecommunications Numbering, and Internet Governance*, 12 CARDOZO J. INT'L & COMP. L. 507, 510–11 (2004).

^{296.} For the United States, the overall structure is called the North American Numbering Plan. See 47 C.F.R. § 52.5(c) (2013).

^{297. 47} U.S.C. § 251(e)(1) (2006).

^{298.} Services: Code Administration, NANPA, http://www.nanpa.com/number_resource _info/code_admin.html (last visited Feb. 6, 2014).

^{299.} See id.

^{300.} See Numbering Policies for Modern Commc'ns, Notice of Proposed Rulemaking, Order, and Notice of Inquiry, FCC 13-51, 28 FCC Rcd. 5842, para. 7 (2013).

identifiers tied directly to usernames.³⁰¹ Interconnected VoIP services such as Vonage and Comcast Digital Voice connect to ordinary telephones, and therefore must somehow interoperate with the E.164 numbering system.³⁰² However, because these providers are not formally classified as telecommunications carriers, they cannot participate directly in the NANP.³⁰³ Instead, they must buy blocks numbers from carriers.³⁰⁴ The FCC has initiated a proceeding and begun trials designed to give interconnected VoIP providers direct access to numbers.³⁰⁵

The coordination issue around numbering primarily concerns the internal routing process in the network.³⁰⁶ VoIP systems use the routing structure of the Internet, based on IP numbers identifying devices, rather than the traditional PSTN mechanisms designed for circuit switches.³⁰⁷ But when a VoIP subscriber makes a call with a PSTN user on the other end, the communication must be converted in the middle to TDM.³⁰⁸ Moreover, there is no central database for converting between IP numbers and E.164 telephone numbers.³⁰⁹ Thus, even when a call is made between two interconnected VoIP subscribers, it typically must be converted to TDM, passed through a legacy PSTN device called a tandem switch to look up the location of the terminating phone number, and then reconverted to IP.³¹⁰ Some companies, most notably cable operators, have reached bilateral agreements for direct IP interconnection.³¹¹ However, traditional telecommunications carriers generally require interconnection through TDM.

The precedents for coordination around E.164 to IP numbering are equal access and number portability. When AT&T agreed to divest its local affiliates and open the long-distance market to competition, one of the requirements of the consent decree was equal access: the ability for subscribers to use competitive long-distance carriers as easily as AT&T.³¹² This meant the creation of a database system identifying the presubscribed interexchange carrier ("PIC") for each subscriber, and mechanisms in the network to route long-distance calls to that carrier's network.³¹³ Equal access was a requirement imposed on AT&T, but it set a precedent for later coordination mechanisms.

^{301.} See id. at para. 117 n.283.

^{302.} *See id.* at para. 7.

^{303.} See id.

^{304.} See id.

^{305.} *Id.* at para. 2.

^{306.} See id. at para. 14.

^{307.} See id.

^{308.} See id.

^{309.} AT&T Universal Service Comments, supra note 243, at 33.

^{310.} See id. at 28–29.

^{311.} See id. at 33.

^{312.} See Gerald M. Brock, Telecommunications Policy for the Information Age 163 (1994).

^{313.} See id.

Number portability refers to the opportunity for customers to take their assigned phone numbers to a new provider. This was not necessary at divestiture, because local service, where phone numbers were generally assigned, remained a monopoly. It first became an issue in the late 1980s with toll-free service, which was provided by long-distance companies. Customers who advertised toll-free numbers for their businesses, especially those with mnemonic numbers such as 1-800-FLOWERS, were unwilling to change providers if they had to obtain a new number.³¹⁴ Eliminating this requirement, however, required the creation of a new industry-wide toll-free number database.³¹⁵ Every call to a toll-free number then required a database lookup to identify the associated carrier.

The establishment of local competition after the 1996 Act necessitated a new form of portability.³¹⁶ Now it was not just toll-free numbers that required a database lookup to identify the associated carrier. Customers needed the ability to take a local phone number assigned by one carrier and "port" it to another. This meant the incumbent network operator providing the wire into their home would have to perform a database lookup before connecting every call.³¹⁷ Despite the technical difficulty involved, such a system was in fact deployed and operated smoothly.

An IP-to-E.164 numbering database poses no major technical challenges beyond those that were successfully addressed for local number portability.³¹⁸ And the Internet technical community has for several years been developing a protocol called ENUM for mapping IP addresses to telephone numbers.³¹⁹ The issue is a collective action problem. An IP interconnection database would benefit everyone, but no individual company wants to build and pay for that infrastructure.

Moreover, any system of this type needs to meet reliability standards to ensure a seamless experience for customers. The FCC may need to play a facilitator role to ensure the creation of such a database. As a starting point, the Commission should bring together leading PSTN and VoIP providers to develop an outline of an IP interconnection database. Such a system could be operated by a neutral third party and funded through small

^{314.} See Tel. No. Portability, *First Report and Order and Further Notice of Proposed Rulemaking*, FCC 96-286, 11 FCC Rcd. 8352, para. 31 (1996) [hereinafter *Tel. No. Portability Order*].

^{315.} See Provision of Access for 800 Serv., Report and Order, FCC 89-106, 4 FCC Rcd. 2824 (1989).

^{316.} See Tel. No. Portability Order, supra note 314, at para. 31.

^{317.} See id. at para. 15.

^{318.} See Geoff Huston, ENUM—Mapping the E.164 Number Space into the DNS, INTERNET PROTOCOL J., June 2002, at 13, available at http://www.cisco.com/web/about/ac123/ac147/archived_issues/ipj_5-2/enum.html.

^{319.} *See generally* McTaggart, *supra* note 295; Huston, *supra* note 318; Memorandum from Patrik Faltstrom on E.164 Number and DNS (Sept. 2000), *available at* http://www.ietf.org/rfc/rfc2916.txt (defining the ENUM protocol).

minimal charges on each call, along the lines of the PSTN number portability mechanisms. $^{\rm 320}$

3. Reliability

Reliability is essential for critical infrastructure such as the telecommunications network. No network is perfectly reliable, especially one as complex as the PSTN. Increasing reliability also imposes costs, and the most reliable network may not be worth it in terms of the added expense passed on to subscribers. Today, when most Americans have mobile phones in addition to (or instead of) their landline PSTN connections, as well as potentially other communications alternatives, the PSTN may not be the one essential network it once was. Nonetheless, some baseline level of service is necessary to ensure public safety and emergency connectivity. The FCC convened the Communications Security, Reliability and Interoperability Council ("CSRIC"), a federal advisory committee, to bring together major network operators to develop reports and recommendations on reliability-related matters. The CSRIC's charter was recently renewed through March 2015.³²¹

In recent years, weather-related events have caused significant disruptions of PSTN functionality. For example, in June 2012, an unusual windstorm called a derecho disrupted communications networks in the area near Washington, D.C. ³²² Subsequently, Superstorm Sandy caused widespread devastation throughout the East Coast.³²³ In both cases, the FCC investigated how networks fared and developed recommendations to ensure that customers would not face unnecessary outages in times of significant need.³²⁴ Other possible causes of significant outages are surges in demand and the interconnection of the traditional TDM network infrastructure to new IP-based networks.

^{320.} The North American Numbering Plan for telephone numbers, for example, is administered by a private company, Neustar, pursuant to an FCC selection and oversight process. *See* Press Release, Neustar, Neustar Awarded North American Numbering Contract for a Third Term (June 18, 2012), *available* http://www.neustar.biz/about-us/news-room/press-releases/2012/neustar_awarded_north_american_numbering_contract_for_a_third_term#.UvRIrEJdVfk.

^{321.} FCC Announces Membership of the Commc'ns Sec., Reliability, & Interoperability Council, *Public Notice*, DA 13-985 (2013), *available at* http://hraunfoss. fcc.gov/edocs_public/attachmatch/DA-13-985A1.pdf.

^{322.} PUB. SAFETY & HOMELAND SEC. BUREAU, FCC, IMPACT OF THE JUNE 2012 DERECHO ON COMMUNICATIONS NETWORKS AND SERVICES: REPORT AND RECOMMENDATIONS 18 (2013), *available at* http://transition.fcc.gov/Daily_Releases/Daily_Business/2013/ db0110/DOC-318331A1.pdf.

^{323.} FCC Announces Date and Locations for the First Post-Superstorm Sandy Field Hearing, *Public Notice*, DA 13-19, (Jan. 2013), *available at* http://transition.fcc.gov/Daily_Releases/Daily_Business/2013/db0108/DA-13-19A1.pdf.

^{324.} See id.

The FCC should ensure that the industry is able to articulate and adhere to appropriate reliability standards for the post-PSTN network. The Internet was traditionally a "best efforts" network, meaning that service quality levels were not guaranteed.³²⁵ As the Internet has grown and become more of a foundation for commercial activity and real-time voice or video services, operators have engineered their networks to enhance reliability. However, when IP-based networks are used to provide critical services such as telephony, the stakes are raised.

The FCC has already required interconnected VoIP providers to report outages.³²⁶ It should reconstitute an advisory committee on network reliability, along the lines of the old Network Reliability and Interoperability Council ("NRIC"), to identify emerging issues associated with the PSTN transition. An industry-based group may be able to address network reliability on a voluntary basis, but FCC initiative will be required for all major network operators to participate.

A related reliability issue concerns battery backup. ³²⁷ The copper wires used for the PSTN are self-powered. Telephone companies provide power for the telephone system directly over the lines.³²⁸ They run their own backup generators that operate even when the public power grid goes down. This is important in natural disasters. VoIP systems are not self-powered. They rely on the commercial power grid to power devices at the customer premises.³²⁹

Therefore, to keep a connection operating when the power goes out, these systems generally provide local battery backup.³³⁰ For example, Verizon's Voice Link product deployed on Fire Island promises battery backup for two hours of talk time and thirty-six hours of standby time.³³¹ Whether that level is sufficient is a public policy question. Leaving the decision of whether and how long to provide battery backup to each operator will not ensure that customers can count on their phone service in emergencies.

IV. TRANSITION MECHANISMS

Interconnection and coordination form the basis for a regulatory approach that meets the enduring policy needs of the post-PSTN

326. See id. at 16.

329. See id.

^{325.} See Werbach, supra note 114, at 1832.

^{326.} See Part 4 Extension to VoIP Order, supra note 134, at paras. 56–57.

^{327.} See DAVID GABEL & STEVEN BURNS, NAT'L REGULATORY RESEARCH INST., THE TRANSITION FROM THE LEGACY PUBLIC SWITCHED TELEPHONE NETWORK TO MODERN TECHNOLOGIES 17–19 (2012), available at https://prodnet.www.neca.org/publicationsdocs/ wwpdf/111212nrri.pdf.

^{330.} *Id.* at 17–18.

^{331.} *Fire Island, NY*, VERIZON (Feb. 6, 2014, 11:11 PM), http://www22.verizon.com/ about/community/fireislandny.htm.

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communications environment. The practical challenge now facing the FCC is how to cross the Rubicon from the current PSTN to that world. An orderly transition is essential to ensure that subscribers are not excessively harmed by the changeover from TDM to IP. Two mechanisms can help: the section 214 approval process, and a date-certain deadline.

A. Section 214

1. The Approval Requirement

Section 214(a)(3) of the Communications Act states, "No carrier shall discontinue, reduce, or impair service to a community, or part of a community, unless and until there shall first have been obtained from the Commission a certificate that neither the present nor future public convenience and necessity will be adversely affected thereby." ³³² Under this provision, carriers cannot shut down their networks without authorization from the FCC.³³³ Doing so would violate the PSTN's social contract, by potentially leaving subscribers with no viable communications option.

Of course, network operators are not proposing to cease operations due to the PSTN transition; rather, they are asking to shut down the legacy PSTN and transfer customers to new IP-based platforms. For instance, AT&T argues that it needs no section 214 authorization to decommission PSTN equipment, because it will not "discontinue, reduce, or impair service" in the process. ³³⁴ Instead, it claims, it intends to replace inferior circuit-switching equipment with superior IP-based connections.³³⁵ AT&T supports its claim by pointing out that section 214(a)(3) emphasizes that no authorization is required for changes "which will not impair the adequacy or quality of service provided." ³³⁶

It bears noting that despite their claims that section 214 does not apply, both AT&T (through its proposal for field trials) and Verizon (through its petition for approval of its actions on Fire Island) formally requested FCC approval. It remains to be seen whether the carriers would challenge a negative decision by the FCC in court, but neither company has yet been willing to test its legal claim.

Contrary to the network operators' assertions, IP-based networks are not inherently superior to the TDM-based infrastructure of the PSTN. The question is not the novelty of the underlying technology, but the nature of

^{332. 47} U.S.C. § 214(a)(3) (2006).

^{333.} See id.

^{334.} See AT&T Petition, *supra* note 41, at 13 ("AT&T believes that this provision is simply inapplicable where a carrier transitions from legacy TDM-based services to superior IP-based ones").

^{335.} *Id.* at 8, 13.

^{336.} See id. at 14; 47 U.S.C. § 214(a)(3) (2006).

service offerings available to customers. IP may be a better overall technology than TDM, but that does not mean that every IP-based connection offers superior performance to every TDM connection. A change could be "impairment" subject to section 214 authorization even if the replacement is more efficient and potentially more functional overall, so long as the service customers receive is inferior in some respects to what they had before.

Indeed, Verizon's Voice Link product deployed on Fire Island fails to support numerous services that could be used through the wired PSTN³³⁷:

- Medical alert home monitoring services
- Telecommunications relay service for the deaf and hard of hearing
- Digital Video Recorder ("DVR") program guide downloads
- Credit card processing terminals for small businesses
- ATM machines for small businesses
- Home alarm monitoring
- Calling to 900-number (paid) services
- Collect calls
- Calling cards or other dial-around calls
- International dialing (without a supplemental plan)

In effect, Voice Link turns a home into a big mobile phone. This also means that it has the same capacity and reliability limits as a wireless device. Voice Link does not provide its own power for backup, relying instead on batteries that last thirty-six hours.³³⁸ And though it provides E911 emergency service, the terms of service for Voice Link expressly disclaim liability for E911 connection failures.³³⁹

Verizon initially delayed filing a section 214 application with the FCC for Fire Island, but it eventually did so.³⁴⁰ As Verizon appears to have acknowledged by its FCC filing, Voice Link was in many ways an impairment of the service its customers on Fire Island previously received.³⁴¹

^{337.} New Networks: Plain Old Telephone Service (POTS) vs. Verizon Voice Link Wireless, TELETRUTH, http://teletruth.org/POTSvsvoicelink.pdf (last visited Feb. 6, 2014).

^{338.} *See* Bookman, *supra* note 58. As noted, the battery power can be extended by the customer by replacing three ordinary AAA batteries. *See id.*

^{339.} VERIZON, VERIZON VOICE LINK: TERMS OF SERVICE 5–6 (2103), available at http://www.verizon.com/idc/groups/public/documents/adacct/fire_island_ny_voice_link.pdf.

^{340.} Section 63.71 App'n of Verizon N.Y. Inc. & Verizon N.J. Inc. to Discontinue the Provision of Serv., FCC WC Docket No. 13-150 (rel. June 12, 2013).

^{341.} Verizon's subsequent decision to deploy its FiOS fiber optic service to Western Fire Island residents as an alternative can be taken as a further acknowledgement that Voice Link is not a comparable offering to the legacy wireline network. *See supra* note 65.

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This does not necessarily mean the switch should be prohibited. Verizon will have to invest significant capital to deploy its wireline FiOS service on Fire Island, a community with a small number of mostly seasonal customers.³⁴² With the potential exception of service guarantees for E911 connections, none of the limitations of Voice Link are elements of the minimal required functionality defined for universal service purposes.³⁴³ The Communications Act does not direct the FCC to ensure that telecommunications service levels never decline; it merely requires a showing that a significant change of this sort, on balance, serves the public interest.³⁴⁴

The terms of section 214 approval for termination of legacy PSTN service will not be resolved over Fire Island. After announcing that it would deploy FiOS on the island as an alternative to Voice Link, Verizon withdrew its petition to the FCC.³⁴⁵

2. Cutting the Regulatory Gordian Knot

The FCC should clarify that section 214 approval is required for any transition from the PSTN to IP or other forms of service that result in some functions or activities no longer being supported. Approval should also be required whenever a change no longer provides the same reliability or support, such as backup power, that customers previously enjoyed. Such a requirement will force carriers to be explicit about their plans and the implications for subscribers. The execution of this public process creates incentives, a record, and the opportunity for comment to protect important public policy interests in the inevitable transition from the PSTN.

Beyond that, the section 214 process is not just a mechanism to determine if changes meet the public interest test. It offers a way to cut through the Gordian knot of legal uncertainty surrounding the FCC's authority over broadband. Section 214 is tied to the old network, so it requires no resort to ancillary authority or other fancy legal footwork to justify regulatory action.³⁴⁶ So long as the impairment test is met, approval is a clear statutory requirement for any carrier that currently offers PSTN service.³⁴⁷

The FCC should declare that section 214 approval for terminating PSTN service and replacing it with IP-based or wireless alternatives

^{342.} See Scott Moritz & Todd Shields, *Fire Island Becomes Test Case as Verizon Abandons Copper*, BLOOMBERG TECH. (July 9, 2013, 4:31 PM), http://www.bloomberg.com/ news/2013-07-08/fire-island-becomes-a-test-case-as-verizon-abandons-copper-tech.html.

^{343.} See Joint Bd. on Universal Serv. Report and Order, supra note 91, at para. 61.

^{344.} See 47 U.S.C. § 214(c) (2006).

^{345.} Letter from Maggie McCready, Vice President, Verizon, to Marlene H. Dortch, Sec'y, FCC (Sept. 11, 2013), *available at* http://apps.fcc.gov/ecfs/document/view?id=75209 42941.

^{346. 47} U.S.C. § 214 (2006).

^{347.} Id.

includes a set of affirmative commitments related to interconnection, coordination, and social obligations. Specifically, operators should commit to the following:

- Offer interconnection on commercially reasonable terms, subject to a backstop arbitration mechanism and a requirement to disclose terms of signed interconnection agreements.
- Participate in coordination mechanisms for PSTN-to-IP numbering integration and network reliability.
- Continue to meet social obligations previously mandated by the FCC for interconnected VoIP, such as E911 service, universal service contribution, and disability access.

The rationale for each of these obligations has been developed earlier in this article. Mandatory interconnection, using a loose standard analogous to the FCC's data roaming rules, ensures that the universal connectivity at the heart of the PSTN is not abandoned in the IP transition. An arbitration process prevents the FCC and state regulators from getting too bogged down in setting terms for specific interconnection agreements when parties are unable to reach agreement. A mechanism such as the "baseball-style" process in which each party offers a best and final proposal, and the arbitrator chooses between them, creates strong incentives for both sides to deal in good faith.³⁴⁸ Making interconnection agreements public provides data for regulators to assess market performance and aids the development of best practices and customary terms.³⁴⁹

These terms could be set as default or presumptive obligations that the FCC would recognize as meeting the public interest test. Network operators could propose alternative mechanisms of achieving similar goals. Or they could argue that the default requirements were infeasible or counterproductive under the specific circumstances of their application. It may be reasonable, for example, to make accommodations in rural areas.

There is precedent for using the FCC's approval authority to fashion substantive rules that define industry structure and ensure important public interest obligations continue to be achieved. The FCC must approve all significant telecommunications mergers involving either common carriers

^{348.} See Mark Lemley & Carl Shapiro, A Simple Approach to Setting Reasonable Royalties for Standard-Essential Patents (Stanford Pub. Law Working Paper No. 2243026, 2013), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2243026 (explaining the benefits of baseball-style arbitration).

^{349.} The network operators are likely to complain that disclosure of interconnection terms would reveal proprietary information. However, it is difficult to see how this would be the case. PSTN interconnection agreements are public. And many large backbone networks, including those owned by broadband access providers, such as AT&T, Verizon, and Comcast, already publish their peering policies for exchange of IP traffic, even though they are not required to do so. *See* Norton, *supra* note 239.

or transfer of spectrum licenses.³⁵⁰ Often, mergers raise a variety of complicated competitive issues. The FCC in recent years has often attached conditions to its approval of such mergers.³⁵¹ The FCC's expansive use of merger conditions has been criticized as an invitation for unconstrained regulatory and political meddling.³⁵² The primary objection, however, has been the use of conditions or concessions not directly tied to the competitive issues at hand.³⁵³

In the PSTN transition, the proposed requirements go directly to the public interest objectives underlying the section 214 requirement. The reason carriers must petition for approval to impair or terminate service is so that customers are not left in the lurch. Interconnection and coordination requirements are narrowly tailored, as described above, to preserve the essential aspects of the PSTN while allowing the unnecessary legacy requirements to wither away.

B. Date Certain

In discussions about the PSTN transition, the FCC TAC has suggested a "date certain" at which point the FCC would formally decommission the old network, typically set at 2018.³⁵⁴ Network operators such as AT&T have endorsed a date certain for the PSTN transition.³⁵⁵ The Commission itself has not taken up this suggestion.

A date certain would focus industry attention on the transition and potentially facilitate an orderly transition schedule.³⁵⁶ It might allow network operators and others to make plans with certainty about the future environment.³⁵⁷ However, there is some vagueness on what exactly a date certain means.³⁵⁸ The concept evokes a strong analogy to the recent digital television transition.

In the transition to digital broadcast television ("DTV"), Congress adopted a date-certain mandate when it became clear broadcasters were

^{350.} See Thomas Koutsky & Lawrence Spiwak, Separating Politics from Policy in FCC Merger Reviews: A Basic Legal Primer of the Public Interest Standard, 18 COMMLAW CONSPECTUS 329 (2009).

^{351.} See id.

^{352.} See id. at 330.

^{353.} See id.

^{354.} Om Malik, *When Will the (Traditional) Telephone Hang Up?*, GIGAOM (July 7, 2011, 9:30 AM), http://gigaom.com/2011/07/07/when-will-the-traditional-telephone-hang-up/; Bernie Arnason, *Bye-Bye PSTN. It's Been Real*, TELECOMPETITOR (July 6, 2011, 12:22 PM), http://www.telecompetitor.com/bye-bye-pstn-its-been-real/; TECH. ADVISORY COUNCIL, *supra* note 39.

^{355.} See AT&T Universal Service Comments, supra note 243.

^{356.} See TECH. ADVISORY COMM., CRITICAL LEGACY TRANSITION WORKING GRP., supra note 78, at 3–4.

^{357.} See id.

^{358.} See Arnason, supra note 354.

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unlikely to change over without it.³⁵⁹ After some wrangling, Congress set a hard deadline of February 17, 2009, after which television broadcasters could no longer transmit on their original analog frequencies, which they were required to return to the FCC for re-auctioning.³⁶⁰ The hard deadline for the transition was important to focus efforts and ensure the necessary investments as well as consumer education took place.

There are, however, significant differences between DTV and the PSTN. The DTV transition involved strong network effects.³⁶¹ It only made sense for broadcasters to invest the resources to switch when enough customers owned digital televisions or converters, but those purchases only made sense for viewers when there was enough digital programming on the air. ³⁶² With the PSTN transition, customers do not necessarily have to throw away their existing equipment. Moreover, broadcasters didn't foresee substantial additional revenue from the digital broadcasts, so their private incentives to make the necessary upgrade investments were limited. ³⁶³ By contrast, telephone companies have strong incentives to switch to IP, even without the potential regulatory freedom it provides. Finally, the FCC played a necessary role in approving the technical standard for digital broadcasting, which was tied to broadcasters' FCC-granted spectrum licenses.³⁶⁴

The precise meaning of a date certain for the PSTN transition is unclear. In the DTV context, broadcasters shut down one form of transmission and turned on another. Network operators, however, can move from the PSTN to IP on the same physical facilities. More importantly, those operators do not lack incentives to make the changeover; rather, the public policy concerns involve the potential negative consequences for customers, competitors, and other providers when they make the transition.

^{359.} Balanced Budget Act of 1997, Pub. L. No. 105-33, § 3003, 11 Stat. 251, 265 (1997).

^{360.} See Digital Television Transition and Public Safety Act of 2005 ("DTV Act"), Pub. L. No. 109-171, §§ 3001–3013, 120 Stat. 4, 21–28 (2006). In the end, the deadline was pushed back to June 12, 2009, when last-minute concerns arose about readiness for the transition. See DTV Delay Act, Pub. L. No. 111-4, 123 Stat. 112 (2009) (extending the deadline).

^{361.} See generally Lemley & McGowan, supra note 130 (discussing network effects).

^{362.} See generally JOEL BRINKLEY, DEFINING VISION: HOW BROADCASTERS LURED THE GOVERNMENT INTO INCITING A REVOLUTION IN TELEVISION (1997) (describing the perspectives of broadcasters leading up to the DTV transition mandate); NUECHTERLEIN & WEISER, *supra* note 1, at 395–406 (using the DTV transition as a case study for issues in government intervention in standard-setting).

^{363.} See NUECHTERLEIN & WEISER, supra note 1, at 398; James Miller & James E. Prieger, *The Broadcasters' Transition Date Roulette: Strategic Aspects of the DTV Transition*, 9 J. ON TELECOMM. & HIGH TECH. L. 437 (2011) (analyzing strategic and cost factors for broadcasters in the transition to DTV).

^{364.} See Advanced TV Sys. & Their Impact Upon the Existing TV Broad. Serv., *Fourth Report and Order*, FCC 96-493, 11 FCC Rcd. 17771, paras. 4–7 (1996) (adopting the DTV standard).

AT&T's proposal for a date certain PSTN transition is that, after a certain date, service providers could no longer request TDM interconnection.³⁶⁵ In other words, section 251 interconnection obligations would end at that time. Of course, in AT&T's view, the FCC has no authority to impose interconnection obligations on IP networks.³⁶⁶ To AT&T, therefore, the PSTN transition means the full deregulation of interconnection.

A better approach is to view the date certain not in terms of the rights of competitors, but in terms of the obligations of incumbents. At the sunset date of the PSTN, traditional telecommunications providers meeting the IP interconnection, coordination, and social contract obligations identified in connection with the section 214 process above would be freed from obligations associated with the legacy PSTN. For the primarily rural carriers who are less eager to transition their networks voluntarily, the FCC could transition universal service funding support to be available only to carriers who move to IP. Legacy TDM interconnection obligations could be removed so long as viable IP interconnection options were available as an alternative.

The exact details of the "zero day" for the PSTN transition could be worked out with significant input from a multi-stakeholder body. The date should be set far enough ahead so that all industry participants have a reasonable opportunity to work through issues and implement any needed changes to their systems. This may be particularly challenging in rural areas. On the other hand, it might be possible to allow early termination of the PSTN in areas where sufficient arrangements are in place, along the lines of AT&T's proposed "all-IP" trials.³⁶⁷

V. CONCLUSION

The PSTN is going away. This should be an opportunity to rejoice, but not to abandon the public policy objectives the PSTN has served for so long. A smooth transition from the PSTN to the all-IP future requires a conscious effort to identify those features of the legacy regime that should be preserved, those that should be reformulated, and those that should be abandoned. The best way to do so is to examine closely what the PSTN offers, and then distinguish aspects that are historical accidents from those that should apply regardless of the prevailing technology or market conditions.

Though it may appear the FCC has painted itself into a regulatory corner with its classification of broadband as an information service, it retains sufficient power to adopt a workable framework for a post-PSTN

^{365.} See AT&T Universal Service Comments, supra note 243, at 5.

^{366.} *Id.* at 34.

^{367.} See AT&T Petition, supra note 41, at 20.

world. Such a structure would most easily be implemented through the section 214 approval process, although it would likely also involve some measures based on ancillary authority. The FCC should oversee transition based on the principles of interconnection, coordination, and preservation of important social obligations. How the FCC manages this process is the most important task it faces for the future of wireline communications networks.

Market Mechanisms and the Efficient Use and Management of Scarce Spectrum Resources

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I. INTRODUCTION

In light of the rapid growth of demand for data transmission on mobile wireless networks, the Federal Communications Commission's ("FCC") 2010 National Broadband Plan proposed to increase the amount of spectrum available for flexible commercial use by 500 MHz by 2020, with 300 MHz of this additional spectrum available for mobile broadband use by 2015.¹ The National Broadband Plan proposes to increase significantly the amount of spectrum used for mobile communications service in the hopes of postponing the effects of spectrum exhaust in the U.S. mobile wireless industry.² Given the near total absence of fallow spectrum in the frequency bands useful for mobile broadband, satisfying the mobile wireless industry's appetite for spectrum will necessarily require a repurposing and reallocation of already-assigned spectrum.³ While the National Broadband Plan identified some arguably low-hanging fruit,⁴ the search for high-quality spectrum for commercial users continues. As a consequence, eves are fixed on the federal government, whose agencies are assigned about half (1,687 MHz) of the "beachfront" spectrum between 225 MHz and 3.7 GHz.⁵

Although federal agencies need spectrum to carry out their missioncritical duties such as national defense and homeland security, public sector users have very weak incentives—if any—to use their spectrum efficiently. As one recent government-sponsored study concluded,

^{1.} FCC, CONNECTING AMERICA: THE NATIONAL BROADBAND PLAN 84 (2010) [hereinafter NATIONAL BROADBAND PLAN], *available at* http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-296935A1.pdf.

^{2.} The U.S. wireless industry estimated it needed another 800 MHz of spectrum. *See, e.g.*, Reply Comments of CTIA–The Wireless Association at 2, A National Broadband Plan for Our Future, FCC Docket No. 09-51 (filed Nov. 13, 2009), *available at* http://fjallfoss.fcc.gov/ecfs/document/view?id=7020348306.

^{3.} See, e.g., T. Randolph Beard, George S. Ford, Lawrence J. Spiwak & Michael Stern, *Taxation by Condition: Spectrum Repurposing at the FCC and the Prolonging of Spectrum Exhaust*, PHX. CTR. POL'Y PAPER NO. 44 (Sept. 2012), *available at* http://www.phoenix-center.org/pcpp/PCPP44Final.pdf.

^{4.} Sources of additional spectrum for mobile broadband include changing the rules for the Wireless Communication Services ("WCS") band and the Mobile Satellite Services ("MSS") bands, expanding the Advanced Wireless Services ("AWS") band, and auctioning the broadcast television band. NATIONAL BROADBAND PLAN, *supra* note 1, at 84–85.

^{5.} See generally PRESIDENT'S COUNCIL OF ADVISORS ON SCI. & TECH., REPORT TO THE PRESIDENT: REALIZING THE FULL POTENTIAL OF GOVERNMENT-HELD SPECTRUM TO SPUR ECONOMIC GROWTH 8 (July 2012), available at http://www.whitehouse.gov/sites/default/files/microsites/ostp/pcast_spectrum_report_final_july_20_2012.pdf [hereinafter PCAST REPORT]; see also Ajit Pai, Too Much Government, Too Little Spectrum, REDSTATE (Jan. 3, 2013, 9:30 AM), http://www.redstate.com/ajitpai/2013/01/03/too-much-government-too-little-spectrum/; Juliana Gruenwald, Wireless Industry Already Looking Ahead for More Spectrum, NAT'L J. (Feb. 29, 2012) (quoting Charla Rath, Vice President for Wireless Policy, Verizon: "We need to be thinking about how we get a continuous supply of spectrum out there for commercial mobile wireless And, frankly, one of the key places to look is government spectrum"), http://www.nationaljournal.com/tech/wireless-industry-already-looking-ahead-for-more-spectrum-20120229.

"[f]ederal users currently have no incentives to improve the efficiency with which they use their own spectrum allocation"⁶ Inefficiency in spectrum use implies that the same output could be produced using less of the scarce spectrum resource. Therefore, improving spectral efficiency in the public sector makes it possible to repurpose some government spectrum for commercial use while continuing to support essential public services. In light of the need for more spectrum resources in the commercial wireless sector, improving efficiency in the government's use and management of spectrum is a significant policy issue both in the United States and in other countries.⁷ A number of studies have offered proposals aimed at increasing efficiency while continuing to meet the critical wireless communications needs of federal users.

The purpose of this Article is twofold. First, we turn to the standard production theory of economics to clarify what is normally meant by efficiency in the context of spectrum use. Using the same conceptual framework, prior studies, including several conducted by agencies of the U.S. government, have uniformly pointed to the efficiency of market outcomes as the gold standard for spectrum policy. Consequently, many of the proposals to improve the spectral efficiency of government users involve government agencies paying a market price, or a pseudo-market price, for the spectrum they use. Given our analysis, we are skeptical that such proposals—especially those calling for spectrum "markets" within the ultimately government-will lead to significant or long-term improvements in the public sector's efficiency in using its spectrum.

Second, we detail a theory of spectrum allocation across public and private users. In this model, we are not concerned with ways to improve the public sector's efficiency in its *use* of spectrum; rather, we address the questions of how government spectrum can be made available for commercial use, and how the government's inefficient *management* of spectrum influences the method of spectrum assignment. We envision two scenarios: (i) federal spectrum holdings continue to be managed by the government and leased to private sector users; or (ii) federal spectrum holdings are auctioned to and managed by the private sector for commercial uses.

^{6.} PCAST REPORT, *supra* note 5, at ix.

^{7.} See, e.g., J. SCOTT MARCUS, JOHN BURNS, FRÉDÉRIC PUJOL & PHILLIPA MARKS, FINAL REPORT: OPTIMISING THE PUBLIC SECTOR'S USE OF THE RADIO SPECTRUM IN THE EUROPEAN UNION 40 (Oct. 27, 2008) [hereinafter WIK-CONSULT REPORT], available at http://www.plumconsulting.co.uk/pdfs/Plum_Optimising_public_sector_spectrum_use_Apr il_2010.pdf; EUROPEAN COMM'N, FINAL RSPG OPINION: BEST PRACTICES REGARDING THE USE OF SPECTRUM BY SOME PUBLIC SECTORS, RSPG09-258 (Feb. 2009) [hereinafter EU BEST PRACTICES], available at http://rspg-spectrum.eu/_documents/documents/opinions/ rspg09_258_rspgopinion_pus_final.pdf; see also Kenneth R. Carter & J. Scott Marcus, Improving the Effectiveness and Efficiency of Spectrum Use by the Public Sector: Lessons from Europe 3, 7 (Sept. 27, 2009) (unpublished manuscript), available at http://ssrn.com/ abstract=1488852.

Our model provides a number of policy-relevant findings. Among the more significant findings, we show that when all economic consequences are considered, the leasing of spectrum by the government for the production of private goods is less desirable than the auction of spectrum. The model also suggests that, under certain conditions, spectrum used by the government to produce public goods should be sold to the private sector and leased back to the government for the provision of public goods, in much the same way as the government buys other inputs from the private sector. Put bluntly, if the government is demonstrably incapable of managing and using spectrum resources efficiently—and most agree that this is historically the case—then it should not manage spectrum. Instead, if the goal of spectrum use and management is to enhance economic efficiency, then policymakers should expand the private sector's management of the nation's scarce spectrum resources, possibly including the management of spectrum used by federal agencies.

To be clear, we offer no specific mechanisms to improve the public sector's spectral efficiency, nor to transfer spectrum from the public to the private sector. As such, our analysis is not a panacea for spectrum policy; there is unlikely to be any single solution suitable for all spectrum bands and all public services. We do claim, however, that our approach carefully focuses attention on precisely those aspects of the spectrum allocation issue that must be understood in order for any reform effort to succeed. In essence, we take the contrarian position by arguing that the best solution to the government's inefficiency in spectrum use and management is neither "more" government nor a "more efficient" government, but rather the expansion of private sector management of the nation's scarce spectrum resources.

II. BACKGROUND

Heightened attention to government spectrum reform was stimulated by the National Broadband Plan's call to make available for commercial use an additional 500 MHz of spectrum, some of which is expected to come from the repurposing of federally assigned spectrum. Subsequent to the Plan's release in 2010, the White House released a Presidential Memorandum on spectrum use to the heads of all executive departments and agencies. ⁸ The National Telecommunications and Information Administration ("NTIA") released at least two reports on spectrum repurposing to help meet this goal.⁹ The President's Council of Advisors

^{8.} Unleashing the Wireless Broadband Revolution, 75 Fed. Reg. 38,387 (July 1, 2010).

^{9.} NTIA, PLAN AND TIMETABLE TO MAKE AVAILABLE 500 MEGAHERTZ OF SPECTRUM FOR WIRELESS BROADBAND (Oct. 2010); NTIA, AN ASSESSMENT OF THE VIABILITY OF ACCOMMODATING WIRELESS BROADBAND IN THE 1755–1850 MHZ BAND (Mar. 2012). As discussed *infra*, these documents do not exhaust the government's coverage of this issue prior to the release of the National Broadband Plan.

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on Science and Technology ("PCAST") also released a report on the issue that calls for, among other things, the abandonment of identifying, clearing and auctioning government spectrum for commercial use, in favor of a government-managed spectrum commons in which spectrum is "leased" to private sector users.¹⁰ In addition to these recent reports, the Government Accountability Office ("GAO") has published a number of studies on the topic over the past decade or so, all of which are somewhat to very critical of the government's management of spectrum.¹¹ Outside of government research, recent studies on the topic of federal spectrum reform have been released by, for example, the Mercatus Center at George Mason

^{10.} PCAST REPORT, supra note 5, at vi ("PCAST finds that clearing and reallocation of Federal spectrum is not a sustainable basis for spectrum policy due to the high cost, lengthy time to implement, and disruption to the Federal mission. . . . The essential element of this new Federal spectrum architecture is that the norm for spectrum use should be sharing, not exclusivity."); see also Kevin Werbach & Aalok Mehta, The Spectrum Opportunity: Sharing as a Solution to the Wireless Crunch, 8 INT'L J. COMM. 128, 129 (2014) ("The new normal of spectrum sharing may be difficult at first to accept. However, with today's technology, sharing arrangements can be structured to meet the requirements of many categories of users. Conversely, taking spectrum from government or private incumbents and selling it to wireless data providers is far simpler in concept than in execution today. Policy makers should follow the lead of the President's Council of Advisors on Science and Technology (PCAST) and the FCC, both of which have offered recent proposals to reorient spectrum policy around sharing."); but cf. George Ford, Shared Spectrum is a Pipe Dream, HILL (Feb. 6, 2014, 3:00 PM), http://thehill.com/blogs/congressblog/technology/197569-shared-spectrum-is-a-pipe-dream ("Both licensed and unlicensed spectrum provides significant value to consumers. To adopt a blanket presumption of sharing for all new spectrum as Professor Werbach touts is simply inefficient and wasteful. Rather, the allocation decision should be made based on which licensing approach is expected to generate the greatest value for the spectrum being allocated.").

See, e.g., U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-11-352, SPECTRUM 11. MANAGEMENT: NTIA PLANNING PROCESSES NEED STRENGTHENING TO PROMOTE EFFICIENT USE OF SPECTRUM BY FEDERAL AGENCIES (2011) [hereinafter GAO-11-352], available at http://www.gao.gov/new.items/d11352.pdf; U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-12-1018T, SPECTRUM MANAGEMENT: FEDERAL GOVERNMENT'S USE OF SPECTRUM AND PRELIMINARY INFORMATION ON SPECTRUM SHARING (2012) [hereinafter GAO-12-1018T], available at http://www.gao.gov/assets/650/648206.pdf; U.S. Gov'T ACCOUNTABILITY OFFICE, GAO-13-472, SPECTRUM MANAGEMENT: FEDERAL RELOCATION COSTS AND AUCTION REVENUES (2013), available at http://www.gao.gov/assets/660/654794.pdf; U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-06-526T TELECOMMUNICATIONS: OPTIONS FOR AND BARRIERS TO SPECTRUM REFORM (2006), available at http://gao.gov/assets/120/113012.pdf; U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-06-236, TELECOMMUNICATIONS: STRONG SUPPORT FOR EXTENDING FCC'S AUCTION AUTHORITY EXISTS, BUT LITTLE AGREEMENT ON OTHER OPTIONS TO IMPROVE EFFICIENT USE OF SPECTRUM (2005); U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-04-666, SPECTRUM MANAGEMENT: BETTER KNOWLEDGE NEEDED TO TAKE ADVANTAGE OF TECHNOLOGIES THAT MAY IMPROVE SPECTRUM EFFICIENCY (2004), available at http://www.gao.gov/new.items/d04666.pdf; U.S. Gov'r ACCOUNTABILITY OFFICE, GAO-04-1028, INTERDEPARTMENT RADIO ADVISORY COMMITTEE: IRAC REPRESENTATIVES EFFECTIVELY COORDINATE FEDERAL SPECTRUM BUT LACK SENIORITY TO ADVISE ON CONTENTIOUS POLICY ISSUES (2004), available at http://gao.gov/assets/250/244315.pdf; U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-02-906, TELECOMMUNICATIONS: BETTER COORDINATION AND ENHANCED ACCOUNTABILITY NEEDED TO IMPROVE SPECTRUM MANAGEMENT (2002) [hereinafter GAO-02-906], available at http://www.gao.gov/assets/240/235811.pdf.

University, ¹² Public Knowledge, ¹³ and the Technology Policy Institute ("TPI"). ¹⁴ And, as noted above, the effort to improve efficiency in the public sector's spectrum use is not just a domestic endeavor; the European Commission has recently sponsored a number of studies that offer conscientious examinations of public spectrum use and policy options. ¹⁵

With this flurry of recent attention, it is natural to think this issue is a new one. It is not. Some GAO studies on the topic are now over ten years old,¹⁶ and President George W. Bush issued a Presidential Memorandum in May 2003 calling for a "Spectrum Policy Initiative" aimed at leading to the "development of legislative and other recommendations for improving spectrum management procedures and policies for the Federal Government and to address State, local and private spectrum uses."¹⁷ Yet even these now-dated efforts seem recent when considering that a thorough investigation of federal spectrum use was initiated nearly a quarter-century ago by the NTIA in a proceeding that culminated in its *1991 Spectrum Report*.¹⁸ The NTIA's report was comprehensive and innovative,¹⁹ calling

18. See NTIA, U.S. Spectrum Management Policy: An Agenda for the Future (1991), http://www.ntia.doc.gov/report/1998/us-spectrum-management-policy-agenda-future [hereinafter 1991 Spectrum Report]. The 1991 Spectrum Report was the final stage of the process initiated by the Comprehensive Policy Review of Use and Management of the Radio Frequency Spectrum. Notice of Inquiry, 54 Fed. Reg. 50,695-96 (Dec. 8, 1989). A number of government studies predated this piece. See, e.g., 1991 Spectrum Report, supra, at n.616 (citing F. Hopkins & W. Schummer, NTIA, Development of a Methodology for Improved Use of the Electromagnetic Spectrum by Federal Agencies, ORI, Contract 50-SANT-4-03565 (1985)); id. at n.470 (citing OTP, Management of Federal Spectrum Use Through Shadow Prices: Can It Be Rendered Practicable? (technical proposal submitted by Gen. Elec. Co.-TEMPO Ctr. for Advanced Studies) (Apr. 3, 1972); OTP, Paying for Airwaves Use: Concept and Experiment for Including the Economic Value of Spectrum in OTP/IRAC Process to Allocate and Assign Airwaves Use Within the U.S. Government (June 1973); C.B. Thompson, Economic Efficiency and the Allocation, Allotment, and Assignment of Government Spectrum Space (Mar. 1973); OTP, The Possible Effects of a System of User Charges for Spectrum on the Use of the 2700–2900 MHz Band, 1956–1972 (March 1973); James H. Alleman, Office of Telecomms., U.S. Dep't of Commerce, The Shadow Price of Electromagnetic Spectrums: A Theoretical Analysis (July 1974)).

19. This report is stunningly contemporary in its discussion of spectrum, as

^{12.} Brent Skorup, *Reclaiming Federal Spectrum: Proposals and Recommendations* (Mercatus Ctr., Working Paper No. 13-10, 2013) [hereinafter *Mercatus Report*], *available at* http://mercatus.org/sites/default/files/Skorup_FederalSpectrum_v1[1].pdf, subsequently republished in 15 COLUM. SCI. & TECH. L. REV. 90 (2012).

^{13.} HAROLD FELD & GREGORY ROSE, PUBLIC KNOWLEDGE, BREAKING THE LOGJAM: SOME MODEST PROPOSALS FOR ENHANCING TRANSPARENCY, EFFICIENCY AND INNOVATION IN PUBLIC SPECTRUM MANAGEMENT (2010) [hereinafter PK REPORT], *available at* http://www.publicknowledge.org/pdf/pk-fed-spectrum-transparency-whitepaper.pdf.

^{14.} THOMAS M. LENARD, LAWRENCE J. WHITE & JAMES L. RISO, TECH. POL'Y INST., INCREASING SPECTRUM FOR BROADBAND: WHAT ARE THE OPTIONS? (2010) [hereinafter TPI REPORT], *available at* http://www.techpolicyinstitute.org/files/increasing_spectrum_for_broadband1.pdf.

^{15.} See EU BEST PRACTICES, supra note 7.

^{16.} See sources cited supra note 11.

^{17.} Presidential Memorandum on Spectrum Policy for the 21st Century, 69 Fed. Reg. 1568, 1569 (Jan. 9, 2004), *available at* http://www.ntia.doc.gov/files/ntia/publications/ presmemoonspectrumpolicy.pdf.

for better spectrum accounting, improved databases, more spectrum sharing (e.g., cognitive radios), and injecting a heavy dose of market discipline into spectrum allocation and administration to drive public sector efficiency. For all practical purposes, recent studies on spectrum policy largely reiterate the findings and recommendations of the *1991 Spectrum Report*. (One may go even further back to the seminal work by Ronald Coase from the early 1960s on spectrum allocation, though his writings were not focused exactly on the specific issues we address in this paper.²⁰)

Dating from the NTIA's proceeding and report, the reform effort is now at least three decades old, yet, as the government admits, almost no progress has been made. As the GAO concluded in 2011, "[the] NTIA has been directed to conduct several projects focused on reforming government wide federal spectrum management and promoting efficiency among federal users of spectrum; however, its efforts in this area have resulted in limited progress toward improved spectrum management."²¹ Similarly, the *PCAST Report* concludes, "[t]here is . . . a long history of failed attempts to implement significant reforms in Federal spectrum use."²² Despite the recognition of inefficient use and management of spectrum by the government for at least a quarter-century, today the government admits there are still no incentives for efficient spectrum use by federal agencies.²³

Efficiency has diverse meanings, so it is important to first consider exactly what the prior research means when it labels public use as "inefficient."²⁴ For this purpose, we turn to basic production theory, a textbook economic principle that seeks to explain how firms use resources to produce goods and services.²⁵ In the next two sections, we show that the most commonly proffered solution to the efficiency issue—that is, forcing the government to face the market price of spectrum—may help in some ways, but it is not a panacea to federal agencies' inefficient use or management of spectrum over the long term.²⁶ Many details must be addressed if such efforts are to be effective, including, especially, how spectrum prices are set and how the levy of spectrum fees impacts the budgets of government agencies. More critically, the government is not a

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demonstrated by its introductory comments: "Use of the radio spectrum is crucial to U.S. communications, and indeed, the national economy.... Current spectrum management policies... are under increasing strain as the demand for existing spectrum-based services grows, and new spectrum-related technologies and applications emerge." *1991 Spectrum Report, supra* note 18, at 1.

^{20.} See generally R. H. Coase, The Federal Communications Commission, 2 J.L. & ECON. 1 (1959); R. H. Coase, The Interdepartment Radio Advisory Committee, 5 J.L. & ECON. 17 (1962); see also Harvey J. Levin, Spectrum Allocation Without Market, 60 AM. ECON. REV. (PAPERS & PROC.) 209 (1970).

^{21.} GAO-11-352, *supra* note 11, at 9.

^{22.} PCAST REPORT, *supra* note 5, at 55.

^{23.} *Id.* at ix.

^{24.} For a discussion of efficiency, see also WIK-CONSULT REPORT, *supra* note 7, at 2.

^{25.} See SVEND RASMUSSAN, PRODUCTION ECONOMICS: THE BASIC THEORY OF PRODUCTION OPTIMISATION 1–3 (2d ed. 2013) (explaining the basics of production theory).

^{26.} A similar conclusion is reached in WIK-CONSULT REPORT, supra note 7, at 62, 63.

profit-driven entity; yet, it is the pursuit of profits in a competitive setting that drives efficiency. How to resolve this underlying defect in incentives is a mystery.

We do not mean to imply that the effort to introduce better incentives through "market" pricing should be abandoned. Indeed, such efforts should be encouraged. We argue instead, in Part V, that the existing proposals do not go far enough. Our main concern is not so much about the inefficient *use* of spectrum as it is the inefficient *management* of spectrum.

III. INEFFICIENT USE OF SPECTRUM BY GOVERNMENT

It is widely-accepted that the government does not use and does not have incentives to use its spectrum assets efficiently. The *PCAST Report*, for example, states plainly, "[f]ederal users currently have no incentives to improve the efficiency with which they use their own spectrum allocation²²⁷ Likewise, the GAO concludes, federal users "have little economic incentive to otherwise use spectrum efficiently²⁸ The European Commission's *WIK-Consult Report* states that "public sector agencies may not face sufficient incentives to make maximally economically efficient use of their spectrum assignments (e.g., through sharing with other compatible uses), or to give spectrum back to the spectrum management authority if they no longer need it."²⁹ An important question is what is meant by "inefficiency" in the context of spectrum use.

A. Economics of Inefficient Use

Spectrum must be combined with capital equipment, such as cell towers and wireless communications devices, to be useful. Labeling public spectrum use as "inefficient" normally implies an excessive use of spectrum in the capital-spectrum input mix—that is, too much spectrum is used given the production technology and the relative market prices of spectrum and capital.³⁰ We use the standard economic model of production and the related problem of cost minimization (or profit maximization) to shed considerable light on the assumptions underlying much of this discussion about the inefficiency of government spectrum use.³¹ In fact, we

^{27.} PCAST REPORT, *supra* note 5, at ix.

^{28.} GAO-12-1018T, supra note 11, at 12.

^{29.} WIK-CONSULT REPORT, *supra* note 7, at 7.

^{30.} See, e.g., OFFICE OF MGMT. & BUDGET, CIRCULAR NO. A-11, at § 31.12 (2013), *available at* http://www.whitehouse.gov/sites/default/files/omb/assets/a11_current_year/a11_2013.pdf ("In some cases, greater investments in systems could enhance Federal spectrum efficiency (e.g., purchase of more expensive radios that use less bandwidth); in other cases, the desired service could be met through other forms of supply (e.g., private wireless services or use of land lines).").

^{31.} The FCC uses this approach in its report. *See* FCC, MOBILE BROADBAND: THE BENEFITS OF ADDITIONAL SPECTRUM (Oct. 2010), *available at* http://download.broadband.gov/plan/fcc-staff-technical-paper-mobile-broadband-benefits-of-additional-spectrum.pdf.

show that this standard textbook economic reasoning leads to some rather surprising conclusions on the likely consequences of schemes aimed at promoting public efficiency through a spectrum pricing mechanism.

To begin, consider Figure 1 below. A hypothetical federal agency produces a collection of goods and services Q_0 using two broad classes of inputs: spectrum (labeled S) and other goods (e.g., capital equipment, labeled K). The curve labeled Q_0 illustrates an isoquant whereby possible combinations of S and K that can, with efficient application, produce Q_0 . The shape of isoquant Q_0 indicates the degree to which one class of inputs can be substituted for another, a consequence of the many various ways in which the same goods can ordinarily be produced. The conventional convex shape of Q_0 reflects the limitations of such substitution—that it becomes increasingly difficult as it is pursued to extremes. That is, the less spectrum the producer has, the greater the amount of other goods is required to maintain a fixed level of output.³² The isoquant Q_0 also indicates only those combinations of S and K that are "technically efficient," i.e., that represent combinations of inputs such that no input can be reduced in use without some countervailing increase in another. In other words, all combinations of S and K that lie on Q_0 are efficient, in the sense that no input is literally being wasted.



The FCC paper mistakenly labels the isoquant as an "indifference curve," the latter of which describes tradeoffs in consumption rather than production. *Id.* at 7. This discrepancy in the use of terminology does not meaningfully affect the conclusions drawn from the analysis.

^{32.} For example, compare the additional amount of spectrum required to move from point *c* to b (S_1 to S^*) versus an equivalent reduction in *K* from *b* to *a*, which requires a much larger increase in spectrum to hold output constant (S^* to S_0).

Suppose that the agency in question has been directed by Congress to produce Q_0 , and the agency is provided with resources sufficient to this task. Initially, these resources consist of the "free" spectrum S_0 and funds sufficient to purchase other goods in amount K_0 , thus making the provision of Q_0 feasible through the inputs (S_0 , K_0). If the agency behaves efficiently-that is, it allocates its budget and resources in a technically efficient way—then Q_0 will be produced using (S_0, K_0) . Significantly, the agency in question appears to be behaving efficiently, and indeed it is in the technical sense. However, its efficiency is directed solely towards its selection of K: the amount of S the agency uses is usually selected for it. Notably, combinations of S and K lying above Q_0 (say d), which we might reasonably assume are all also capable of producing Q_0 , are technically inefficient, i.e., literally wasteful.³³ The combination (S_0, K^*) is more costly than (S_0, K_0) , yet it produces the same output. This result illustrates one meaning of the "inefficiency" in public use of spectrum-technical inefficiency. Although it is tempting to say that the agency "pretends that the spectrum is free,"³⁴ this is not really so: the agency consumes the amount of spectrum it is allocated, and no more. In contrast, if spectrum were truly "free"-that is, priced at zero-then the agency may wish to consume more than its allotment. Rather, if the agency is technically efficient, and carries out its mandate, then it will purchase the minimum amount of K necessary to fulfill its task (i.e., K_0 in the figure). Whether or not technical efficiency can be reasonably expected of federal agencies is a question beyond the scope of this Article.

It is not necessarily technical efficiency that presents the problem with the public sector's use of spectrum. Instead, as prior research has found, the relevant inefficiency in the agency's production of Q_0 arises because the input S_0 has an opportunity cost: this spectrum could be used to produce other goods or services. Thus, the issue is one of allocative efficiency, which turns on whether goods and services are allocated so as to maximize social welfare (i.e., where marginal benefits equal marginal costs). In the market setting, the value of this alternative use is given by the market value of the spectrum S_0 . In simple terms, suppose the input S has a fair market value of P per unit. If the price of a unit of the input K is \$1, then the agency is producing the output Q_0 at a social cost of $P \cdot S_0 + K_0$. We denote this amount of money as B_0 , which is the agency's "implicit budget" for producing Q_0 . The set of all combinations of inputs S and K which cost an amount equal to the implicit budget of the agency are just those input combinations which satisfy the formula $P \cdot S + K = B_0$. This set of inputs lies on the straight line B_0 in Figure 1. Notice two features of this line: First, B_0 passes through the point (S_0, K_0) , because S_0, K_0 costs B_0 .

^{33.} For example, at point *d*, inputs K^* and S_0 are used to produce Q_0 , where the same output could be producing using K^* , S^* .

^{34.} WIK-CONSULT REPORT, *supra* note 7, at 51 ("This is in contrast to the administrative approach in which spectrum requirements are expressed assuming the spectrum is in effect costless or 'free."").

Second, though, B_0 is shown as being steeper than Q_0 at the point (S_0 , K_0). This is an intentional choice; its meaning will become apparent below.

B. Pricing Spectrum to Improve Efficiency—Or Not

We consider now the possibility of implementing a price mechanism for spectrum, *S*, in attempt to induce the agency to adopt a more efficient allocation. Since the conversation about federal spectrum reform is largely about shifting public spectrum assignments to the commercial sector to alleviate spectrum shortages, either as exclusive licenses or via a sharing paradigm, the basic problem is presumably public agency overuse—not underuse—of spectrum.³⁵ We imagine that, from a social perspective, the agency is *overprovided* with spectrum; as such, our goal is to reduce public use. This scenario corresponds to the situation in Figure 1, in which B_0 is steeper than Q_0 at the point (S_0 , K_0). In this case, we note that the implicit agency budget, B_0 , is actually sufficient to buy more of both inputs *S* and *K* than is needed to produce Q_0 . Therefore, the agency's operations are economically inefficient, as they overuse spectrum and underuse other goods.

The extent of the social inefficiency implied by the input choice (S_0, K_0) can be easily illustrated. Suppose the hypothetical budget amount B_0 were to decrease until it reached a level B_1 at which the input combination (S^*, K^*) were just affordable (i.e., $P \cdot S^* + K^* = B_1$). Economists term the input choice (S^*, K^*) "economically efficient" or "cost minimizing," because the input choice (S^*, K^*) is the smallest budget that can technically produce Q_0 . The inefficiency of the original choice (S_0, K_0) thus has a dollar cost of $B_0 - B_1$. Assuming technical efficiency in the choice of K given S_0 , the "overuse" or "inefficient use" of spectrum is thus represented monetarily by the amount $S_0 - S^*$.

This simple production model is the same implicit (and sometimes explicit) model used in prior research on the topic. The nature of the problem, as presented here, is expressed plainly in the European Commission's *WIK-Consult Report*:

The public sector has typically been given or gifted the spectrum that it uses (which is to say that the spectrum has been provided at no cost, in much the same way that state owned land has often been gifted for public sector purposes), and is expected to use the resource to deliver outputs that are specified through the political process. There is not, however, a fixed relationship between spectrum and the output of public

^{35.} One could imagine, for example, a system in which government agencies were given very limited spectrum and then prohibited from acquiring more. In such a case, our hypothetical conscientious agency would do the best it could by buying large amounts of K to make its very limited amount of S sufficient to produce Q_0 . This outcome, though possible, is not the situation that motivates us here.

sector agencies. These agencies have choices over the amounts of other complementary inputs they may purchase (e.g., radios and transmission equipment, transmission sites and the like), all of which affect their spectrum demand. Other complementary inputs are not free; consequently, there will be a tendency to use more spectrum (which is either free or low cost) and less of other inputs where such choices exist. If spectrum is scarce and so has a non-zero opportunity cost, then gifting spectrum will predictably result in an economic distortion and an inefficient use of the resource.³⁶

We find a similar description of the efficiency problem in the *PCAST Report*:

[T]he lack of spectrum pricing means that no visible budget expense is associated with overall Federal spectrum use, and thus hides the true social cost of that use, which is measured in terms of other uses of the spectrum that are precluded by current Federal use (the "opportunity cost").³⁷

Furthermore:

Under the current "command and control" system, Federal users obtain no reward for reducing their own need for spectrum.... [T]he absence of pricing signals that would push agencies toward making capital investments to improve efficiency over time tends to build up larger problems in the future: agencies have little or no reason to invest in technologies that could improve spectrum efficiency because they see little or no benefit from any resulting economies.³⁸

These statements reveal the nature of the inefficiency of government spectrum use (allocative inefficiency), which results partially from the "absence of pricing signals."³⁹ Given this defect, it is unsurprising that studies on the topic, both in the United States and abroad, encourage the migration to an approach that requires public agencies to pay "market" prices for spectrum. For example, the *PCAST Report* concludes:

Requiring Federal agencies to purchase spectrum rights through a market mechanism would go a long way toward achieving transparency, accountability, and efficiency in Federal spectrum use. It would therefore be desirable to move

^{36.} WIK-CONSULT REPORT, *supra* note 7, at 51.

^{37.} PCAST REPORT, *supra* note 5, at 55.

^{38.} Id.

^{39.} Id.

quickly to a market mechanism so that Federal uses reflect their true social resource cost.⁴⁰

In this statement, the *PCAST Report* establishes as the efficiency standard the market outcome, where the "true social resource cost" of spectrum is realized. Similarly, the NTIA's *1991 Spectrum Report* concludes that a "fee system for federal government spectrum users [could] encourage greater spectrum efficiency among such users"⁴¹ The European *WIK-Consult Report* lays this argument out clearly:

Economic incentives are generally best provided through markets. The purpose of market-inspired approaches to spectrum management in the private sector is to use prices to provide users with incentives to demand spectrum at the level that maximizes economic and social welfare. This is in contrast to the administrative approach in which spectrum requirements are expressed assuming the spectrum is in effect costless or "free".⁴²

Furthermore, as the WIK-Consult Report states:

As a general rule, welfare is maximised by setting input prices equal to opportunity cost and targeting policy interventions on the desired outputs.⁴³

These studies and others on the public sector's use and management of spectrum uniformly make an appeal for an expanded role of market mechanisms in spectrum policy. The NTIA's *1991 Spectrum Report* calls for a "greater reliance on market principles;"⁴⁴ the *WIK-Consult Report* concludes, "there is a good case for the public sector to pay a price for spectrum that reflects its opportunity cost;"⁴⁵ and the *PCAST Report* states that it is "desirable to move quickly to a market mechanism so that Federal uses reflect their true social resource cost."⁴⁶ While debate persists over how to best introduce market forces to government spectrum use (e.g., auctions, spectrum fees, and so forth), nearly every study on the topic establishes the *market* outcome as the target standard for efficiency. With market outcomes as the stated goal, sensible public policy would focus on ways to transfer spectrum management to the private sector. Yet, this has not been case. In the next sections, we summarize some of the various

^{40.} *Id.*

^{41. 1991} Spectrum Report, supra note 18, at 2.

^{42.} WIK-CONSULT REPORT, *supra* note 7, at 50–51.

^{43.} Id. at 52 (footnote omitted).

^{44. 1991} Spectrum Report, supra note 18, at 9.

^{45.} WIK-CONSULT REPORT, *supra* note 7, at 52.

^{46.} PCAST REPORT, *supra* note 5, at 55.

"ghost" market mechanisms proposed to address the failures of government policy to promote spectral efficiency, and illustrate why these particular "market" proposals—while perhaps constructive initial ideas are not sufficient to induce fully efficient behavior by government agencies.

IV. THE EFFICACY OF EXISTING PROPOSALS TO IMPROVE GOVERNMENT'S EFFICIENT USE OF SPECTRUM

To date, many conscientious commentators have set forth various proposals to improve efficiency in the public sector's use of spectrum.⁴⁷ These proposals include, but are certainly not limited to, the imposition of spectrum fees (in the form of a "General Services Administration" or "GSA-style" approach), a "spectrum inventory" approach, and a proposal to create artificial currencies traded among government users ("spectrum currency").⁴⁸ All of these proposals follow directly from the economic model of production discussed in the previous section.⁴⁹ While we encourage policymakers to continue efforts to introduce market-based solutions to the problem, for the reasons set forth below, we do not believe these particular proposals represent an effective long-term solution to improving the efficiency of the government's use of spectrum.

A. The "GSA Model"

Like office furniture, telephone services, and labor, spectrum is an input of production for government agencies. With the exception of spectrum, government agencies typically acquire the inputs of production from the market. With efficiency as the objective, it is natural to propose that government agencies likewise pay for the spectrum they use. Absent paying market prices, it is argued that the agencies will not recognize the full social cost of using the spectrum.⁵⁰ A commonly proposed approach to imposing market discipline on the public sector is based on the way federal agencies pay for office space, which involves paying the General Services Administration ("GSA") rental fees that are putatively based on market rates for local real estate. As observed in the *PCAST Report*, "Spectrum use fees would be monetary charges levied on agencies for spectrum use and

^{47.} See discussion supra notes 12–14.

^{48.} See sources cited supra note 11.

⁴⁹ *See* discussion *supra* Part II.A.

^{50.} See, e.g., COLEMAN BAZELON & GIULIA MCHENRY, BRATTLE GRP., SPECTRUM SHARING: TAXONOMY AND ECONOMICS 43 (Feb. 6, 2014), available at http://www.brattle. com/system/news/pdf2s/000/000/617/original/Spectrum_Sharing_-_Taxonomy_and_ Economics_Full_Report.pdf?1391695199 ("If federal users paid for its use, they would internalize the cost associated with holding spectrum assignments that prevent other

internalize the cost associated with holding spectrum assignments that prevent other productive uses of the frequencies. Recognizing the costs of spectrum would incentivize federal users to adjust their usage to reduce costs.").

paid to the U.S. Treasury. Use fees would be similar to rent paid to the GSA for office space in government-owned buildings."⁵¹

The TPI Report also discusses this proposal:

One simple model for exploration in this direction is based on the market-oriented rental rates that agencies are charged when they lease space in buildings that are owned (or leased) by the U.S. Government Services Administration (GSA). The GSA's Federal Buildings Fund (FBF) provides recognition of the opportunity costs of those buildings. The government agencies make rental payments to GSA, which can use the money to acquire additional property if necessary. These rental payments provide an incentive for government agencies to economize on space.⁵²

Similarly, the *Mercatus Report* concludes, "Congress should also require agencies to pay for the spectrum they possess, just as agencies pay market prices for other inputs."⁵³ And the *WIK-Consult Report* suggests that "[t]here are different ways in which this payment could be implemented; the public sector could bid for spectrum at auction, could buy spectrum through trades, or could pay a price set by the regulator (a practice known as *Administrative Incentive Pricing*, or *AIP*)."⁵⁴

Despite its wide appeal, however, there are a number of problems with this "spectrum fee" approach, some more significant than others. Here, we discuss three concerns, although there are certainly many others. First, at its best, such an approach is only a "ghost market" solution, because prices are not established in a real market setting; instead, another government agency establishes the prices.⁵⁵ Obviously, price-setting in this environment may be manipulated by political forces.⁵⁶ Prior to fully

^{51.} PCAST REPORT, *supra* note 5, at 55; *see also* U.S. DEP'T OF COMMERCE, SPECTRUM MANAGEMENT FOR THE 21ST CENTURY: THE PRESIDENT'S SPECTRUM POLICY INITIATIVE PROGRESS REPORT FOR FISCAL YEAR 2007 (Nov. 2008), *available at* http://www.ntia.doc.gov/legacy/osmhome/spectrumreform/FY2007%20Progress%20Report _for_Fiscal_Year_2007_Final_25Nov08_rev_1Dec08.pdf; U.S. DEP'T OF COMMERCE, SPECTRUM MANAGEMENT FOR THE 21ST CENTURY: PLAN TO IDENTIFY AND IMPLEMENT INCENTIVES THAT PROMOTE MORE EFFICIENT AND EFFECTIVE USE OF SPECTRUM (2008), *available at* http://www.ntia.doc.gov/files/ntia/publications/incentives_plan.pdf.

^{52.} TPI REPORT, *supra* note 14, at 26 (footnote omitted).

^{53.} Mercatus Report, supra note 12, at 2.

^{54.} WIK-CONSULT REPORT, supra note 7, at 52.

^{55.} See id. at 18 n.11 ("The use of Administrative Incentive Pricing (AIP) is marketinspired, but it is not market-based (because the price has not been set by the market)....").

^{56.} *See, e.g., id.* at 45 ("[T]he management of public spectrum is delegated to sectoral bodies (who are sometimes the spectrum user). A problem that this can lead to is that the manager may seek to keep all of its allocation for its own use (rather than sharing/releasing spare spectrum for use by others), particularly if incentives to do otherwise are weak."); *id.* at 49 ("[I]t is often the case that major public sector spectrum users do not pay any spectrum fees; moreover, fees are often set at levels far less than those required to recover the

embracing the GSA model of spectrum pricing, we believe a detailed study comparing the GSA's practices with actual market outcomes is warranted.

Second, the sources of data with which a GSA-type organization would set prices must be established. Real estate is a very active market, both in rentals and sales, and data is easily obtained—but publicly available information on spectrum transactions is limited. The paucity of public data does not suggest such transactions are few; indeed, there are many smaller-scale transactions for spectrum, both in the form of sales and leases, but the details of these deals are often not reported in public documents. Without doubt, commercial wireless carriers are very capable at valuing spectrum and do so regularly.⁵⁷ Whether these methods are proprietary and useful for setting prices for public use is an important question.

Third, if federal agencies are required to pay "market prices"—or for that matter, any price—for spectrum, then agencies' expenses will rise by that amount (at least, initially). Most likely, the agencies will seek from Congress a budget adjustment for such expenses. How a federal agency's budget is affected by the spectrum fees influences the agency's incentives, an issue to which we now turn.

We can use the simple production analysis above to analyze the spectrum fee (or GSA-style) model for public spectrum use. We will restrict our attention here to one of the more plausible ideas: suppose some central government authority imposed a price on spectrum use, so that agencies would in fact have to pay for what they previously received without charge. Moreover, suppose the charge implemented for *S* was in fact the market price *P*. However, because the agency has a responsibility to produce Q_0 , we assume it will be provided with some means (or budget) for doing so. There are several ways by which the needed financial supplement could be calculated. We assume in what follows that the agency's appropriation for *K* is set "correctly"—i.e., at the minimum level necessary to see that Q_0 is produced given the agency's choice of *S*.⁵⁸

First, and most simply, suppose the agency were charged P per unit of S used, and was simultaneously given a supplemental appropriation exactly equal to its spending on spectrum, $P \cdot S$.⁵⁹ In this case, of course, it is feasible for the agency to do nothing whatsoever: if it selected S_0 (its current allotment), then it would receive a supplement of $P \cdot S_0$, exactly offsetting the agency's liability for "purchasing" S. Plainly, to continue to produce Q_0 , complete inaction is feasible. A move toward the efficient mix of inputs is expected from private firms because they seek profit

opportunity cost of spectrum").

^{57.} There are hundreds of transactions involving the lease of spectrum between commercial providers, as detailed in the FCC's Universal Licensing System, which is available at http://wireless.fcc.gov/licensing/index.htm?job=spectrum_leasing#d36e70. *See also* WIK-CONSULT REPORT, *supra* note 7, at 51 ("For the private sector, the use of spectrum auctions is well established.").

^{58.} Again, we assume technical efficiency, which may not occur in practice.

^{59.} This is the present GSA-style model.

maximization. But federal agencies do not necessarily seek to maximize their profits—or minimize their costs.⁶⁰ There is no inherent incentive for the agency to alter its spectrum allocation or to use spectrum more efficiently.

But what if the agency selected a different level of S under this scenario? Any such choice in the direction of S^* would be more socially efficient, but would also reduce the agency's budget. If the agency could be relied upon to minimize costs regardless of the consequences to its budget. then confronting the agency with the "right prices" would, in theory, suffice to induce it to behave efficiently, in an allocative sense. The difficulty is the venerable observation that government agencies rarely move aggressively to cut their own budgets.⁶¹ In fact, the budget consequences of such a plan led the authors of the PCAST Report to reject altogether the use of spectrum fees, concluding that "practical difficulties . . . would render it ineffective." ⁶² The only "practical difficult[y]" listed in the *PCAST Report* is the fear that any reduction in spectrum usage accompanied by compensation from the commercial or public sector, or merely reflecting some reduction in a government-created "usage fee" regime, would lead Congress to trim the budget of the agency by a commensurate amount.⁶³ As the *PCAST Report* states:

[T]he introduction of spectrum fees would not necessarily remove or even significantly diminish the obstacles individual agencies face in trying to evolve their spectrum use in ways that would maximize efficiency by the Federal Government as a whole. In particular, an agency would legitimately fear that if it were to relinquish \$500 million of spectrum use, and reduce its fee payment accordingly, it would later see its budget reduced by much of that \$500 million and therefore see little or no benefit for its efforts. For that reason, we do not think a spectrum fee system is likely to be an effective way to promote Federal efficiency in spectrum use.⁶⁴

In effect, the "practical difficult[y]" of the "usage fee" approach stems from budgetary actions by Congress, which work against the more efficient use of spectrum. Similarly, as the *WIK-Consult Report* observes:

^{60.} See, e.g., TPI REPORT, supra note 14, at 23 ("[G]overnment agencies do not operate in a market context, and profit maximization is not their goal.").

^{61.} *Cf.* T. Randolph Beard, George S. Ford, Hyeongwoo Kim & Lawrence J. Spiwak, *Regulatory Expenditures, Economic Growth and Jobs: An Empirical Study,* PHX. CTR. POL'Y BULL. No. 28 (Apr. 2011), *available at* http://www.phoenix-center.org/PolicyBulletin/PCPB28Final.pdf.

^{62.} PCAST REPORT, *supra* note 5, at 55.

^{63.} *Id*.

^{64.} *Id.*

For these policies to be beneficial, however, changes may be required in the way that the public sector agencies operate. It is often argued that charging for spectrum use by the public sector is just a "money go round" with no beneficial effects. This argument is correct if the public sector user cannot benefit from any saving in its spectrum costs. This means that for market-inspired mechanisms to be effective in the public sector, budgetary arrangements need to be sufficiently flexible to allow public sector organisations to "profit" from economising on spectrum use, including the ability to increase or decrease their expenditure on spectrum use (where this is thought to be necessary) within their overall budget constraints.⁶⁵

Simple production economics suggests that imposing "market prices" on federal agencies may not be sufficient to induce efficient behavior. Indeed, complete inaction is a viable choice, as it would likely impose no costs on the agency.⁶⁶ Absent a change in incentives, market pricing is not sufficient for meaningful reform.⁶⁷ Plainly, the design of "market" mechanisms for federal agencies must explicitly consider the budget process and its effects on the incentives that process provides to increase the efficiency of spectrum use.⁶⁸ Thus, the problem with the spectrum fee approach is more one of incentives than of technical feasibility.⁶⁹ As we see it, *it seems unlikely that the sole reason the government is inefficient is that its decision-makers do not face the correct prices*. Even if the agency did face market prices, federal agencies are not profit-maximizing entities, are not permitted to offer spectrum in the secondary market, and are strongly motivated by budgetary considerations.⁷⁰

B. Setting the Efficient Level of Spectrum Use

A second way to compensate the agency for spectrum is to set the supplemental appropriation not based on how much spectrum the agency actually buys, but rather on the amount it *should* buy. Prior research on this

^{65.} WIK-CONSULT REPORT, *supra* note 7, at 52.

^{66.} See, e.g., TPI REPORT, supra note 14, at 23 ("From the agency's perspective... the spectrum is a free resource, for which it pays no rent or upkeep costs. The perceived opportunity costs of spectrum are small at best, since there is no market for this spectrum.").

^{67.} See WIK-CONSULT REPORT, supra note 7, at 52.

^{68.} *See* PCAST REPORT, *supra* note 5, at 55.

^{69.} *See* WIK-CONSULT REPORT, *supra* note 7, at 52; PCAST REPORT, *supra* note 5, at 55.

^{70.} See, e.g., TPI REPORT, supra note 14, at 23 ("[E]ven if there were an active spectrum market... and even if a government agency were interested in increasing the resources that are at its disposal.... If an agency were to sell its spectrum, the agency's net gain might be far smaller than the selling price... due to budget reallocations that would net out the agency's gain.").

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topic often suggests such efforts.⁷¹ In the example at hand, this calls for a fixed payment of $P \cdot S^*$, regardless of the agency's choice of S. In this case, the only way the agency could fulfill its charge to produce Q_0 is by selecting the efficient inputs (S^*, K^*) . This approach is theoretically attractive, but in practice it means that the agencies themselves—or, more plausibly, some oversight agency—would be charged with determining the cost-minimizing plans, an extremely daunting task. Some agencies might be confronted with very significant adjustments in their budgets. As the GAO has noted:

several oversight activities NTIA has to encourage accountability and efficient use of the spectrum by federal agencies, but federal officials stated that the effectiveness of these activities is hindered by staffing and resource shortages. Specifically, NTIA has directed federal agencies to use only as much spectrum as they need and has established frequency assignment and review processes that place primary responsibility for promoting efficiency in the hands of the agencies. As an accountability measure, NTIA requires that agencies justify their initial need for a frequency assignment and periodically review their continued need for the assignment, generally every 5 years. Officials from several federal agencies told us that they have been unable to complete the required 5-year reviews in a timely or in-depth manner because of shortages in experienced spectrum staff and competing agency priorities. Moreover, although NTIA has established monitoring programs to further increase agency accountability, it said that some of these programs are inactive because of staff and funding shortages. NTIA also conducts research and has technical initiatives under way to promote the efficient use of the spectrum. However, several agencies we reviewed reported difficulties implementing an important

^{71.} See WIK-CONSULT REPORT, supra note 7, at 49 ("To continue to deliver greater economic and societal value per unit of spectrum over time, it is necessary to change the incentives faced by public sector spectrum users. There are a number of ways in which this could be done: [1] Limit the quantity of spectrum available to the public sector spectrum user so that they are motivated to invest in new technologies or to acquire spectrum in the same way as the non-public sector spectrum users to the extent that they need to support service growth and/or development; [2] Make the users publicly accountable for their spectrum use and for their associated technology choices; [3] Provide economic rewards/penalties for more or less efficient spectrum use."); PK REPORT, supra note 13, at 3 ("The President should require all agencies to prepare a "spectrum budget" in the same manner they prepare a federal budget, assessing existing and future needs. The NTIA would serve as coordinator for these agencies and would provide technical support, assisted by the federal Chief Technology Officer (CTO) and the Office of Management and Budget (OMB). Based on these exercises, the CTO, with support from the NTIA, would assist agencies in upgrading wireless equipment and enhancing the use of spectrum resources for individual agencies, in order to enhance their overall missions.").

NTIA initiative for more efficient use of land mobile radio spectrum. Due to these workforce issues, we are recommending that the Department of Commerce conduct an analysis of the human capital needs of federal agencies for spectrum management as well as develop a strategy for enhancing its oversight of federal agencies' use of spectrum.⁷²

Conceptually, reducing agency spectrum allocations to the "correct" level is attractive. Practically, however, implementing procedures that achieve this goal are daunting, and, as the excerpt above confirms, thus far unfruitful.

1. Treating Spectrum as an Asset

Yet additional evidence demonstrates the ineffectiveness of government action to improve efficiency of spectrum use. President Bush's Memorandum from 2004, echoed in Circular A-11 in 2011, directs agencies to treat spectrum as an economic asset, an order presumably necessary because the agencies have no inherent incentive to do so:

[A]gencies should consider the economic value of radio spectrum used in major telecommunication, broadcast, radar, and similar systems when developing economic and budget justifications for procurement of these systems. . . . Spectrum should generally not be considered a free resource, but rather should be considered to have value and be included, to the extent practical, in economic analyses of alternative systems. In some cases greater investments in systems would reduce spectrum needs (e.g., purchase of radios that use less bandwidth than less expensive models); in other cases the desired service can be met with other forms of supply (e.g., private wireless services or use of land lines).⁷³

The continued focus on government inefficiency suggests no action in this regard. In the most recent incarnation of this proposal—Circular A-11 in 2013—the OMB provides some general guidance on how an agency would undergo the valuation of its spectrum.⁷⁴ Still, such efforts are not independent of the agency using the spectrum, nor are they independent of the government. Absent independent verification, these valuations remain

^{72.} GAO-02-906, *supra* note 11, at 4.

^{73.} OFFICE OF MGMT. & BUDGET, CIRCULAR NO. A-11, PREPARATION, SUBMISSION, AND EXECUTION OF THE BUDGET § 33.4 (Aug. 2011), *available at* http://www.white house.gov/sites/default/files/omb/assets/a11_current_year/a_11_2011.pdf.

^{74.} OFFICE OF MGMT. & BUDGET, CIRCULAR NO. A-11, PREPARATION, SUBMISSION, AND EXECUTION OF THE BUDGET § 31.12 (July 2013), *available at* http://www.whitehouse.gov/sites/default/files/omb/assets/a11_current_year/ a11_2013.pdf.

suspect. Indeed, the lack of incentives to respond properly to market prices is just as relevant to a proposal for agencies to treat spectrum as an economic asset.

2. A Failure in Accountability

Presumably, more rigorous accountability in spectrum use and management by federal agencies would require a complete picture of both the assignment and use of spectrum by such agencies. In the *1991* Spectrum Report, the NTIA concluded:

There is an absolute need for comprehensive data bases of spectrum use.... What is important is that the data should be correct, comprehensive and current.

Based on the record compiled in the proceeding and our own experience in spectrum management, NTIA will investigate with the assistance of the FCC, the establishment of a common frequency assignment database, with compatible, modern file formats, to provide comprehensive information on spectrum use in the United States.⁷⁵

Despite the obvious need for an accurate inventory of government spectrum and how it is used, in 2012—over twenty years later—the government had yet to produce a suitable database. As the GAO found:

NTIA's data management system is antiquated and lacks internal controls to ensure the accuracy of agency-reported data, making it unclear if decisions about federal spectrum use are based on reliable data.⁷⁶

Given the unabated inefficiency of spectrum use and management by the public sector, and the lack of incentives to remedy that inefficiency, history suggests that the prospects for much improvement in spectrum efficiency by federal agencies based on public oversight of spectrum use are minimal. Certainly, in some cases, a "gifted political executive" at a federal agency may be able to influence the efficiency of its programs and spectrum use.⁷⁷ However, such exceptions are no substitute for the systematic introduction of proper incentives.

^{75. 1991} Spectrum Report, supra note 18, at 30 (citing Comms. Satellite Corp. (COMSAT) Comments at 28–29).

^{76.} GAO-11-352, supra note 11, at "Highlights".

^{77.} See, e.g., JAMES Q. WILSON, BUREAUCRACY 217 (1989).

C. Spectrum Currency as a Ghost Market Mechanism

In lieu of spectrum fees, the PCAST Report proposes to switch to an "artificial currency," referred to as "spectrum currency," rather than basing usage fees on actual dollars.⁷⁸ Spectrum currency is an intra-governmental spectrum accounting system that permits agencies to barter in spectrum without cash transactions.⁷⁹ The purposes of spectrum currency are as follows: First, spectrum currency provides a baseline of relative spectrum use (i.e., an inventory), and may, in conjunction with other mechanisms, aid in the measurement of actual spectrum use.⁸⁰ Second, spectrum currency may be viewed by an agency as an asset rather than a cash flow, thereby permitting longer-term planning and hopefully befuddling the counterproductive congressional budgeting process.⁸¹ Third, establishing spectrum currency offers an "incentive" for agencies to migrate to network architectures that permit sharing.⁸² This incentive system operates by empowering agencies to trade the *newly created* artificial currency for "real dollars" from the newly created Spectrum Efficiency Fund.⁸³ This proposal aims to create incentives for agencies to reduce their spectrum needs by eventually trading spectrum for capital investment dollars, thereby moving federal agencies toward a more efficient combination of spectrum and capital.

The combination of a spectrum currency and the Spectrum Efficiency Fund is appealing based on the simple logic illustrated in Figure 1. Federal agencies need some incentive, which they now lack, to select a more efficient combination of spectrum and capital—but to do so, the agencies need the wherewithal to trade spectrum for the necessary investment dollars. *PCAST* rejects a more direct market mechanism (spectrum fees) and, in its place, proposes a ghost market mechanism involving artificial currency and off-budget funding. In evaluating this approach, a critical question is whether such a pseudo-market mechanism provides federal agencies sufficient incentives to use spectrum in a manner that reflects "the true social cost of that use, which is measured in terms of other uses of the spectrum that are precluded by current federal use (the 'opportunity cost')."⁸⁴ The answer is almost surely "No."

Upon examination, the basic logic of spectrum currency is defective. Spectrum currency would be issued to agencies based on their existing

^{78.} See PCAST REPORT, supra note 5, at 55.

^{79.} *Id.* at 55–56.

^{80.} Id. at 56. See also id. at 21-22 (proposing a new metric of spectrum use).

^{81.} *Id.*

^{82.} Id.

^{83.} See *id.* at 57. The Spectrum Efficiency Fund is "the broadened and repurposed Spectrum Relocation Fund [This fund was] established by Congress in 2004 with the explicit and limited purpose of reimbursing agencies for the actual costs incurred in relocating Federal system auctioned bands." *Id.* at xv.

^{84.} Id. at 55.

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spectrum holdings.⁸⁵ Spectrum currency could be traded, perhaps for appropriations between agencies. So, for example, an agency with some unused or lightly used spectrum could "sell" it to another agency for cash, albeit indirectly. While PCAST believes that this "artificial currency" will not be appropriated by Congress in the same way as an outright cash sale,⁸⁶ this seems naïve; if spectrum currency is actually useful for anything, and can be converted to cash for purchases or otherwise impacts budgets, then Congress will likely react.

More significantly, this artificial currency model only allows federal agencies to participate in this pseudo-market, which exists solely "within the Federal Government.⁸⁷ No private transactions for spectrum currency occur. Thus, the final "price" obtained for such currency from inter-agency transactions cannot be reliably imputed as the social cost of spectrum use by government agencies because there is no reason to expect that an intragovernmental negotiated price for spectrum currency will be comparable to private, arms-length prices for spectrum involving transactions among public and private entities.⁸⁸ At the center of the spectrum problem is spectrum shortages in the private sector; yet, moving spectrum among federal agencies fails to address the core issue. Absent private sector participation, the private sector will continue to act as if spectrum is incredibly valuable and expensive, on net, while the government sector will continue to act as if it is cheaper than it really is.⁸⁹ Any potential gains will arise solely from a reallocation of spectrum among government users, rather than from a reallocation of spectrum between the private and public users. Consequently, this pseudo-market scheme will at best eliminate some inter-agency inefficiency within the federal government. While laudable, this approach does not address the problem of inadequate spectrum available to the private sector-the problem at the core of the Presidential Memorandum. Absent some mechanism by which the private sector can bid for the right to use the government's spectrum, no federal agency will base its decision on the "true social cost" of its spectrum. Spectrum currency is not a viable solution to the efficiency problem.

^{85.} *Id.* at xv.

^{86.} See generally id. at 54–60 ("However, the introduction of spectrum fees would not necessarily remove or even significantly diminish the obstacles individual agencies face in trying to evolve their spectrum use in ways that would maximize efficiency by the Federal Government as a whole. In particular, an agency would legitimately fear that if it were to relinquish \$500 million of spectrum use, and reduce its fee payment accordingly, it would later see its budget reduced by much of that \$500 million and therefore see little or no benefit for its efforts. For that reason, we do not think a spectrum fee system is likely to be an effective way to promote Federal efficiency in spectrum use.").

^{87.} Id. at 55 (emphasis added).

^{88.} Even if the initial valuation is based on "comparable private sector uses for which the market has already set a price," *id.* at xv, this assignment of market values as a starting point is immaterial if the spectrum currency can only be traded among federal agencies.

^{89.} That is, the budget line will not have the same slope as B_0 and B_1 in Figure 1.

D. Other Options

Finally, one can imagine somewhat more sophisticated schemes for simultaneously charging agencies for spectrum and appropriating funds to cover such outlays. Some of these systems might be largely self-financing, while others may not. One could, for example, initially fund spectrum supplemental allocations at the level $P \cdot S_0$, and then reduce the level systematically over time in the hopes that such reductions might spur efficient adjustments.⁹⁰ Alternately, one could encourage reduced spectrum use by sharing the social gains with staff charged with increasing efficiency,⁹¹ or by rewarding an agency with a portion of the proceeds from an auction or lease of its spectrum to the private sector.⁹² Other proposals include requiring public agencies to acquire spectrum at auction.⁹³ The number of permutations is probably infinite. It is undoubtedly desirable, however, to carefully investigate mechanisms that decentralize decisionmaking to those levels likely to possess the requisite knowledge and experience do a credible job of managing spectrum efficiently. Introducing incentives for efficiency is always difficult in the public sphere; as we have shown, the intrinsic lack of proper incentives could render the "market" approaches ineffective.

V. GOVERNMENT INEFFICIENCY AND SPECTRUM ALLOCATION BETWEEN PUBLIC AND PRIVATE USERS

As noted above, most agree that the government uses spectrum inefficiently.⁹⁴ But inefficient use by federal users is not the only problem; as noted by the *PCAST Report*, the "[f]ederal system as a whole" does not have the incentives to improve efficiency. ⁹⁵ The GAO points to the "limited progress toward improved spectrum management." ⁹⁶ Thus, inefficiencies exist in both use *and* management.⁹⁷ Inefficiency is systemic

^{90.} This approach would operate much like price cap regulation, whereby price declines over time based on an efficiency factor and thereby encourages increases in the efficiency of production.

^{91.} See ROBERT KLITGAARD & PAUL C. LIGHT, HIGH-PERFORMANCE GOVERNMENT: STRUCTURE, LEADERSHIP, INCENTIVES (2005), available at http://rand.org/content/dam/rand/pubs/monographs/2005/RAND_MG256.pdf.

^{92.} See Federal Spectrum Incentive Act of 2013, H.R. 3674, 113th Cong. (2013), *available at* http://docs.house.gov/meetings/IF/IF00/20131210/101595/BILLS-1133674ih-HR3674FederalSpectrumIncentiveActof2013.pdf.

^{93.} WIK-CONSULT REPORT, *supra* note 7, at 18.

^{94.} See discussions supra Parts II & III.

^{95.} PCAST REPORT, *supra* note 5, at ix; *see generally* WIK-CONSULT REPORT, *supra* note 7.

^{96.} GAO-11-352, *supra* note 11, at 9.

^{97.} The *WIK-Consult Report*, for example, points to problems with the government being both judge and jury in regard to its spectrum use. WIK-CONSULT REPORT, *supra* note 7, at 45 ("In some cases, the management of public spectrum is delegated to sectoral bodies (who are sometimes the spectrum user). A problem that this can lead to is that the manager

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in government. As the nation's leading authority on public administration, Professor James Q. Wilson, observed:

Government bureaus are less likely than private agencies to operate efficiently, at least with respect to the main goal of the organization. There are three reasons for this. First, government executives are less able than their private counterparts to define an efficient course of action. The public officials must serve a variety of contextual goals as well as their main or active goal and they are given little guidance as to what might constitute an acceptable tradeoff among these goals. Second, public executives have weaker incentives than do private executives to find an efficient course of action. The former have no property rights in the agency; they are not, in the language of economists, "residual claimants" who can put into their own pockets the savings achieved by greater efficiency. Third, public executives have less authority than private ones to impose an efficient course of action. Legislatures usually refuse to give to agency managers the power to hire and fire or to raise and allocate funds. Therefore, when it is important that executives have the ability, authority, and incentive to act efficiently, government agencies will not perform as well as their private counterparts.⁹⁸

Inefficient management is a significant concern, yet its implications have yet to be fully considered as regards spectrum policy reform. As we see it, *it is the inefficiency of government spectrum management, not government spectrum use, which is most problematic.* If a government agency uses office furniture or copy paper inefficiently, then the consequences of that inefficiency are largely limited to that agency.⁹⁹ The producers of office furniture and copy paper sell their wares to many customers, face significant competition and, as a result, tend to be efficient in their operations. The fact that the Pentagon pays \$750 for a hammer does not mean a consumer cannot purchase one for \$10 at the local hardware store. In contrast, *if the government is an inefficient manager of spectrum, then the consequences of the inefficiency are realized across the entire spectrum ecosystem.* Issues of "managerial efficiency," therefore, are far more significant than "use efficiency." In order to better design policy to deal with the problem of managerial inefficiency, we turn to a theoretical

may seek to keep all of its allocation for its own use (rather than sharing/releasing spare spectrum for use by others), particularly if incentives to do otherwise are weak. It is essential to adopt institutional arrangements that separate *management* from *use*.") (emphasis added).

^{98.} WILSON, *supra* note 77, at 349–50.

^{99.} In a case where the government is a very large consumer of an industry, the inefficiency of the government's actions may have broader economic implications.

analysis of the spectrum allocation decision in the presence of an inefficient government.

A. Formal Economic Model of Spectrum Allocation Between Private and Public Sectors

Our formal analysis of the best ways to repurpose government-held spectrum utilizes a simple general equilibrium ("GE") framework. A GE framework seeks to explain the supply side, demand side, and resulting prices in the whole economy, rather than focusing narrowly on a single market.¹⁰⁰ We believe such an approach is necessary because the problem of transferring spectrum rights from public to private hands is intimately entangled with government provision of public goods that require spectrum, such as national defense and public finance.¹⁰¹ The discipline imposed by the GE setup forces one to account for all the effects of any proposed policy change within the context of the model. Even in the cases of those effects that are not explicitly included in the model, the GE approach serves to highlight exactly what such additional complications imply. Still, the model is an abstraction, and in the present case, where some agents are considered to be "inefficient" actors (i.e., the government), we must specify a particular form of inefficiency. Our chosen strategy is to impose a very specific and limited form of inefficiency on the government, and to otherwise give the government the benefit of doubt by assuming its motivations are pure and its operations are efficient within its own sphere. As will be apparent, relaxing these assumptions only strengthens our recommendations.

First, regardless of its chosen approach to spectrum policy, we return to the widespread recognition that that the U.S. government is an inefficient manager of spectrum resources. This observation is, in fact, the primary motivation for spectrum reform. However, one virtue of the analysis to follow is that we can show that this assumption of government inefficiency is actually *stronger* than is necessary to reach fairly concise policy recommendations. In fact, we assume in what follows only that the government is a *less* efficient manager of spectrum resources *used privately to produce private goods* than are the private producers

^{100.} See Kenneth J. Arrow & George Debreu, *The Existence of an Equilibrium for a Competitive Economy*, 22 ECONOMETRICA 265–90 (1954).

^{101.} In this way our model is consistent with the approach outlined in the *WIK-Consult Report. See* WIK-CONSULT REPORT, *supra* note 7, at 1 ("*Economic efficiency* is clearly important, but it cannot be the only measure of success—the allocation mechanisms must support demanding public sector applications, many of which are essential to the protection of life and property. We choose instead to refer to our central objective in the study as one of optimising *socioeconomic efficiency*. We do so with an eye to a distinction that many in the field draw between the *efficiency* and the *effectiveness* of spectrum allocation in the public sector, where effectiveness refers not only to productive efficiency (see below) but also to being *fit for purpose* in the sense of enabling the public sector spectrum user to properly perform its mission.").

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themselves. In other words, *it is not necessary to say that government is inherently inefficient, but only that it is inherently inefficient to have the government manage the resources used privately by others.* This inefficiency can be thought of as an additional cost arising from the mixed nature of the property rights involved.

Second, it seems likely that any reform in spectrum policy could entail both the government auctioning its spectrum and government leasing of spectrum to private users. Many of the proposals for spectrum reform include these options,¹⁰² both of which will presumably provide revenue to the government, either in the form of spectrum auctions or spectrum usage fees.¹⁰³ For reasons of realism, we imagine that decisions regarding spectrum auctions will be known prior to leasing decisions—that is, a certain amount of spectrum is already allocated to private licensees. Further, we assume that the government acts to maximize social welfare in its leasing behavior. Our findings explicitly assume that government behavior is consistent with the public good.

Third, our model incorporates a basic assumption about the irreducible role of public agencies: consumers derive benefits from consumption of both a private good, produced using spectrum resources, and a public good, which is only created through government production. Certainly, the government provides valuable services using its spectrum allocations. As such, positive amounts of both public and private goods will characterize our equilibrium outcomes.

Fourth, we emphasize and maintain the distinction, which has often been lost in debates over public spectrum, between spectrum leased by the government—over which public control or management is maintained and spectrum used in sharing arrangements. The question of how spectrum can or should be shared among competing users is logically distinct from the question whether such uses require public management of the spectrum resource. This latter claim—that sharing will happen only under public management—amounts to assuming that the government has some talent or ability unavailable to anyone else. This is an implausible conjecture, to say the least, and one not obviously in line with the basic conclusion of most prior research: government lacks proper incentives to manage spectrum efficiently.¹⁰⁴

Therefore, in the analysis that follows, one should keep in mind that leased spectrum refers only to previously government-owned spectrum that is made available to private users for private purposes in exchange for a fee, which is essentially the *PCAST Report*'s approach to spectrum

^{102.} PCAST REPORT, *supra* note 5, at 12 ("This report argues that the United States should shift to a spectrum management model that makes possible a continual stream of revenue instead of one-time auction returns. The revenues would derive from wireless services eager to pay modest fees under a variety of leasing arrangements to obtain spectrum access with varying levels of quality of service and lease lengths, appropriate to their business needs.").

^{103.} Id.

^{104.} See discussion supra Part III.

management. Such leased spectrum may or may not be shared among users, just as spectrum held under conventional exclusive licenses may or may not be shared.¹⁰⁵ The key point is that such spectrum is *encumbered*, i.e., a public authority controls and manages it. Such publicly managed spectrum might be shared among several private users, or it might be utilized by only one user. We will return to the issue of spectrum sharing below.

Finally, we assume throughout that price and quantity expectations of market agents are correct: none of the results arises due to any misapprehension over prices, quantities, or the preferences or behavior of other actors.

Given these relatively straightforward assumptions, as a general matter, we come to the conclusion that it is preferable for the government to sell spectrum rather than lease it. In equilibrium, leased spectrum earns lower returns and is less effective in production of the private good. One can, in fact, use these results to formulate a "hypothetical test" for the efficiency of any spectrum reform proposal:

If a proposal envisions leasing spectrum under government management, then either that proposal contains insufficient levels of spectrum auctions or the government management of the spectrum must be necessary to realize its benefits.

In general, then, government management of spectrum used by private agents should be *de minimis*, except in cases wherein one can offer a compelling case for government intrusion.

To formalize the argument, suppose the government initially has a block of spectrum denoted *S*. This spectrum will be used in three ways. First, some quantity s_0 can be sold at a competitive market price r_0 to private users, who will then use it to produce private goods. Second, with all agents having full knowledge of s_0 , an additional quantity s_1 can be "leased" to private firms for the production of private goods at a competitive market rent r_1 . (This "leasing" model includes forms of spectrum sharing that employ a usage fee, and encompasses any regime in which the government is the active manager of spectrum resource.) Finally, the remaining public spectrum s_g , $s_g = S - s_0 - s_1$, is efficiently used by the government to produce a public good of benefit to all. To summarize the key variables of the model, we have as follows:

^{105.} PCAST REPORT, *supra* note 5, at 43 ("Long-term Licensing would be very similar to current licensing in bands such as those used for personal communications services (PCS) or AWS, where the licensee gets a multi-year (10–15 years) initial assignment. Currently, in the United States, such assignments also have an expectancy of renewal, increasing the value of the initial assignment. Rights for such assignments could be exclusive, or could include well-defined easements for secondary uses, such as low-power unlicensed or pre-emption for public safety use.").

S: total spectrum;

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- *s*₀: spectrum sold to the private sector in the form of exclusive licenses;
- s_1 : spectrum leased to the private sector by the government-manager; and
- s_g : spectrum used by the government to provide public services [= $S s_0 s_1$].

The strategic scenario is as follows. First, an un-modeled political process will determine the quantity s_0 . Then, given this quantity, the government agency holding the remaining public spectrum will select a quantity s_1 to be leased. We assume s_1 is selected to maximize social welfare, which is given as the welfare of a representative household. Finally, both private and public goods are produced using spectrum inputs and labor. Households receive transfers from the government funded by proceeds from spectrum auctions (labeled t). Households also receive labor income. Private firms are competitive price takers who produce private goods using technologies that exhibit constant returns to scale. Prices in the model are r_0 , the price of a unit of s sold under exclusive license, r_1 , the leasing (encumbered) price of a unit of spectrum, and w, the wage rate.

Private firms produce only private goods, and are assumed to do so under the usual Cobb-Douglas linear homogenous production function:

$$y = f(s,L) = As^{\alpha}L^{(1-\alpha)}$$
(1)

where y is output of the private good, A is a productivity factor, and α represents the degree of substitution between spectrum and labor in production.

As described above, it is assumed that spectrum leased under government control, s_1 , is at least marginally less effective than is spectrum transferred to private hands. To capture this effect, we assume that "effective spectrum" in private production s_p is given by the equation: $s_p = s_0 + \lambda s_1$, where $0 < \lambda < 1$.¹⁰⁶ Thus, the factor lambda (λ) captures this inefficiency inherent in government spectrum management (in the production of private goods).

As firms produce private goods under the Cobb-Douglas linear homogenous production function, they buy and lease spectrum for this purpose, and hire employees as well. They maximize their profits to determine their demands for factors:

$$\max_{s_0, s_1, L} \{ A(s_0 + \lambda s_1)^{\alpha} L^{(1-\alpha)} - r_0 s_0 - r_1 s_1 - wL \}$$
(2)

^{106.} Say the private sector has 100 MHz in exclusive licensees (s_0) and that the government makes 80 MHz available for lease (s_1). If $\lambda = 0.5$, then the effective amount of spectrum available to produce private sector output is 140 MHz [= 100 + 0.5 \cdot 80].

As is usual in models of this type, in equilibrium prices for factors equal their marginal products. If we let MPS and MPL denote the marginal physical products of unencumbered spectrum and labor, respectively, then we obtain the competitive prices:

$$r_0^* = \text{MPS}, \quad r_1^* = \lambda \text{MPS}, \quad w^* = \text{MPL}$$
 (3)

Here, leased spectrum sells for a lower price, reflecting its diminished usefulness compared to s_0 . Due to the assumption of constant returns, the firms have zero excess profit in equilibrium so we need not specify firm ownership.

Consumers appear in the model in the usual guise of the "representative household," and they obtain utility from the consumption of both the private good (their consumption is denoted by c) and the public good, which is only produced by the government. For simplicity, suppose the public good is produced using only spectrum (this is of no consequence to the conclusions). Suppose output of the public good is just $\theta \ln(s_g)$, where θ is a known positive parameter. Then specify consumer utility U as:

$$U = \ln(c) + \theta \ln(s_g) \tag{4}$$

The simple additive, logarithmic form of U is adopted purely for convenience: the log specification assures us that the optimal plan will always involve production of both private and public goods.

The consumer solves the optimization problem:

$$\max_{c,L} = \{\ln(c) + \theta \ln(s_g)\},\tag{5}$$

subject to the budget constraint:

$$c = wL + t, \tag{6}$$

where *L* is household labor supplied and *t* is any net transfers of government benefits to the private sector. Again, for simplicity, our specification of consumer utility does not include leisure. This implies that labor will be inelastically supplied at all wage rates. In accordance with convention, we will assume that labor supply must satisfy $0 \le L \le 1$, so that in equilibrium $L^* = 1$.

In keeping with our description of the strategic environment above, we assume that, once s_0 (spectrum sold initially) is known, the relevant government authority then selects the amount of spectrum to lease, s_1 and thus the amount to retain for public good uses, s_g , in order to maximize the welfare of society. In this model, that means these values are selected to

maximize household utility *U*, recognizing that $c = w^* + t$, $s_g = S - s_0 - s_1$, and $t = r_0^* \cdot s_0 + r_1^* \cdot s_1$. In "closing the model," we specify that any income obtained by the government through spectrum auctions or leasing is costlessly transferred to the private sector as a benefit. Thus, the household consumes goods equal to its direct income $w^* + t$, and consumes that amount of the public good provided by the government using retained spectrum s_g .

Before illustrating the model solutions graphically, we find their explicit expressions. All choice and "state" variables are functions of s_0 . Thus, the way in which the performance of the economy varies with the amount of spectrum put under private management can be found directly. The government authority, viewing s_0 and then selecting s_1 (leased spectrum) to maximize social welfare, will optimize its selection of leased spectrum according to the condition:

$$s_1^* = (\theta / (\alpha + \theta))S - (\alpha + (\theta / \lambda))(\alpha + \theta)^{-1}s_0.$$
(7)

Equilibrium government spectrum is thus:

$$s_{g}^{*} = (\theta / (\alpha + \theta))[S + (\lambda^{-1} - 1)s_{0}].$$
 (8)

These expressions immediately allow us to conclude that $\partial s_g^* / \partial s_0 > 0$ and $\partial s_p^* / \partial s_0 > 0$. In other words, the amount of spectrum available for public use and the amount made available for private use both rise when more spectrum resources are initially in private hands. This occurs because of the differential efficiency in the application of spectrum to private production under "auction" and "lease." These results, in turn, directly imply that:

$$\partial y^* / \partial s_0 > 0; \tag{9}$$

$$\partial w^* / \partial s_0 > 0 ; \tag{10}$$

$$\partial t^* / \partial s_0 > 0$$
; and (11)

$$\partial U^* / \partial s_0 > 0. \tag{12}$$

These conditions state that equilibrium consumption (y^*) , wages (w^*) , Government benefit transfers (t^*) , and social welfare (U^*) keep rising as s_0 (exclusively-licensed spectrum) increases whenever $s_1^* > 0$.

The following figure illustrates this for some simple parameter values ($\theta = \alpha = \lambda = 0.5$, S = 100, and A = 10). In the top panel of Figure 2 below, private spectrum s_0 is measured on the horizontal axes, and the variables s_p , s_g , and w are measured on the vertical axis. In the bottom panel, household utility is plotted against s_0 . As shown in the figure and discussed above, the amount of spectrum available for public use (s_g) and

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the amount made available for private use (s_p) both rise when more spectrum resources (i.e., effective spectrum) are initially in private hands. Also, once s_1^* corners at zero (i.e., no leasing of spectrum to the private sector), household utility (welfare) will continue to rise as s_0 increases until a socially optimal balance between private and government spectrum is achieved.



The figure summarizes several strong conclusions. First, the government, given its *relative* inefficiency, should not be leasing spectrum to the private sector, as a positive value of s_1 is not optimal. The result has a useful practical implication for policymaking: any spectrum plan involving the government leasing spectrum to the private sector (e.g., the *PCAST* proposal)¹⁰⁷ implies *the government is not auctioning enough spectrum under standard exclusive licenses*. Total social welfare and public good supply are each higher when more spectrum is sold without encumbrance, up to that point at which retained government spectrum is just sufficient to produce public goods at a socially optimal level.¹⁰⁸

^{107.} See PCAST REPORT, supra note 5, at 42–47.

^{108.} Recall that, by assumption, spectrum alone is used to produce public goods.

Likewise, wages rise as more spectrum is repositioned into private hands when the goal is to produce private goods with it. This is not really a surprise: if government is a bad spectrum *manager*, then it should not *manage* spectrum.

An important subtlety is attached to these conclusions. To say that the government should not manage spectrum—but should auction licenses in the usual way—does not imply anything in particular about the usefulness of sharing spectrum. These are quite different matters. It often seems that arguments for sharing frequencies envision some public authority as a manager and, in the absence of this public manager, sharing is precluded. It is not. The private sector regularly shares spectrum.¹⁰⁹ Yet, even if public sector management was required, the admitted weakness of the government in managing spectrum implies that forgoing sharing might be justified to avoid the inefficiency of government management. If the government is a very poor manager, then one would be forced to compare a poorly managed sharing regime with a well-managed private sharing regime where, by assumption, some forms of sharing are impractical.

Additionally, the GE character of the model allows us to reason more precisely about the issue of leasing or sharing government-managed spectrum versus auction of exclusive licenses. Obviously, we impose the assumption that s_1 is less productive than s_0 in the private sector. This assumption is fairly plausible from prices observed for restricted licenses.¹¹⁰ However, in a market setting, such managed spectrum (s_1) will likewise sell at a lower cost. Thus, at first glance, one cannot immediately see whether such restrictions would harm the economy: after all, though this spectrum is a bit less desirable, the price is also lower and, in equilibrium, a firm should be indifferent between these two modes of producing the marginal unit. All of this is true. It is also beside the point, as the analysis clearly demonstrates. The lower price available to firms for poorer spectrum translates into lower transfers and consumption from the public itself. When the entire economy is encapsulated, it becomes apparent that such restrictions, in the absence of a suitably large countervailing benefit, are counterproductive if the goal is maximizing social welfare, wages, and so forth.

^{109.} For details on such sharing, see FCC, *Spectrum Leasing* (last updated July 8, 2010), http://wireless.fcc.gov/licensing/index.htm?job=spectrum_leasing#d36e70 (including, *inter alia*, sublease and private commons arrangements).

^{110.} George S. Ford, Thomas M. Koutsky & Lawrence J. Spiwak, Using Auction Results to Forecast the Impact of Wireless Carterfone Regulation on Wireless Networks, PHX. CTR. POL'Y BULL. NO. 20 (2d ed. May 2008), available at http://www.phoenix-center.org/PolicyBulletin/PCPB20Final2ndEdition.pdf; KENT R. NILSSON, OFFICE OF INSPECTOR GEN., OFFICIAL REPORT: D BLOCK INVESTIGATION (Apr. 25, 2008), available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-281791A1.pdf.

B. Market Management of All Spectrum

In our model, we have assumed that the government is a relatively inefficient manager of spectrum used by private parties, which implies that the government should not manage the private sector's spectrum under a leasing or arrangement. We assumed also that the government managed its own spectrum and did not lease it from the private sector or any other entity other than itself. If the government is an inefficient manager of its own spectrum—and it appears that it is—then it may make sense for the government to divest itself of its entire spectrum holdings and subsequently lease back what it needs from the private sector. A similar proposal was made in the *1991 Spectrum Report*, which suggested:

[F]ederal users could have a private contractor build and operate a "pooled" system using government spectrum to meet existing federal needs. As an incentive to operate most efficiently, the contractor could sell to the public any excess capacity on its system once federal needs were met as its first priority.¹¹¹

While the proposal was undeveloped in the *Report*, the idea warrants further investigation. Certainly, though, there may well be reasons to allow government agencies to manage spectrum used in production of public goods, much as private firms should manage resources used in private production. Yet, it is widely accepted that the public sector has only weak incentives, if any, for efficient use, but the private sector has a powerful motive for efficiency: profit maximization.

Our model can be modified to consider this policy option. In the lower panel of Figure 2 above, we assume that s_1 must be non-negative, i.e. the government holds its own spectrum, and this creates a maximum in U. If we permit s_1 to be negative, and do not assume that the government is a better manager of public spectrum than the private sector, then household utility (U) rises as s_0 increases across the entire range of s_0 . In other words, all spectrum should be sold to the private sector.

It is perhaps reasonable, then, to inject the proper incentives into the public sector's use of spectrum through private sector management. As observed in the *1991 Spectrum Report*:

We also recognize, however, that despite its advantages, there are real practical issues involved in designing and

^{111. 1991} Spectrum Report, supra note 18. This is different than proposals to have all private sector spectrum returned to the government for shared use. See, e.g., Jeff Kagan, The FCC's Wireless Spectrum Band-Aid, E-COMMERCE TIMES (Oct. 4, 2012), http://www.ecommercetimes.com/story/76312.html. The NTIA proposed a government spectrum "pool" that was managed by a private sector entity, thereby embedding in the management the incentive for efficiency that the government lacks. Id.

implementing a market-based system for spectrum management.... Nevertheless, we believe that the public interest would be better served if spectrum management in the United States made greater use of the "management" approach relied on so successfully throughout our economy to allocate resources and produce those goods and services most valued by consumers—the market system.¹¹²

As our theoretical model shows, and as the NTIA has previously concluded, the discussion of efficient use must not be limited to spectrum *use*, but also to spectrum *management*. If, as the *PCAST Report* concludes, the "[f]ederal system as a whole" does not have the incentives to improve efficiency,¹¹³ then a shift to private sector management of spectrum is the proper direction for the continued spectrum reform effort.

C. Caveats

As with any abstract analysis, the model presented here can be criticized on several fronts. Some of these criticisms—such as complaints over the log linear form of household utility or the inelasticity of labor supply—are unimportant because the basic findings of the model do not depend on these simplifying assumptions. In many respects, the model form applied here is extremely standard and familiar in theoretical economics. However, the key assumption—that the government is a poorer manager of spectrum used to produce private goods than are private producers themselves—deserves careful examination.

Despite its admission that the federal government is an inefficient user and manager of spectrum, one of the signature proposals of the *PCAST Report* patently rejects any further spectrum clearing and auctioning in favor of "sharing" or "leasing" spectrum currently licensed to government users.¹¹⁴ Other proposals call for an expanded role for the government in spectrum management, though typically to a lesser extent than the *PCAST Report*. Such plans are rather difficult to reconcile with the notion that the government is a bad manager of spectrum. In order to rationalize such plans, some cases must exist in which government management. Further, these "special cases" seem to coincide with opportunities for spectrum sharing that are not available to the private sector.

There are two obvious possible explanations for these "special cases." First, it might be believed that placing additional spectrum in private hands will lead to monopoly, or prevent the dissolution of a monopoly. In terms of the model, such fears suggest that λ might be

^{112. 1991} Spectrum Report, supra note 18, § II.A.1.a.

^{113.} See PCAST REPORT, supra note 5, at ix.

^{114.} See id. at 10.

greater than one in some cases. There are several plain defects in this reasoning. First, even if private use results in monopoly, we are faced with a comparison between a private monopoly outcome and an inefficient government outcome. Most studies on the topic conclude that the government is inefficient, whereas there is considerable debate over whether spectrum auctions will lead to monopoly. Private use of spectrum need not be socially perfect to be better than inefficient public use. Further, the government may have better means to promote competitive industry structures, such as the antitrust laws or regulation, so monopoly need not arise.

There are other concerns with using the government's management of spectrum to influence market structure. If, for example, one firm had lower costs than any other, it might take over the entire market. One could prevent this by making this firm's costs higher by limiting its access to an input (e.g., spectrum) to levels far below those required by cost minimization, thus forcing the firm to produce inefficiently. Such a plan would not necessarily improve outcomes, as this scheme merely trades off high prices from monopoly for high prices from inefficient production. Alternately, under spectrum exhaust-that is, where output cannot be increased economically by increasing the amount of capital applied to a fixed amount of spectrum-rationing spectrum via government management would lower prices only if monopoly power were absent. Competition does not increase output or lower prices if output levels are strictly constrained by a scarce input.¹¹⁵ If a monopoly is producing at its production constraint given available inputs, there is no difference between monopoly and any other market form.

The second "special case," implicit in much of the *PCAST Report*'s discussion, is based on the idea that spectrum sharing requires a public authority with managerial power. Private firms are assumed to lack the ability and/or the incentives to implement spectrum management practices that would make socially beneficial sharing possible. The evidence against this proposition is compelling. The private sector today does a great deal of spectrum sharing in the form of secondary-market leases, whereas the government does scarcely any.¹¹⁶ If anything, the evidence suggests it is

^{115.} See, e.g., T. Randolph Beard & David L. Kaserman, Testing for Collusion During Periods of Input Supply Disruptions: The Case of Allocations, 46 ANTITRUST BULL. 213, 219–21 (2000); T. Randolph Beard, George S. Ford, Lawrence J. Spiwak & Michael Stern, Wireless Competition Under Spectrum Exhaust, 65 FED. COMM. L.J. 79, 89 (2013); Luke Froeb, Steven Tschantz & Philip Crooke, Bertrand Competition with Capacity Constraints: Mergers Among Parking Lots, 113 J. OF ECONOMETRICS 49, 66 (2003); Arturs Kalnins, Luke Froeb & Steven Tschantz, Mergers Increase Output When Firms Compete by Managing Revenue (Vanderbilt Univ. Law Sch., Working Paper No. 10-27, 2010), available at http://ssrn.com/abstract=1670278.

^{116.} For example, see the NTIA's recent endorsement of a spectrum sharing deal between the Department of Defense and the broadcast industry in the 2025–2100 MHz band, which will allow the eventual auction of the 1755–1780 MHz band for commercial mobile services. Phil Goldstein, *Pentagon Strikes Deal with Broadcasters, Clearing Way for 1755–1780 MHz Auction,* FIERCE WIRELESS (Nov. 26, 2013), http://www.fiercewireless.

the private sector, not the public sector, which can oversee the widespread sharing of spectrum.¹¹⁷

Finally, there may be cases where a federal agency requires a specific amount of spectrum to perform its duties, but its use of the spectrum is infrequent or irregular. The spectrum may be available for private sector users at certain times or locations, and in such cases, sharing by the government may be a sensible strategy to increase the productivity of spectrum. Yet we see very little sharing of this type, mainly because there is so little incentive for federal users to bother with it. We do not discourage sharing or efforts to create incentives to share, because such spectrum may be unavailable to the private sector under any other arrangement. Nevertheless, even under a sharing paradigm, the government's management of spectrum should be the exception, not the rule.

VI. CONCLUSION

With ever-increasing demands on the nation's spectrum resources by both the public and private sectors, it is imperative that policymakers implement policies that produce the right incentives for the efficient use of spectrum. Perhaps the most important contemporary spectrum policy issue is how to use federal spectrum more efficiently, thereby freeing up spectrum resources for use by the spectrum-constrained commercial sector. Much of the prior work on this topic has focused on the public sector's inefficient use of spectrum, and most studies propose the imposition of market or quasi-market mechanisms on federal users to improve incentives. We summarize the basic economic model of production upon which the existing literature rests, and conclude that while the proposals to improve efficiency may offer some benefits, the "market" approaches may not, in the long-term, do much to enhance efficiency.

We take the question of efficiency in the government's management of spectrum to be a more significant concern than is the government's use of spectrum. Using the inefficiency of government management as a starting point, we consider the implications within a simple, standard general equilibrium model of the economy with both public and private goods. Even when the government is assumed to be wholly rational, benevolent, and efficient—given its constraints—we show that government management of spectrum resources is not desirable beyond some minimum

com/story/pentagon-strikes-deal-broad casters-clearing-way-1755-1780-mhz-auction/2013-11-26.

^{117.} But cf. Werbach & Mehta, supra note 10, at 137 ("Spectrum sharing . . . has significant benefits that have not been fully included in the policy calculus. Especially when considering the importance of spectrum for innovation, new businesses, free expression, and civic benefit, sharing mechanisms deserve at least as much emphasis as spectrum clearing. The burden of proof [for new spectrum allocation] should be on proponents of clearing to show that the benefits of greater exclusivity outweigh those of expanded sharing.").
level: the government should control only however much spectrum it requires to perform its duties. Again, if the government is a bad manager of spectrum, then it should not manage spectrum. Furthermore, any proposals that contemplate leasing government–managed spectrum to private parties for private use *may be presumed* to auction too little spectrum for exclusive licensed use. Also, if the government is not good even at the management of spectrum utilized for public purposes, then the government should divest itself of spectrum through auctions and lease spectrum it needs, in the same manner in which it buys almost everything else it uses. Such a proposal was made over twenty-years ago by the NTIA.

In sum, there is generally nothing about radiofrequency spectrum that makes it so utterly unlike any other good so as to necessitate unique, speculative, and grossly bureaucratic methods of allocation and management. Everyone wishes government were efficient. Realists, though, do not look to government programs to make this happen. The reform of government spectrum should involve a substantial shift of the nation's scarce spectrum resources to the management of the private sector.

Network Neutrality and Broadband Service Providers' First Amendment Right to Free Speech

Meredith Shell^{*}

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I. INTRODUCTION

The emergence and continued pervasiveness of the Internet has sparked a controversy over whether there is a substantial social interest in maintaining open access to that Internet through network neutrality.¹ Put simply, network neutrality is "the principle that broadband networks should not discriminate between favored and disfavored Internet content, services, and applications."² The archetypical example of a non-neutral network is when broadband service providers ("BSPs"), such as Verizon or Comcast, treat one kind of Internet traffic differently from another.³ For example, if Netflix-a website providing on-demand streaming of movies and television shows-forms a partnership with Comcast, Comcast may treat this traffic more favorably, allowing for faster streaming and ultimately a more enjoyable experience for Internet users. Further, if Netflix does not form a partnership with Verizon, Verizon might treat Netflix traffic less favorably, slowing the speed at which these videos stream. This slowing could lead Verizon users who wish to stream on-demand videos but hope to avoid the slow streaming rate on Netflix to select a competing video service-one that has partnered with Verizon and therefore offers faster streaming speeds.

To address concerns about such network discrimination, in December 2010, the Federal Communications Commission ("FCC") issued the Open Internet Order ("Order").⁴ It contains three rules—a "Transparency" Rule, a "No Blocking" Rule, and a "No Unreasonable Discrimination" Rule—that act together to generally prohibit BSPs from prioritizing some Internet content over other content.⁵ In January 2014, the U.S. Court of Appeals for the District of Columbia Circuit vacated the No Blocking and No Unreasonable Discrimination Rules in *Verizon v. Federal Communications Commission*, holding that these rules exceeded the FCC's authority under the Communications Act to regulate providers of "information services."⁶

^{1.} Moran Yemini, *Mandated Network Neutrality and the First Amendment: Lessons from* Turner *and a New Approach*, 13 VA. J. L. & TECH. 1, 3–4 (2008). Network neutrality "may be defined as 'the non-discriminatory interconnectedness among data communication networks that allows users to access the content, and run the services, applications, and devices of their choice." *Id.*

^{2.} *Id.*

^{3.} *See, e.g., id.* at 4 n.15.

^{4.} Preserving the Open Internet, *Report and Order*, FCC 10-201, 25 FCC Rcd. 17905, para. 1 (2010) [hereinafter *Order*]. This Note focuses on the No Blocking and No Unreasonable Discrimination Rules. BSPs affected by the Order immediately took issue with these new rules and brought action to oppose their implementation. *See* Brief for Appellant, Verizon v. FCC, 740 F.3d 623 (D.C. Cir. 2014) (No. 11-1355) [hereinafter *Verizon Brief*]. The D.C. Circuit ultimately ruled in Verizon's favor, striking down the no blocking and nondiscrimination rules. *Verizon*, 740 F.3d at 659.

^{5.} Order, supra note 4, paras. 62, 68, 97.

^{6.} Id.; see Verizon, 740 F.3d at 659.

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Although the court agreed with the FCC that section 706 of the Act⁷ furnishes the agency with considerable authority to regulate BSPs,⁸ the court nevertheless held that the FCC's rules impermissibly treated BSPs as common carriers.⁹ Because the court resolved Verizon's claims on statutory grounds, it had no occasion to address Verizon's arguments that the Order violated the First and Fifth Amendments to the Constitution.¹⁰

Despite the FCC's loss in Verizon-and its earlier loss in Comcast Corp. v. \hat{F} ederal Communications Commission¹¹—in the agency's efforts to require BSPs to abide by network neutrality, the FCC opened a new docket in February 2014 "to consider the court's decision and what actions the Commission should take, consistent with our authority under section 706 and all other available sources of Commission authority."¹² FCC Chairman Tom Wheeler pledged to "propos[e] rules that will meet the court's test for preventing improper blocking of and discrimination among Internet traffic."¹³ If the FCC adheres to the "court's test," the agency will likely promulgate rules that *restrict* the circumstances in which BSPs may block or discriminate against Internet traffic, while also leaving "substantial room for individualized bargaining and discrimination in terms" among BSPs and content providers.¹⁴ Even if the FCC promulgates new network neutrality rules that fall within the agency's statutory authority, however, it remains an open question whether regulation that limits the ability of BSPs to block or discriminate against Internet traffic violates the First Amendment.

This Note addresses this constitutional question, concluding that hypothetical FCC rules that limit BSPs' ability to block or discriminate against Internet traffic—referred to herein as "anti-blocking" and "antidiscrimination" rules—would not violate BSPs' First Amendment rights because BSPs' actions do not constitute speech and, therefore, are not constitutionally protected. Furthermore, even if BSPs' activities are

^{7. 47} U.S.C. § 1302 (2006).

^{8.} *Verizon*, 740 F.3d at 635.

^{9.} *Id.* at 650 (because the FCC's rules still classify BSPs as providers of "information services," BSPs are exempt from treatment as common carriers). Section 706 provides that "[t]he Commission and each State commission with regulartory jurisdiction over *telecommunications services* shall encourage the deployment on a reasonable and timely basis of advanced telecommunications capability to all Americans." 47 U.S.C. § 1302 (2006) (emphasis added).

^{10.} *Verizon*, 740 F.3d at 634.

^{11. 600} F.3d 642, 644 (D.C. Cir. 2010).

^{12.} New Docket Established to Address Open Internet Remand, *Public Notice*, DA 14-211, GN Docket No. 14-28 (rel. Feb. 19, 2014), *available at* http://www.fcc.gov/docu ment/new-docket-established-address-open-internet-remand.

^{13.} Statement by FCC Chairman Tom Wheeler on the FCC's Open Internet Rules (Feb. 19, 2014), *available at* http://www.fcc.gov/document/statement-fcc-chairman-tom-wheeler-fccs-open-internet-rules.

^{14.} Verizon, 740 F.3d at 652 (citing Cellco P'ship v. FCC, 700 F.3d 534, 548 (D.C. Cir. 2012)).

considered speech, this Note argues that, under the intermediate scrutiny test set forth in *United States v. O'Brien*,¹⁵ regulation of this speech is justified to further the legitimate government interest of maintaining an open Internet.

Part II of this Note reviews the background of this contemporary debate, demonstrating how the Order and subsequent *Verizon* lawsuit¹⁶ brought the issue of whether government-mandated open Internet violates BSPs' First Amendment rights to a head. Part III argues that if a BSP were to challenge the constitutionality of future FCC anti-blocking and anti-discrimination rules, the Supreme Court should determine that BSPs do not enjoy First Amendment protection in their Internet transmissions, because they do not constitute protected speech. Part III also contends that even if the Court were to determine that BSPs are protected speakers because they exercise active editorial discretion, a regulation mandating network neutrality would not violate the First Amendment because the government has a substantial interest in maintaining an open Internet. Finally, Part IV outlines how the Court should examine the role that BSPs play and whether they function in the same way that a newspaper editor or cable television operator does in exercising editorial discretion.

II. NETWORK NEUTRALITY AND THE DEBATE OVER BSPS' FIRST AMENDMENT RIGHTS

When the FCC issued the Order, it rekindled a debate over whether the Commission had the authority to impose rules mandating an "open Internet" for broadband Internet consumers.¹⁷ According to the FCC, the Order was "an important step to preserve the Internet as an open platform for innovation, investment, job creation, economic growth, competition, and free expression."¹⁸ The FCC set forth three rules—two of which are directly relevant to this Note's discussion—to preserve Internet openness.¹⁹ First, the Order's No Blocking Rule prevented fixed broadband providers from blocking "lawful content, applications, services, or non-harmful devices" and mobile broadband providers from blocking "lawful websites" or "applications that compete with their voice or video telephony services."²⁰ Second, the No Unreasonable Discrimination Rule prevented

^{15. 391} U.S. 367, 377 (1968).

^{16.} Verizon Brief, supra note 4.

^{17.} See Cecilia Kang, *FCC's Net Neutrality Rules to Trigger Legal, Hill Challenge*, WASH. POST (Sept. 13, 2011, 12:32 PM), http://www.washingtonpost.com/blogs/post-tech/post/fccs-net-neutrality-rules-to-trigger-legal-hill-challenge/2011/09/13/gIQALFzIPK_blog. html (discussing pending legal and statutory challenges to the Open Internet Order).

^{18.} Order, supra note 4, at para. 1.

^{19.} Id.

^{20.} Id. at para. 1(ii).

fixed broadband providers from unreasonably discriminating in the transmission of "lawful network traffic." 21

Although the D.C. Circuit vacated these two rules in *Verizon*, finding that the FCC lacked the statutory authority to promulgate them, this Note addresses a legal question the court has yet to examine: whether requiring BSPs such as Verizon and Comcast to provide open Internet violates the First Amendment.²²

A. The Debate Over the Order

Among its various claims, Verizon argued that the Order abridged BSPs' First Amendment right to free speech.²³ Specifically, Verizon asserted that the Order stripped broadband network owners of "control over the transmission of speech on their networks."²⁴ Other critics of the open Internet regulations argued that although BSPs might not be direct speakers, they still maintain editorial discretion over the content they provide Internet users, just as a newspaper or cable television operator does.²⁵ Because the Supreme Court has extended First Amendment protections beyond direct speakers to include those who exercise editorial discretion through the selective transmission of the original speech of others,²⁶ Verizon contended that the rules infringed upon its right to select the messages transmitted by its network.²⁷

According to Verizon, BSPs engage in speech not only when they create their own content, but also when they transmit the opinions and ideas of millions of individuals over the Internet.²⁸ Citing *Turner Broadcasting System, Inc. v. Federal Communications Commission ("Turner I"*),²⁹ Verizon argued that BSPs enjoy First Amendment protection because the Constitution protects those who transmit the speech of others when they select which speech to transmit and which to exclude.³⁰ Verizon further

28. *Id.* at 43.

^{21.} Id. at para. 1(iii).

^{22.} See Verizon, 740 F.3d at 627; cf. Chloe Albanesius, Verizon: FCC Net Neutrality Rules Violate First Amendment, PC MAG. (July 3, 2012, 3:17 PM), http://www.pcmag.com/article2/0,2817,2406672,00.asp (discussing Verizon's First Amendment challenge to the Open Internet Order).

^{23.} Verizon Brief, supra note 4, at 3.

^{24.} Id.

^{25.} Critics of network neutrality include BSPs as well as certain hardware providers and various commentators. FTC, BROADBAND CONNECTIVITY COMPETITION POLICY 60 (June 2007), *available at* http://www.ftc.gov/reports/broadband/ v070000report.pdf.

^{26.} *See* Turner Broad. Sys., Inc. v. FCC (*Turner I*), 512 U.S. 622, 636 (1994) (holding that radio and cable television broadcasters possess First Amendment protection); Miami Herald Publ'g Co. v. Tornillo, 418 U.S. 241, 258 (1974) (holding that newspaper editors retain First Amendment protection through the exercise of editorial discretion).

^{27.} Verizon Brief, supra note 4, at 42.

^{29. 512} U.S. 622 (1994).

^{30.} See Verizon Brief, supra note 4, at 42–44. See also Turner I, 512 U.S at 636 ("Through 'original programming or by exercising editorial discretion over which stations

argued that BSPs may need the ability to prioritize some Internet traffic over other traffic in order to effectively maintain their service, and that the resulting increased efficiency benefits consumers.³¹ Other opponents of the Order argued that "network operators should be allowed to innovate freely and differentiate their networks as a form of competition that will lead to enhanced service offerings for content and applications providers and other end users."³²

The FCC countered that the Order was a permissible exercise of its authority because, among other things, it did not violate BSPs' First Amendment right to free speech.³³ This, the Commission reasoned, is due to the fact that BSPs do not engage in protected speech.³⁴ The FCC contended that the Order was consistent with the First Amendment because BSPs simply "transport the speech of others, as a messenger delivers documents containing speech."³⁵

Furthermore, the FCC maintained that "unlike cable systems, newspapers, and other curated media, broadband providers do not exercise editorial discretion."³⁶ As the Order explained, "[w]hen the Supreme Court held in *Turner I* that cable operators were protected by the First Amendment, the critical factor that made cable operators 'speakers' was their production of programming and their exercise of 'editorial discretion over which programs and stations to include' (and thus which to exclude)." ³⁷ Unlike these active participants in the transmission of communications, the Commission argued that BSPs are not speakers, but are mere conduits for speech.³⁸

Finally, the FCC concluded that, because the First Amendment is not absolute, the government has the authority to regulate speech in certain circumstances.³⁹ The FCC argued that allowing BSPs to manipulate Internet traffic by permitting blockage and prioritization of content and applications could diminish Internet users' free expression.⁴⁰ Therefore, even if the actions of BSPs constitute speech, the rules satisfy intermediate

or programs to include in its repertoire,' cable programmers and operators 'see[k] to communicate messages on a wide variety of topics and in a wide variety of formats.'" (alteration in original) (quoting City of Los Angeles v. Preferred Comme'ns, Inc., 476 U.S. 488, 494 (1986))).

^{31.} See Verizon Brief, supra note 4, at 43–45, 50.

^{32.} See id. at 44. See also FTC, supra note 25, at 60.

^{33.} See Brief for Appellee at 22, 68–75, Verizon, 740 F.3d 623 (No. 11-1355) [hereinafter FCC Brief].

^{34.} See id.

^{35.} Id. at 22.

^{36.} *Id*.

^{37.} Order, supra note 4, at para. 140.

^{38.} *FCC Brief, supra* note 33, at 69 ("The Commission correctly determined that broadband providers are not 'speakers' at all, but only 'conduits for speech' of others").

^{39.} *Id.* at 73–74.

^{40.} Order, supra note 4, at para. 146.

scrutiny because the government has a legitimate interest in preserving open access to the Internet.⁴¹ Leaving aside the question of the FCC's statutory authority post-*Verizon*, two questions must be answered in order to determine whether the FCC would violate the First Amendment should it promulgate rules similar to the No Blocking and No Unreasonable Discrimination Rules: First, do BSPs enjoy First Amendment protections insofar as they transmit the speech of others? Second, if so, does the FCC have a legitimate government interest in regulating BSPs' speech?

B. First Amendment Protections for Speech Transmitters

According to the First Amendment, "Congress shall make no law... abridging the freedom of speech."⁴² "Speech" is not limited to spoken or written words, however. The Supreme Court has interpreted the First Amendment broadly to include an individual's right not to speak⁴³ and the right to engage in symbolic speech,⁴⁴ among other things. Furthermore, the Court has declined to extend First Amendment protection to several categories of speech, including that which is libelous or obscene.⁴⁵

The emergence of mass communication and the creation of media such as newspaper, radio, cable television, and the Internet have opened the definition of speech to further interpretation beyond original content to include the transmissions of third-party original speech.⁴⁶ Accordingly, the Supreme Court has had to consider how the First Amendment protects these transmitters of original content.⁴⁷

^{41.} *Id.*

^{42.} U.S. CONST. amend. I.

^{43.} *See* W. Va. Bd. of Educ. v. Barnette, 319 U.S. 624, 642 (1943) ("We think the action of the local authorities in compelling the flag salute and pledge transcends constitutional limitations on their power and invades the sphere of intellect and spirit which it is the purpose of the First Amendment to our Constitution to reserve from all official control.").

^{44.} Texas v. Johnson, 491 U.S. 397, 414–15 (1989) ("If there is a bedrock principle underlying the First Amendment, it is that the government may not prohibit the expression of an idea simply because society finds the idea itself offensive or disagreeable.... In short, nothing in our precedents suggests that a State may foster its own view of the flag by prohibiting expressive conduct relating to it.").

^{45.} *See* Chaplinsky v. New Hampshire, 315 U.S. 568, 571–72 (1941) ("There are certain well-defined and narrowly limited classes of speech, the prevention and punishment of which have never been thought to raise any Constitutional problem. These include the lewd and obscene, the profane, the libelous, and the insulting or 'fighting' words" (footnote omitted)).

^{46.} *See Turner I*, 512 U.S. at 636 (asserting that cable television broadcasters possess some First Amendment protection); *Miami Herald*, 418 U.S. at 258 (holding that newspaper editors retain First Amendment protection through the exercise of editorial discretion).

^{47.} Turner I, 512 U.S. at 626, 636; Miami Herald, 418 U.S. at 241, 258.

 Free Speech Rights for Newspaper Editors, Radio Broadcasters, and Cable Television Operators

The evolution of technology and communications has expanded the definition of "speech" to include First Amendment protections for the transmitters of third-party original speech content through their exercise of editorial discretion. For example, as the Court notably held in Turner I, "cable programmers and cable operators engage in and transmit speech" by exercising "editorial discretion" over what programming content to include or exclude on their limited spectrum. 48¹ Therefore, entities engage in protected speech not only when they create original programming, but also when they actively exercise editorial discretion to determine the expressions to which the users of the medium are exposed.⁴⁹ Because BSPs do not create original programming when they transmit the original speech of other Internet users, the relevant inquiry becomes whether BSPs use editorial discretion when they transmit third-party original speech.⁵⁰ Although the Supreme Court has not specifically determined whether BSPs exercise editorial discretion in their transmission of content, it has addressed this issue in the context of other media. The Court has suggested that a medium's scarcity is crucial in determining the amount of editorial discretion the transmitter of third-party original content exercises.⁵¹ Newspapers, for instance, are very limited when considering the amount of space an editor has available to fill.⁵² Small town newspapers can be as short as fifteen pages, while larger national newspapers can be fifty pages or more. An editor therefore must carefully choose which articles, pictures, and advertisements to include and which to exclude given the limited free space available.⁵³

For example, in *Miami Herald Publishing Co. v. Tornillo*, ⁵⁴ the Supreme Court invalidated a Florida state law requiring newspapers to allot equal space to political candidates for editorials or endorsement. ⁵⁵ The Court held that the statute failed "to clear the barriers of the First Amendment because of its intrusion into the function of editors."⁵⁶ In

- 54. 418 U.S. 241 (1974).
- 55. Id. at 258.
- 56. Id.

^{48.} Turner I, 512 U.S. at 636.

^{49.} *Id*.

^{50.} That is not to say, however, that BSPs are incapable of creating their own original content. For example, Comcast creates original content when it publishes and provides information on its own website. Accordingly, BSPs are entitled to First Amendment protection in the same way as other website creators. However, this type of speech is not relevant to the rules set out in the Order and is thus beyond the scope of this discussion.

^{51.} See Miami Herald, 418 U.S. at 256–58.

^{52.} See id.

^{53.} See id.

analyzing how newspaper editors engaged in speech activity, the Court considered factors such as the editor's choice regarding what material should be included and how the newspaper was limited in terms of the paper's size. ⁵⁷ These factors, the Court reasoned, indicate that a "newspaper is more than a passive receptacle or conduit for news, comment, and advertising."⁵⁸ Accordingly, newspaper editors retain a high level of First Amendment protection based on their active engagement in editorial discretion.⁵⁹

Moving beyond newspapers, the Supreme Court has also acknowledged that radio and television broadcasters exercise a measure of editorial discretion as well, though the meaning and scope of that discretion differs from that afforded to editors of print.⁶⁰ For example, as the Court acknowledged in Turner I, there are unique physical limitations with the radio broadcast medium because "there are more would-be broadcasters than frequencies available in the electromagnetic spectrum."⁶¹ This is particularly problematic when two original content speakers attempt to use the same frequencies at the same time.⁶² Although advances in technology have expanded the supply of useful spectrum, the demand for spectrum has also grown to encompass both human communication, such as cell phone use, and automated communications, such as weather radar and aircraft controls.⁶³ The Court acknowledged these physical limitations in Turner I, explaining that the distinct approach it has taken to broadcasting is due to the technical limitations of the broadcast medium.⁶⁴

^{57.} *Id.* at 256–58 ("The choice of material to go into a newspaper and the decisions made as to limitations on the size and content of the paper . . . constitute the exercise of editorial control and judgment.").

^{58.} Id.

^{59.} *See id.*; *Turner I*, 512 U.S. at 653 (*"Tornillo* affirmed an essential proposition: the First Amendment protects the editorial independence of the press.").

^{60.} Although radio licensees and cable television operators also receive some First Amendment protection based on their active editorial discretion, the Supreme Court has held that this protection does not amount to the same amount of protection afforded to newspapers editors. *See generally Turner I*, 512 U.S. 622; Michael I. Meyerson, *Authors, Editors, and Uncommon Carriers: Identifying the 'Speaker' Within the New Media*, 71 NOTRE DAME L. REV. 79, 90–91 (1995).

^{61.} Turner I, 512 U.S. at 637.

^{62.} See *id.* ("And if two broadcasters were to attempt to transmit over the same frequency in the same locale, they would interfere with one another's signals, so that neither could be heard at all.").

^{63.} See Red Lion Broad. Co., Inc. v. FCC, 395 U.S. 367, 396–97 (1969) ("Advances in technology, such as microwave transmission, have led to more efficient utilization of the frequency spectrum, but uses for that spectrum have also grown apace. Portions of the spectrum must be reserved for vital uses unconnected with human communication, such as radio-navigational aids used by aircraft and vessels.").

^{64.} *Turner I*, 512 U.S. at 637 ("The justification for our distinct approach to broadcast regulation rest upon the unique physical limitations of the broadcast medium."). *See also* FCC v. League of Women Voters of Cal., 468 U.S. 364, 377 (1984); *Red Lion*, 395 U.S. at 394–95; NBC v. United States, 319 U.S. 190, 226 (1943).

Cable television is plagued with fewer constraints than the print and broadcast mediums, and there is no "danger of physical interference between two cable speakers attempting to share the same channel."⁶⁵ However, cable television is still limited in the amount of content it can convey, with only so many channels available for scheduled programming each hour.⁶⁶ This limitation is not as great as with print or broadcast media, and as the cases discussed above indicate, transmitters of third-party speech exercise less discretion over determining what content to provide as the size of the medium increases.⁶⁷

Additionally, the Supreme Court has held that the First Amendment does not protect cable operators from a rule known as "must-carry"⁶⁸ that compels cable operators to distribute to their subscribers certain broadcast television networks.⁶⁹ In upholding must-carry, the Court departed from its traditional approach to the First Amendment, which strictly limits the circumstances in which government may force people to speak or communicate expressive messages against their wishes.⁷⁰ In *West Virginia Board of Education v. Barnette*, for instance, the Supreme Court held that the government abridged public school students' First Amendment rights by forcing them to salute the American flag and recite the Pledge of Allegiance.⁷¹ The Court explained that sustaining a compulsory flag salute would necessitate the absurd conclusion that the framers of the "Bill of Rights[,] which guards the individual's right to speak his own mind, left it open to public authorities to compel him to utter what is not in his mind."⁷²

Government-compelled speech is anathema to the print medium.⁷³ However, as the Court held in *Turner I*, the same hazards are not necessarily present when compelling cable providers to adhere to the must-

70. Barnette, 319 U.S. at 642.

^{65.} Turner I, 512 U.S. at 639.

^{66.} *Id.* at 644.

^{67.} See generally Miami Herald, 418 U.S. at 241–42 (1974); Turner I, 512 U.S. 622. Importanyl, however, although broadcasters need to exercise editorial discretion over the programming they air, the Court has still upheld regulation of broadcast speech because only a limited number of licensees are able to communicate over the airwaves at any given time. See Red Lion, 395 U.S. at 390 ("Because of the scarcity of radio frequencies, the Government is permitted to put restraints on licensees in favor of others whose views should be expressed on this unique medium.").

^{68. 47} U.S.C. § 534 (2006).

^{69.} See Turner Broad. Sys., Inc. v. FCC (Turner II), 520 U.S. 180 (1997).

^{71.} *Id*.

^{72.} *Id.* at 634.

^{73.} *Miami Herald*, 418 U.S. at 258 n.24 ("[L]iberty of the press is in peril as soon as the government tries to compel what is to go into a newspaper. A journal does not merely print observed facts the way a cow is photographed through a plate-glass window. As soon as the facts are set in their context, you have interpretation and you have selection, and editorial selection opens the way to editorial suppression. Then how can the state force abstention from discrimination in the news without dictating selection?"" (alteration in original) (quoting 2 Z. CHAFEE, GOVERNMENT AND MASS COMMUNICATIONS 633 (1947))).

carry rule.⁷⁴ In a subsequent case also involving Turner Broadcasting, the Court reaffirmed its holding in *Turner I*, explaining that must carry serves several important government interests.⁷⁵ These interests include "preserving the benefits of free, over-the-air local broadcast television," the promotion of the widespread dissemination of information, and the promotion of fair competition among television programmers.⁷⁶ The Supreme Court has yet to determine the extent to which BSPs exercise editorial discretion in transmitting content to Internet users.

On the other hand, an entity that *could* exercise editorial discretion but generally declines to do so does not necessarily lose its First Amendment rights. For example, as the Supreme Court found in *Hurley v. Irish-American Gay, Lesbian and Bisexual Group of Boston*, private speakers such as parade organizers do not forfeit their right to free speech "simply by combining multifarious voices."⁷⁷ However, because parade organizers have a far greater expressive interest in their selection of marchers than BSPs do in their selection of Internet traffic, a court would likely find a comparison between the two activities to be unavailing.

2. The First Amendment Is Not Absolute: Justifying Free Speech Restrictions

The First Amendment is not absolute.⁷⁸ In some cases, the government may justifiably abridge speech to further a legitimate government interest.⁷⁹ However, the validity of such an abridgement depends in large part on the type of speech that is being abridged, which in

^{74.} Nat Stern, *The Subordinate Status of Negative Speech Rights*, 59 BUFF. L. REV. 847, 868 (2011) ("Involuntary transmission of broadcast programming would not 'force cable operators to alter their own messages' in response." (quoting *Turner I*, 512 U.S. at 655)).

^{75.} *Id.* at 180–81.

^{76.} *Id*.

^{77.} Hurley v. Irish-Am. Gay, Lesbian & Bisexual Grp. of Bos., 515 U.S. 557, 570 (1995); see also id. at 576–77 ("Parades and demonstrations, in contrast [to the cable context], are not understood to be so neutrally presented or selectivelly viewed. Unlike the programming offered on various channels by a cable network, the parade does not consist of indivudal, unrelated segments that happen to be transmitted together for individual selection by members of the audience. Although each parade unit generally identifies itself, each is understood to contribute something to a common theme . . . the parade's overall message is distilled form the indicidual presentations along the way, and eachunit's expression is perceived by spectators as part of the whole."). The same is not true for BSP transmitted content.

^{78.} *See Chaplinsky*, 315 U.S. at 571 ("Allowing the broadest scope to the language and purpose of the Fourteenth Amendment, it is well understood that the right of free speech is not absolute at all times and under all circumstances.").

^{79.} United States v. O'Brien, 391 U.S. 367, 377 (1968).

turn depends on whether a particular regulation of speech is "content-based" or "content-neutral." $^{\ast 80}$

A speech regulation is content-based if treats speech differently depending on the message or meaning conveyed by the speaker, while speech regulation is content-neutral if its application is irrespective of the speaker's message or the nature of the speech.⁸¹ There are very few circumstances where the government can enforce a speech restriction based on its content.⁸² While no single factor determines if a restriction is content-based, one aspect to consider is "whether the government has adopted a regulation of speech because of disagreement with the message it conveys."⁸³ If it does, the regulation is likely content-based.⁸⁴ The right to free speech is nullified if the government can regulate the content of that speech. Because content-based restrictions severely abridge this fundamental right to free speech, courts subject them to strict scrutiny.⁸⁵ In order to pass the strict scrutiny test, the restriction or prohibition of speech must be justified by a compelling governmental interest, be narrowly tailored, and be the least restrictive means available for achieving that interest.86

In contrast, content-neutral restrictions on protected speech can impose reasonable time,⁸⁷ place,⁸⁸ and manner restrictions on speech.⁸⁹ Such restrictions are generally only acceptable because their all-inclusive

81. See id.

^{80.} R. George Wright, *Content-Based and Content-Neutral Regulation of Speech: The Limitations of a Common Distinction*, 60 U. MIAMI L. REV. 333, 333 (2006).

^{82.} In upholding one content-based restriction on speech, the Supreme Court stated that the government may regulate speech that is libelous or obscene based on the actual content of that speech. *See Chaplinsky*, 315 U.S. at 571–72.

^{83.} Ward v. Rock Against Racism, 481 U.S. 781, 791 (1989).

^{84.} Id.

^{85.} *Turner I*, 512 U.S. at 641–42 (1994) (finding that the First Amendment "does not countenance governmental control over the content of messages expressed by private individuals. Our precedents thus apply the most exacting scrutiny to regulations that suppress, disadvantage, or impose differential burdens upon speech because of its content." (citation omitted)).

^{86.} *See* United States v. Playboy Entm't Grp., Inc., 529 U.S. 803, 813 (2000). Further, under strict scrutiny if a "less restrictive alternative would serve the Government's purpose, the legislature must use that alternative." *Id.*

^{87.} Time restrictions regulate the time of day at which speech can be made. *See, e.g.,* Cox v. Louisiana, 379 U.S. 536, 554–55 (1965) (stating that a person cannot "insist upon a street meeting in the middle of Times Square at the rush hour as a form of freedom of speech or assembly. Governmental authorities have the duty and responsibility to keep their streets open and available for movement.").

^{88.} Place restrictions regulate where speech can occur. *See id.* at 555 (stating that demonstrators may not block or deny access to public or private building entrances).

^{89.} Manner restrictions regulate the way in which the speech can occur. *See* Clark v. Cmty for Creative Non-Violence, 468 U.S. 288, 297 (1984) (holding that the Government has a legitimate interest in protecting the National Parks, and thus can enforce a reasonable regulation of the manner in which a demonstration in the park is carried out).

nature prevents them from being unduly burdensome.⁹⁰ Because contentneutral regulations restrict a person's First Amendment right in a nondiscriminatory manner, they are subject to a lesser, intermediate level of scrutiny.⁹¹ The Supreme Court has noted that content-neutral restrictions are valid provided "they are narrowly tailored to serve a significant governmental interest, and that they leave open ample alternative channels for communication of information."⁹²

Finally, content-neutral, protected speech may be incidentally regulated by generally applicable restraints that primarily target conduct, not speech. For example, in *United States v. O'Brien*, the Supreme Court held that a person's First Amendment right to free speech did not extend to the burning of a draft card because the act of burning the draft card was, in itself and excluding any personal expression, illegal.⁹³ The governmental restraint was justified because it prevented O'Brien from engaging in illegal conduct—burning the draft card—even though O'Brien did so for the purpose of conveying an anti-war message.⁹⁴ According to the intermediate scrutiny test set out in *O'Brien*, the Supreme Court will uphold a regulation that incidentally affects speech if it "furthers an important or substantial governmental interest; if the governmental interest is unrelated to the suppression of free expression; and if the incidental restriction on alleged First Amendment freedoms is no greater than is essential to the furtherance of that interest."⁹⁵

III. ANTI-BLOCKING AND ANTI-DISCRIMINATION RULES WOULD SURVIVE FIRST AMENDMENT SCRUTINY

Although the D.C. Circuit held in *Verizon* that the FCC lacks the authority to impose open Internet rules on providers of information services, the debate discussed in Part II of this Note demonstrates the importance of whether BSPs are speakers and whether their transmissions are considered speech. Just as the Supreme Court has clarified the First Amendment rights of the operators of traditional media—radio, cable-television and newspapers—the Court should also clarify the scope of First Amendment rights for the operators of the Internet.

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^{90.} See Turner I, 512 U.S. at 676 ("Laws that treat all speakers equally are relatively poor tools for controlling public debate, and their very generality creates a substantial political check that prevents them from being unduly burdensome.").

^{91.} See O'Brien, 391 U.S. at 376–77 (1968); see also Clark, 468 U.S. at 312–13 (Marshall, J., dissenting).

^{92.} *Clark*, 468 U.S. at 293.

^{93.} O'Brien, 391 U.S. at 377.

^{94.} *Id.* at 370 ("The indictment upon which he was tried charged that he 'willfully and knowingly did mutilate, destroy, and change by burning [his] Registration Certificate . . . in violation of Section 462(b)[,]' part of the Universal Military Training and Service Act of 1948.").

^{95.} Id. at 377.

This section assesses the constitutionality of anti-blocking and antidiscrimination rules, concluding that only limited First Amendment protections are available to BSPs. Due to the expansive size of the Internet and the function of BSPs in relation to Internet users, BSPs do not engage in active editorial discretion over the content they provide to Internet users. Accordingly, BSPs' transmission of Internet content should not be protected speech. However, even if BSPs do engage in active editorial discretion, the imposed rules promulgated in the Order further a legitimate government interest. Because the First Amendment right to free speech is not absolute, these government interests justify the minor abridgment of a BSP's First Amendment free speech rights under anti-blocking and antidiscrimination.

In order to hold that anti-blocking and anti-discrimination rules infringe upon BSPs' right to free speech, a court must determine that (1) BSPs' transmission of Internet content is protected speech⁹⁶ and (2) an imposed regulation mandating no blocking and nondiscrimination does not further a legitimate government interest.⁹⁷ Accordingly, for a court to vacate future FCC anti-blocking and anti-discrimination rules on First Amendment grounds, the court would need to find that the rules (1) infringe on protected speech activity and (2) that the Commission's reasoning for imposing these rules is not a legitimate government interest.

A. BSPs' Transmission of Internet Content Does Not Constitute Protected Speech

Anti-blocking and anti-discrimination rules would not violate the First Amendment because BSPs do not exercise editorial discretion over the transmission of others' speech in the same way that a cable television provider does in selecting which networks to transmit to its video subscribers.⁹⁸ As the Court held in *Turner I*, protected acts of speech include not only the creation of original programming, but also when they actively engage in editorial discretion.⁹⁹ The No Blocking and No Unreasonable Discrimination Rules, for example, did not regulate instances in which BSPs create their own original content, but instead restricted how

^{96.} If the transmission of third-party original speech content is not considered *protected* speech, then the benefits of the First Amendment will not apply and the inquiry must end here.

^{97.} O'Brien, 391 U.S. at 377

^{98.} See Order, supra note 4, at para. 141 ("The broadband Internet access service at issue here does not involve an exercise of editorial discretion that is comparable to cable companies' choice of which stations or programs to include in their service. In this proceeding broadband providers have not, for instance, shown that they market their services as benefitting from an editorial presence. To the contrary, Internet end users expect that they can obtain access to all or substantially all content that is available on the Internet, without the editorial intervention of their broadband provider.").

^{99.} Turner I, 512 U.S. at 636.

BSPs may transmit the speech of third-party Internet end users.¹⁰⁰ Because anti-blocking and anti-discrimination rules would not be concerned with BSP-created content, they can only violate the First Amendment right of BSPs if BSPs actively engage in editorial discretion when transmitting the original speech content of third-party Internet users.¹⁰¹

In determining whether a content provider engages in active editorial discretion, the Supreme Court has held that it is important to consider the time and space limitations of the medium.¹⁰² Additionally, the Court has suggested that the content provider's transmission must involve some identifiable message.¹⁰³ This section considers each of these facets in turn.

1. The Physical Qualities of the Internet Eliminate the Need for an "Editor"

Anti-blocking and anti-discrimination rules would not violate BSPs' right to free speech because the Internet is an unrestrained medium of communication that does not suffer the same technological limitations as newspapers, radios, and cable television. This eliminates the need for an editor to strategically pick which content to transmit. As the Supreme Court explained in *Reno v. American Civil Liberties Union*,¹⁰⁴ "the Internet can hardly be considered a 'scarce' expressive commodity. It provides relatively unlimited, low-cost capacity for communication of all kinds."¹⁰⁵ Specifically, the physical qualities of the Internet—including the virtually unlimited availability of space and time of access—eliminate the need for a gatekeeper to determine what content is worthy of filling the available space. ¹⁰⁶ Given the absence of these limitations, the Internet is therefore inherently different from the other media that the Supreme Court has already specifically granted First Amendment protections.

As discussed in Part II above, the Supreme Court has found that the editorial discretion inherent in a medium is linked in part to its physical scarcity.¹⁰⁷ Unlike newspapers, radios, or cable television, the Internet is infinitely expandable.¹⁰⁸ As such, BSPs need not perform any editorial role

106. See id. at 850–51.

^{100.} See Order, supra note 4, at para. 1.

^{101.} See Turner I, 512 U.S. at 636.

^{102.} See Miami Herald, 418 U.S. at 258.

^{103.} See Turner I, 512 U.S. at 636 (citing Preferred Commc'ns, 476 U.S. at 494).

^{104.} Reno v. ACLU, 521 U.S. 844, 870 (1997).

^{105.} *Id.* Furthermore, the Internet is expansive in terms of the available content. *See id.* ("This dynamic, multifaceted category of communication includes not only traditional print and news services, but also audio, video, and still images, as well as interactive, real-time dialogue.").

^{107.} See discussion supra Part II.B.1; Miami Herald, 418 U.S. at 256–58; but see Red Lion, 395 U.S. at 390 ("Because of the scarcity of radio frequencies, the Government is permitted to put restraints on licensees in favor of others whose views should be expressed on this unique medium.").

^{108.} Reno, 521 U.S. at 870.

when serving content to their end users, nor are they forced to block content or impede Internet traffic out of necessity driven by the medium's scarcity. Although a particular website may be able to offer only so much content, the Internet is virtually unlimited in this capacity; thus, there is no use for an editor to act as a gatekeeper by selecting what to include and what to exclude.

Furthermore, unlike periodical media like newspapers and television programs, the Internet connects publishers and audiences instantaneously at any time.¹⁰⁹ Barring technological difficulties, this medium is available twenty-four hours a day, seven days a week. Accordingly, because the Internet is not subject to the same time and space constraints as other media, there is no need for a BSP to make space- and time-sensitive decisions about what content to provide the public.¹¹⁰

In sum, BSPs do not perform an analogous function to the other media to which the Supreme Court has already afforded First Amendment protection because of their use of editorial discretion. As discussed above, the physical qualities of print, radio, and cable television media require the respective speech providers to actively engage in editorial discretion.¹¹¹ Given the limited space available in these media, newspaper editors, radio frequency licensees, and cable television providers must, to varying degrees, make determinations as to which content to include and which content to exclude.¹¹² The Internet's characteristics eliminate the need for an editor to pick and choose which content to transmit, which weighs against a finding that BSPs engage in active editorial discretion.

 BSPs Do Not Engage in Active Editorial Discretion, but Instead Merely Act as Conduits of Speech Because Their Transmission of Third-Party Original Content Does Not Involve Any Identifiable Message

Anti-blocking and anti-discrimination rules would not violate BSPs' right to free speech because BSPs do not actively exercise editorial discretion over the content that is transmitted through their customers' Internet connections. As this subsection discusses, BSPs play a passive role in providing content to end users. As such, a BSP's role is much different from the way in which newspaper editors, radio broadcasters, and cable companies actively curate content for their end users. To understand the function BSPs perform, consider the following analogy:

^{109.} See id.

^{110.} *Compare Miami Herald*, 418 U.S. at 258, *with Reno*, 521 U.S. at 870 (newspapers are limited in size, but the Internet is not).

^{111.} See discussion supra Part II.B.1.

^{112.} Id.

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Imagine that FedEx decided to speed up the delivery of documents addressed to companies with which it had a financial relationship; that is, FedEx would give preferential treatment in its delivery schedule to documents sent to companies that paid it for the privilege FedEx would be moving First Amendment-protected materials—documents—from one user to another, but it is hard to see how transporting documents turns a company into a speaker for First Amendment purposes.¹¹³

Some proponents of network neutrality regulation maintain that "in the absence of an identifiable message or editorial policy informed by usage restrictions, it is hard to see how imposing network restrictions would be seen as protected speech under the First Amendment."¹¹⁴ When BSPs prioritize Internet traffic for their own commercial gain, this action does not necessarily promote a message.

Because of the varied and considerable amount of content on the Internet, and because BSPs remain mere passive conduits for speech, they do not deserve the same free speech protections that the Supreme Court has afforded to other speech providers. Accordingly, anti-blocking and antidiscrimination rules would not violate the First Amendment.

B. Even if BSPs' Transmissions Are Speech, Network Neutrality Rules Do Not Violate the First Amendment Because They Serve a Substantial Government Interest

Even if a court were to determine that BSPs engage in active editorial discretion when they prioritize or block certain Internet traffic, antiblocking and anti-discrimination rules still would not violate the First Amendment because the government has a substantial interest in maintaining open access to the Internet. As discussed in Part II.B.2, the First Amendment right to free speech is not absolute, and is sometimes subject to government regulation.¹¹⁵ The first step to analyzing whether government intervention is appropriate is to determine what the government is actually attempting to regulate—that is, whether the regulation is content-based or content-neutral.¹¹⁶ This inquiry will

^{113.} Stuart Minor Benjamin, *Transmitting, Editing, and Communicating: Determining What "The Freedom of Speech" Encompasses*, 60 DUKE L. J. 1673, 1685 (2011).

^{114.} *Ex Parte* Submission in CS Docket No. 02-52 from Tim Wu, Assoc. Professor, Univ. of Va. Law School, and Lawrence Lessig, Professor of Law, Stanford Law School, to Marlene H. Dortch, Secretary, FCC (Aug. 22, 2003), *available at* http://apps.fcc.gov/ecfs/ document/view?id=6514683885; *see also* Yemini, *supra* note 1, at 21.

^{115.} See discussion supra pages 12–14.

^{116.} See generally Wright, supra note 80.

determine whether courts apply strict scrutiny or intermediate scrutiny to the regulation.¹¹⁷

In the Order, for instance, the FCC did not seek to regulate the content of the message that the BSPs were providing, but instead intended only to regulate the way in which they transmitted third-party original content.¹¹⁸ Because the strict scrutiny test applies only to those restrictions that are content-based,¹¹⁹ the rules set forth in the Order are subject to the lesser, intermediate scrutiny test set forth in *O'Brien*.

According to the Supreme Court in *O'Brien*, "[a] government regulation is sufficiently justified if it is [1] within the constitutional power of the Government; [2] if it furthers an important or substantial governmental interest; [3] if the governmental interest is unrelated to the suppression of free expression; and [4] if the incidental restriction on alleged First Amendment freedoms is no greater than is essential to the furtherance of that interest."¹²⁰

1. The FCC Has the Statutory Authority to Impose No Blocking and Nondiscrimination Rules on BSPs

To meet the first prong of the *O'Brien* intermediate scrutiny test, the FCC must have the requisite authority to issue the rules preserving a free and open Internet. The D.C. Circuit cast some doubt on this authority in *Verizon v. Federal Communications Commission*,¹²¹ holding that the FCC could not regulate BSPs as common carriers because it had previously classified them as providers of information services rather than telecommunications service.¹²² The Order's rules effectively subjected BSPs to common carriage regulation, yet the Communications Act expressly renounces the FCC's authority to treat information services as common carriers.¹²³ Nevertheless, despite the classification problems with the Order's No Blocking and No Unreasonable Discrimination Rules, the *Verizon* decision acknowledged that section 706 of the Communications

120. O'Brien, 391 U.S. at 377.

123. Id. at 650.

^{117.} See Turner I, 512 U.S. at 641–42.

^{118.} See Order, supra note 4, at para. 1.

^{119.} Glendale Assocs., Ltd. v. NLRB, 347 F.3d 1145, 1155 (9th Cir. 2003) ("Contentbased regulations receive strict scrutiny because 'content-based restrictions are especially likely to be improper attempts to value some forms of speech over others, or are particularly susceptible to being used by the government to distort public debate." (quoting City of Ladue v. Gilleo, 512 U.S. 43, 60 (1994) (O'Connor, J., concurring))).

^{121.} The court did not address the issue of whether the *Order* violates BSPs' First Amendment rights. *Verizon*, 740 F.3d at 634 ("Given our disposition of the latter issue, we have no need to address Verizon's additional contentions that the *Order* violates the First Amendment.").

^{122.} *Id.* at 630–32, 655–59.

Act is a substantive grant of authority empowering the Commission to broadly regulate BSPs.¹²⁴ Although *Verizon* held that the FCC cannot proscribe *all* forms of network discrimination and blocking by BSPs, the court preserved the FCC's "authority to promote broadband deployment by regulating how broadband providers treat edge providers...."¹²⁵ To examine the First Amendment implications of network neutrality regulation, therefore, this Note assumes that the FCC has jurisdiction to promulgate anti-blocking and anti-discrimination rules similar to those presented in the Order, under either section 706 or Title II of the Act.

According to section 706, "[t]he Commission . . . shall encourage the on deployment а reasonable and timely basis of advanced telecommunications capability to all Americans...by utilizing, in a manner consistent with the public interest, convenience, and necessity, price cap regulation, regulatory forbearance, measures that promote competition in the local telecommunications market, or other regulating methods that remove barriers to infrastructure investment."¹²⁶ As the Verizon court held, this language affords the Commission relatively broad regulatory authority over BSPs, subjecting it only to two limitations: First, section 706 must be read in conjunction with all other provisions found in the Telecommunications Act.¹²⁷ Second, FCC regulations under section 706 must be designed to "encourage the deployment on a reasonable and advanced telecommunications capability timely basis of to all Americans "128

Accordingly, if the FCC were to issue new anti-blocking and antidiscrimination rules, a court would find that these regulations were promulgated to encourage reasonable and timely telecommunications capability to all Americans. In aiming to prevent BSPs from blocking or slowing certain types of Internet traffic, anti-blocking and antidiscrimination rules would meet the second prong of section 706 by providing an "open Internet" for all Americans. As such, these rules would satisfy the first requirement of the *O'Brien* test. Alternatively, the FCC could reclassify BSPs as "telecommunications services"—which are common carriers—under Title II of the Communications Act.¹²⁹ If BSPs were so reclassified, pursuant to FCC's rulemaking procedure, the court's rationale for vacating much of the Order in *Verizon* would no longer apply, so a court would almost certainly find that anti-blocking and antidiscrimination rules fell well within the Commission's statutory authority.

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^{124.} Id. at 640.

^{125.} *Id.* at 649.

^{126. 47} U.S.C. § 1302(a) (2006).

^{127.} *Verizon*, 740 F.3d at 640 ("Any regulatory action authorized by Section 706 would thus have to fall within the Commission's subject matter jurisdiction over such communications.").

^{128.} *Id.; see also* 47 U.S.C. § 1302(a) (2006).

^{129. 47} U.S.C. §§ 201–231 (2006).

2. Anti-Blocking and Anti-Discrimination Rules Further Important Government Interests

Anti-blocking and anti-discrimination rules would meet the second prong of the *O'Brien* intermediate scrutiny test because the government has several important and substantial interests in preserving an open Internet. Here, the terms "substantial" and "important" require that the government's interests have some genuine weight and authenticity, but these interests need not rise to the level of "compelling" that the strict scrutiny standard requires.¹³⁰ Although the intermediate scrutiny test only requires one important government interest, ¹³¹ the FCC's Order articulated several substantial interests as justification for restricting BSPs' speech. This rationale is not unique to the specific Rules in the Order; they also apply to other, similar regulations that limit the ability of BSPs to block and discriminate against Internet traffic.

First, as the FCC argued in its appellate brief in Verizon, the government has a profound interest in maintaining an infrastructure for investment and competition, which ultimately has numerous benefits for the public.¹³² Specifically, the preservation of an open Internet provides a "platform for innovation, investment, job creation, [and] economic growth."¹³³ By preventing BSPs from blocking content or prioritizing certain types of Internet traffic, the rules promulgated in the Order seek to "protect competition both among edge providers and between edge providers and access providers."¹³⁴ Similar to the Court's holding in *Turner I*, by requiring BSPs to "carry" lawful content and reasonable traffic, the Order explained that its rules would have promoted fair competition to the benefit of BSPs and Internet users alike.¹³⁵ Additionally, the Commission asserted that it has an important interest in preserving an open Internet in order to protect the freedom of expression that all Internet users possess.¹³⁶ The Internet is a dynamic medium in which a multitude of people of all different viewpoints are able to exercise their right to free speech by contributing to the available content of this medium. As the Court emphasized in Turner I, "the First Amendment's command that government not impede the freedom of speech does not disable the government from taking steps to ensure that private interests not restrict

^{130. 1} Rodney A. Smolla, Smolla and Nimmer on Freedom of Speech \S 9:10 (2013).

^{131.} O'Brien, 391 U.S. at 376.

^{132.} *FCC Brief, supra* note 33, at 73–74 ("Openness drives infrastructure investment, which fulfills numerous policies that benefit the public.").

^{133.} Order, supra note 4, at para. 1.

^{134.} FCC Brief, supra note 33, at 74.

^{135.} See Turner I, 512 U.S. at 662.

^{136.} Order, supra note 4, at para. 1.

through physical control of a critical pathway of communication, the free flow of information and ideas."¹³⁷

If BSPs were able to block content or discriminate against some Internet traffic, Internet users would suffer burdens that an open Internet would avert. For example, as discussed earlier, suppose that an individual who subscribes to Verizon wishes to stream a movie on Netflix. If Verizon, which hypothetically has not partnered with Netflix, decides to discriminate against traffic associated with Netflix, the Internet consumer will have one of two options: she can either accept the slower streaming speeds through her Verizon service or subscribe to an additional BSP that has partnered with the site. This restriction of the pathway of communication for this hypothetical Internet consumer demonstrates how discriminatory BSP practices could hurt the millions of U.S. individuals who use the Internet each day.

The Government's Interests in Preserving an Open Internet Are Unrelated to the Suppression of Free Speech

Anti-blocking and anti-discrimination rules would meet the third prong of the *O'Brien* intermediate scrutiny test because the government's interests in an open Internet are unrelated to the suppression of BSPs' free speech rights. Under this prong, in order for intermediate scrutiny to apply, the speech to be regulated must be content neutral.¹³⁸ As argued above, anti-blocking and anti-discrimination rules would regulate the transmission of speech, not actual speech itself.¹³⁹ Therefore, the rules are unrelated to the suppression of free expression and are content neutral, as required under the *O'Brien* test.

4. The Incidental Restriction on Alleged First Amendment Freedoms Is No Greater Than Is Essential to the Furtherance of That Interest

Anti-blocking and anti-discrimination rules would meet the final prong of the *O'Brien* intermediate scrutiny test because the rules set forth in the Order provide no greater restrictions than are necessary to satisfy the

^{137.} Turner I, 512 U.S. at 657; see also FCC Brief, supra note 33, at 73-74.

^{138.} SMOLLA, *supra* note 130, at § 9:13 (2013) ("The proper interpretation of the phrase 'unrelated to the suppression of free expression' requires that the reasons advanced by the government to justify the law be grounded solely in the *non*communicative aspects of the conduct being regulated. When the dangers that allegedly flow from the activity have nothing to do with what is *communicated*, but only with what is *done*, the dangers are unrelated to free expression.").

^{139.} See supra Part III.B.

interest of maintaining an open Internet. As discussed above, the government has several important and substantial interests in preserving free and open access to the Internet.¹⁴⁰ Although the FCC primarily focused on furthering these interests in creating the open Internet rules, the agency also built various safeguards into the Order to guarantee that this regulation did not extend beyond what was necessary to further those government interests.¹⁴¹ For example, the No Blocking Rule sought to prohibit BSPs from blocking *lawful* content and websites.¹⁴² Accordingly, this rule would have still provided BSPs with the right to exercise their discretion to block unlawful content, such as websites displaying child pornography. 143 Similarly, the No Unreasonable Discrimination Rule only mandated that BSPs "may not unreasonably discriminate in transmitting lawful network traffic." ¹⁴⁴ This rule still afforded BSPs the ability to reasonably discriminate against certain types of Internet traffic, such as spam.¹⁴⁵ Finally, the Order also allowed BSPs to offer "edited" service, such as a package that is only limited to "family friendly" materials.¹⁴⁶ So long as future FCC anti-blocking and anti-discrimination rules contain similar safeguards, BSPs will retain enough control over their networks to protect the interests of their users without restricting the lawful information to which users wish to gain access.¹⁴⁷

IV. MOVING FORWARD: CLARIFYING FIRST AMENDMENT RIGHTS IN THE INTERNET AGE

Given the prevalence and prominence of the Internet in modern society, the time has come for the Supreme Court to address whether BSPs constitute speakers under the First Amendment. As discussed above, the Court has clarified this question with respect to other prominent media outlets—print, radio, and television. Although the court in *Verizon* established that the FCC did not have the statutory authority to issue the No Blocking and Nondiscrimination Rules in the Order, the decision did not address the question whether the rules violated the First Amendment, or whether the Commission could impose similar regulation through other avenues. Because the FCC has already commenced the process of making new network neutrality rules consistent with the *Verizon* holding, it is likely that courts will soon consider the other objections to the Order—

147. See id.

^{140.} See supra Part III.B.2.

^{141.} See Order, supra note 4, at para. 1.

^{142.} Id. (emphasis added).

^{143.} See id. at para. 64.

^{144.} Id. at para. 68 (emphasis added).

^{145.} See id. at paras. 64, 88.

^{146.} *Id.* at para. 143 (explaining that BSPs could still manage Internet traffic in these ways under the rules).

namely, whether network neutrality rules violate BSPs' First Amendment right to free speech. In light of the Supreme Court's First Amendment doctrine, it is likely that BSPs do not enjoy First Amendment editorial rights when providing Internet service to consumers. The Court has suggested that scarcity is relevant to determine the degree of editorial discretion that an operator can exercise.¹⁴⁸ Because the Internet is not plagued with size limitations, BSPs are not burdened with the task of excluding content out of necessity. As such, BSPs do not function in a way that constitutes active discretion, but instead act merely as conduits of speech. Because they do not issue a message in transmitting third-party original speech, BSPs do not engage in protected speech activity and thus do not deserve to benefit from First Amendment protections.

In this day and age, billions of people use the Internet to do everything from expressing opinions and ideas to researching political and cultural issues to downloading music and streaming a favorite television show on Netflix. Allowing BSPs to control what content these individuals are able to view and use restricts the public's access to the broadest range of information available. By affirming that the FCC is not barred by the First Amendment from promulgating rules that prevent BSPs from blocking lawful content or unreasonably discriminating against lawful network traffic, the Supreme Court can protect the rights and interests of all these individuals to have unfettered, open access to the Internet.

V. CONCLUSION

The rights of Internet users are paramount to the interests of large broadband providers. In taking up this issue in the likely event that the FCC successfully asserts the authority to promulgate anti-blocking and anti-discrimination rules, courts should find that network neutrality regulation does not violate the First Amendment because BSPs are not speakers and therefore do not enjoy the benefits of the First Amendment when transmitting Internet traffic. Even if they are considered speakers and Internet transmissions are considered speech, there are substantial governmental interests in maintaining network neutrality and open Internet. In order to continue fostering innovation, as we have since the advent of the Internet, we should not allow large companies to protect their interests in their partnerships and thus overshadow the right of the public to have free and open use of the World Wide Web.

^{148.} See supra notes 51–59 and accompanying text.

Advertising and Childhood Obesity: The Role of the Federal Government in Limiting Children's Exposure to Unhealthy Food Advertisements

Milena Mikailova^{*}

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I. INTRODUCTION

Children are inundated with advertising for foods of poor nutritional quality, watching approximately 4,000 food-related advertisements per year in the United States, ninety-eight percent of which feature products that are high in fat, sugar, or sodium.¹ Exposure to such advertisements has been shown to influence the food preferences, purchase requests, and dietary intake of children aged two to eleven.² One in seven children between the ages of two and eleven are currently obese.³ Obese children are more likely to develop serious health conditions, such as high blood pressure, asthma, cardiovascular disease, and type 2 diabetes.⁴ With hospitalizations of children for obesity-related illnesses on the rise, the annual direct cost of childhood obesity is reaching nearly \$14.3 billion.⁵ Despite these statistics, television advertisements for unhealthy foods continue to be aired during children's programming.

The federal government has recognized that childhood obesity is a problem that must be addressed. Although the Joint Task Force on Media and Childhood Obesity and the Interagency Working Group on Food Marketed to Children were launched with good intentions, they have not helped to reverse the trend in childhood obesity.⁶ Furthermore, industry

3. CHERYL D. FRYAR ET AL., CTRS. FOR DISEASE CONTROL & PREVENTION, PREVALENCE OF OBESITY AMONG CHILDREN AND ADOLESCENTS: UNITED STATES, TRENDS 1963–1965 THROUGH 2009–2010, at 1 (Sept. 2012), *available at* http://www.cdc.gov/nchs/data/hestat/obesity_child_09_10/obesity_child_09_10.pdf.

4. ELLEN-MARIE WHELAN ET AL., CTR. FOR AM. PROGRESS, CONFRONTING AMERICA'S CHILDHOOD OBESITY EPIDEMIC: HOW THE HEALTH CARE REFORM LAW WILL HELP PREVENT AND REDUCE OBESITY 1 (May 2010), *available at* http://www.american progress.org/wp-content/uploads/issues/2010/05/pdf/childhood_obesity.pdf; CTRS. FOR DISEASE CONTROL & PREVENTION, OBESITY AT A GLANCE: HALTING THE EPIDEMIC BY MAKING HEALTH EASIER 2 (Feb. 2009), *available at* http://www.cdc.gov/nccdphp/ publications/AAG/pdf/obesity.pdf.

5. WHELAN ET AL., *supra* note 4, at 1; Ross A. Hammond & Ruth Levine, *The Economic Impact of Obesity in the United States*, 3 DIABETES, METABOLIC SYNDROME & OBESITY: TARGETS AND THERAPY, 2010, at 285, 287.

6. Watch What You Eat: Food Marketing to Kids: Joint Hearing Before the Subcomm. on Labor, Health & Human Servs., Educ., & Related Agencies and the Subcomm. on Fin. Servs. & Gen. Gov't. of the Comm. on Appropriations, 110th Cong. 15 (2008) [hereinafter Watch What You Eat], available at http://www.gpo.gov/fdsys/pkg/CHRG-110shrg47517/pdf/CHRG-110shrg47517.pdf; Food Industry Braces for New Study on Marketing to Kids, ABC NEWS (Sept. 24, 2012, 1:51 PM), http://abcnews.go.com/blogs/busi ness/2012/09/food-industry-braces-for-new-study-on-marketing-to-kids/ [hereinafter ABC NEWS].

^{1.} The Facts on Junk Food Marketing and Kids, PREVENTION INST., http://preventioninstitute.org/focus-areas/supporting-healthy-food-a-activity/supporting-healthy-food-and-activity-environments-advocacy/get-involved-were-not-buying-it/735-were-not-buying-it-the-facts-on-junk-food-marketing-and-kids.html (last visited Mar. 1, 2014).

^{2.} COMM. ON FOOD MKTG. & THE DIETS OF CHILDREN & YOUTH, FOOD MARKETING TO CHILDREN AND YOUTH: THREAT OR OPPORTUNITY? 379 (J. Michael McGinnis et al. eds., 2006), *available at* http://www.nap.edu/openbook.php?record_id=11514&page=379.

self-regulation has been ineffective at adequately reducing the number of television advertisements featuring nutritionally poor foods.⁷ Children continue to be exposed to a large volume of commercials that advertise products containing high amounts of saturated fat, sugar, and sodium.⁸

The federal government must reevaluate its efforts to decrease the prevalence of childhood obesity. Congress should provide explicit direction to the Federal Communications Commission ("FCC") to restrict the advertisement of unhealthy foods during children's programming, defined in the regulations issued by the FCC pursuant to the Children's Television Act of 1990 ("CTA")⁹ as programs "originally produced and broadcast primarily for an audience of children 12 years old and younger."¹⁰ Further, Congress should delegate to the Food and Drug Administration ("FDA") the task of determining and adopting nutritional standards identifying which foods are unhealthy for consumption by children in this age group.

Part II of this Note examines the various initiatives that have been launched by the federal government in an effort to combat childhood obesity. Although the government has attempted to play a role in reducing the prevalence of childhood obesity, it must become more involved in order to make any significant progress. Part III of this Note then discusses the Children's Food and Beverage Advertising Initiative, an attempt at industry-self regulation that has failed to considerably reduce children's exposure to unhealthy food advertisements. Part IV of this Note surveys the measures taken by numerous European countries to reduce children's exposure to televised advertisements of unhealthy food and then provides a closer examination of the efforts made by the governments of the United Kingdom and Québec, Canada, to achieve this goal. The success of these foreign efforts should prompt the United States government to undertake a more active role in the nation's fight against childhood obesity.

Part V of this Note provides a brief overview of the CTA and the requirements that it imposes on broadcasters and the FCC. Following the summary of the CTA, Part VI proposes a regulation restricting the advertisement of certain food products during children's programming as a possible solution to the childhood obesity problem. Part VII of this Note then outlines the development of the commercial speech doctrine and examines the *Central Hudson* test, the modern-day analysis used by the courts to determine whether a regulation on commercial speech is

^{7.} DALE KUNKEL ET AL., CHILDREN NOW, THE IMPACT OF INDUSTRY SELF-REGULATION ON THE NUTRITIONAL QUALITY OF FOODS ADVERTISED ON TELEVISION TO CHILDREN 7 (Dec. 2009), *available at* http://www.childrennow.org/uploads/documents/ adstudy_2009.pdf.

^{8.} Lisa M. Powell et al., *Trends in the Nutritional Content of TV Food Advertisements Seen by Children in the US: Analyses by Age, Food Categories and Companies*, 165 ARCH. PEDIATR. ADOLESC. MED. 1078, 1083 (2011).

^{9.} Pub. L. No. 101-437, 104 Stat. 996 (1990) (codified in scattered sections of 47 U.S.C.).

^{10. 47} C.F.R. § 73.670 (2013).

constitutional. Finally, this Note applies the four-part *Central Hudson* test to the proposed legislation and determines that the courts will likely uphold such a regulation.¹¹

II. THE ROLE OF THE FEDERAL GOVERNMENT IN CURBING CHILDHOOD OBESITY

The federal government has acknowledged that the high incidence of childhood obesity across the nation is a problem that must be resolved. In 2006, the Joint Task Force on Media and Childhood Obesity ("Task Force") was created to bring together the food and beverage industry, advertisers, media companies, and government officials to evaluate the effect of media on childhood obesity and to establish voluntary industry standards to reduce advertising that is directed specifically at children.¹²

Following the first meeting of the Task Force, then-Congressman Ed former Chairman of the House Subcommittee Markey. on Telecommunications and the Internet,¹³ sent a letter to FCC Chairman Kevin Martin and Commissioners Deborah Taylor Tate and Michael Copps.¹⁴ In this letter, then-Congressman Markey conveyed his concern that the Task Force and industry self-regulation may not succeed in reducing the volume of advertisements of unhealthy food products targeted at children.¹⁵ Citing to the CTA, then-Congressman Markey stated that the FCC has an "affirmative obligation and the statutory authority to examine whether placing limitations on certain food advertising to children would further the public interest."¹⁶ According to then-Congressman Markey, the FCC should establish limits on this kind of advertising unless the Task Force and industry self-regulation result in "dramatic and swift elimination

^{11.} Others have applied the *Central Hudson* analysis to the regulation of junk food advertising during children's programming. However, there, the link between exposure to unhealthy food advertisements and consumption of this kind of food was largely unsubstantiated. Accordingly, the argument that a regulation restricting the advertising of junk food during children's programing would directly advance the government's interest in reducing childhood obesity was tenuous. *See* Nicki Kennedy, *Stop in the Name of Public Policy: Limiting "Junk Food" Advertisements During Children's Programming*, 16 COMMLAW CONSPECTUS 503 (2008). This Note addresses these shortcomings below.

^{12.} WHITE HOUSE TASK FORCE ON CHILDHOOD OBESITY, SOLVING THE PROBLEM OF CHILDHOOD OBESITY WITHIN A GENERATION 29 (May 2010), *available at* http://www.lets move.gov/sites/letsmove.gov/files/TaskForce_on_Childhood_Obesity_May2010_FullRepor t.pdf.

^{13.} *About Ed*, ED MARKEY, http://www.markey.senate.gov/about (last visited Mar. 1, 2014).

^{14.} Letter from Edward Markey, Chairman, Subcomm. on Telecomms. & the Internet, to Kevin Martin, FCC Chairman, and Michael Copps and Deborah Taylor Tate, FCC Comm'rs 1 (Apr. 16, 2007), *available at* http://www.ana.net/content/show/id/1744.

^{15.} *Id.* at 3.

^{16.} *Id*.

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of advertisements for junk food during children's programming."¹⁷ Specifically, then-Congressman Markey recommended that the FCC prohibit stations from broadcasting any programming containing advertisements for unhealthy foods among its core educational programming requirements and enforce limits on the overall amount of advertisements that can be aired during children's programming.¹⁸

As then-Congressman Markey predicted in his letter, achieving the goals set by the Task Force proved to be difficult.¹⁹ While some voluntary commitments were made, ultimately the Task Force did not come to an agreement on two fundamental issues. First, the Task Force was unable to agree on uniform nutritional standards that could be used to distinguish healthy foods from unhealthy foods.²⁰ Second, no agreement was reached on the willingness of media companies to set a limit on their advertising of unhealthy foods during children's programming.²¹ Although the Task Force was not entirely successful in accomplishing its stated objectives, the fact that it was convened in the first place is significant. The establishment of this Task Force reflects acknowledgement by the federal government, media companies, and the food and beverage industry that the role of the media in contributing to childhood obesity must be addressed.

In addition to the Task Force, the Interagency Working Group on Food Marketed to Children ("Working Group") was formed pursuant to a provision of the 2009 Omnibus Appropriations Act²² to help reduce the incidence of childhood obesity.²³ The Working Group, consisting of representatives from the FDA, Center for Disease Control ("CDC"), U.S. Department of Agriculture, and the Federal Trade Commission ("FTC"), was responsible for developing recommendations for uniform nutrition standards for foods marketed to children aged two to seventeen and for determining the scope of media to which such standards should apply.²⁴ In April 2011, the Working Group released for public comment tentative voluntary standards to guide industry self-regulatory efforts in improving the nutritional content of foods that are most heavily advertised to children.²⁵ Among the Working Group's proposed restrictions were targets

23. Id. at 3.

24. *Id.* at 1–2.

^{17.} *Id.* at 4.

^{18.} *Id.* at 4–5.

^{19.} See Watch What You Eat, supra note 6.

^{20.} *Id*.

^{21.} Id.

^{22.} See INTERAGENCY WORKING GRP. ON FOOD MARKETED TO CHILDREN, FED. TRADE COMM'N PROJECT NO. P094513, PRELIMINARY PROPOSED NUTRITION PRINCIPLES TO GUIDE INDUSTRY SELF-REGULATORY EFFORTS 1 (2011), available at http://www.ftc.gov/sites/default/files/documents/public_events/food-marketed-children-forum-interagency-working-group-proposal/110428foodmarketproposedguide.pdf.

^{25.} *See* Press Release, Fed. Trade Comm'n, FTC Testifies About the Interagency Working Group on Food Marketed to Children (Oct. 12, 2011) [hereinafter FTC Testifies], *available at* http://www.ftc.gov/opa/2011/10/foodmarketing.shtm.

for limiting the amount of sodium, saturated fat, trans fat, and added sugar.²⁶ The Working Group recommended that the food industry, through self-regulatory efforts, ensure that all food products within the categories of food most heavily marketed to children meet these standards by 2016.²⁷ These limitations would apply to advertisements on television during programs where children between the ages of two and eleven years old constitute thirty percent of the audience and where adolescents from twelve to seventeen years old constitute twenty percent of the audience.²⁸

On October 12, 2011, the FTC testified about the Working Group and its own efforts to help address childhood obesity before the U.S. House of Representatives.²⁹ The FTC testified that the Working Group was considering the many comments it received and was contemplating making significant revisions to its initial proposed principals before submitting final recommendations to Congress.³⁰ However, Congress was concerned that companies would find it difficult to follow the proposed guidelines, which in its view were overly restrictive and unrealistic.³¹ Ultimately, the final guidelines were never released because the Working Group dissolved following Congress's comments.³² Nevertheless, the fact that the federal government established the Working Group as an effort to reduce the occurrence of childhood obesity is evidence of a broader sentiment that mounting childhood obesity figures constitute a national concern and that media is one of the key factors driving this trend. It is also important to note that both the Joint Task Force and the Working Group proposed industry self-regulation measures rather than government-mandated restrictions as a way of promulgating new nutritional standards for products advertised to children.³³ Both efforts eventually encountered dead ends as a result of this approach, which prompted disagreement about whether the standards were too strict and whether companies would follow them.

Yet another attempt to raise public and government awareness of the increase in childhood obesity is First Lady Michelle Obama's nationwide *Let's Move!* initiative. Launched in February 2010, this movement is dedicated to solving the problem of childhood obesity within a generation by supporting healthy food in schools, making healthy foods accessible and

^{26.} INTERAGENCY WORKING GRP. ON FOOD MARKETED TO CHILDREN, *supra* note 22, at 11–14. Drawing from the 2010 Dietary Guidelines for Americans, the Working Group suggested that individual foods marketed to children should have at most only one gram of saturated fat, zero grams of trans fat, no more than thirteen grams of added sugars, and not more than 140 milligrams of sodium. *Id.*

^{27.} *Id.* at 14–15. Foods most heavily marketed to children include breakfast cereals, carbonated beverages, restaurant foods, and snack foods. *Id.*

^{28.} *Id.* at 18.

^{29.} FTC Testifies, *supra* note 25.

^{30.} Id.

^{31.} ABC NEWS, supra note 6.

^{32.} Id.

^{33.} *Watch What You Eat, supra* note 6; INTERAGENCY WORKING GRP. ON FOOD MARKETED TO CHILDREN, *supra* note 22, at 14–15.

affordable, and increasing children's physical activity.³⁴ President Barack Obama established the White House Task Force on Childhood Obesity ("White House Task Force") in 2010 as part of the Let's Move! effort.³⁵ The objective of the White House Task Force was to develop an interagency plan outlining the steps that should be taken and the key benchmarks that need to be achieved in order to reduce childhood obesity figures.³⁶ In 2010, the FCC joined the White House Task Force and worked closely with the FTC, FDA, and U.S. Department of Health and Human Services ("HHS") to delineate this plan in a May 2010 Report to the President.³⁷ The goal is to reduce the childhood obesity rate to 5% by 2030,³⁸ marking a return to the rate of the late 1970s, before the incidence of childhood obesity began to steadily increase.³⁹ According to the CDC, obesity among children aged two to five increased from 5.0% to 12.1% between 1976–1980 and 2009–2010.40 The increase in obesity has been even more significant among children aged six to eleven; within the same time periods, obesity in this age group increased from 6.5% to 18.0%.⁴¹

The proposed recommendations of the White House Task Force focus on improving the quality of school meals, increasing the availability of healthy and affordable foods in underserved urban and rural communities, and improving health care services to prevent, control, and treat childhood obesity.⁴² The report also suggests that increased "screen time," including television viewing, is a problem that has to be addressed because it is directly associated with childhood and adult obesity.⁴³ The report recommends that guidelines of the American Academy of Pediatrics ("AAP") for television viewing be made more accessible to parents because of studies that link television viewing with dietary intake and studies that correlate television exposure with fast-food consumption in preschool-aged children.⁴⁴ The AAP recommends that children and teens "engage with entertainment media for no more than one or two hours per

^{34.} *Accomplishments*, LET'S MOVE!, http://www.letsmove.gov/accomplishments (last visited Mar. 1, 2014).

^{35.} *Presidential Memorandum – Establishing a Task Force on Childhood Obesity*, WHITE HOUSE (Feb. 9, 2010), http://www.whitehouse.gov/the-press-office/presidential-memorandum-establishing-a-task-force-childhood-obesity.

^{36.} Id.

^{37.} *Media and Childhood Obesity*, FCC, http://www.fcc.gov/guides/media-childhood-obesity (last visited Mar. 1, 2014).

^{38.} WHITE HOUSE TASK FORCE ON CHILDHOOD OBESITY, supra note 12, at 10.

^{39.} Id.

^{40.} FRYAR ET AL., *supra* note 3, at 1.

^{41.} *Id*.

^{42.} WHITE HOUSE TASK FORCE ON CHILDHOOD OBESITY, *supra* note 12, at 35, 39, 53.

^{43.} *Id.* at 7.

^{44.} Id. at 18.

day." ⁴⁵ Furthermore, parents are encouraged by the AAP to create "electronic media-free" environments in their children's rooms, to avoid using media as an "electronic babysitter," and to discuss viewed content with their children.⁴⁶ Echoing the advice provided by the AAP, the White House Task Force also suggests that children should be encouraged to spend less time using digital media.⁴⁷

High levels of "screen time" are also a cause for concern given that advertising can have a strong influence on children's food preferences.⁴⁸ The report proposes recommendations on how to improve industry selfregulatory programs created to advertise healthier foods to children.⁴⁹ However, it also states that the federal government plays a key role in improving the media environment for children with respect to the marketing of foods and beverages.⁵⁰ According to the White House Task Force, the federal government's role can and should include "[p]romulgating laws and regulations when other methods prove insufficient," without violating the First Amendment right to free speech.⁵¹ This designation of responsibility suggests that the federal government should play a more active and direct role in curbing childhood obesity rates. One of the benchmarks of success set by the White House Task Force is to ensure that, within three years, the majority of food and beverage advertisements directed at children promote healthy foods.⁵² In 2011, the average two to eleven year old saw thirteen food and beverage ads per day that almost exclusively promoted categories of products with little or no nutritional value.⁵³ This evidence indicates that the benchmarks set by the White House Task Force may not be achieved without concrete action by the federal government.

The Joint Task Force on Media and Childhood Obesity, the Interagency Working Group on Food Marketed to Children, and the *Let's Move!* campaign that inspired the creation of the White House Task Force on Childhood Obesity, have all attempted to address the growing rates of childhood obesity in the United States. These efforts demonstrate not only

^{45.} *Media and Children*, AM. ACAD. OF PEDIATRICS, http://www.aap.org/en-us/advocacy-and-policy/aap-health-initiatives/Pages/Media-and-Children.aspx (last visited Mar. 1, 2014).

^{46.} Am. Acad. of Pediatrics, *Policy Statement–Media Education*, 126 PEDIATRICS, no. 5, Nov. 2010, at 1, 3, *available at* http://pediatrics.aappublications.org/content/early/2010/09/27/peds.2010-1636.full.pdf+html.

^{47.} WHITE HOUSE TASK FORCE ON CHILDHOOD OBESITY, supra note 12, at 18.

^{48.} *Id.* at 28.

^{49.} Id. at 32.

^{50.} Id.

^{51.} Id.

^{52.} Id. at 33.

^{53.} YALE RUDD CTR. FOR FOOD POLICY & OBESITY, TRENDS IN TELEVISION FOOD ADVERTISING TO YOUNG PEOPLE: 2011 UPDATE 6 (May 2012), *available at* http://www.yale ruddcenter.org/resources/upload/docs/what/reports/RuddReport_TVFoodAdvertising_5.12.p df.

that childhood obesity is a nationwide problem that merits attention, but also that the federal government acknowledges that standards must be established for foods marketed to children. Unfortunately, these recent endeavors have revolved around the ability of the food and beverage industry to self-regulate. The federal government must reconsider the level of its current involvement because industry self-regulation has thus far been largely ineffective at substantially reducing the volume of televised unhealthy food advertisements targeting children.⁵⁴

III. THE INADEQUACY OF SELF-REGULATION

An example of an attempt at industry self-regulation that highlights the need for government involvement is the Children's Food and Beverage Advertising Initiative ("CFBAI"), launched in November 2006 by the Council of Better Business Bureaus in collaboration with ten food and beverage companies.⁵⁵ The CFBAI's objective is to encourage children aged two to eleven to make healthier dietary choices by advertising "betterfor-you" food products.⁵⁶ Before a new uniform nutrition criteria went into effect on December 31, 2013,⁵⁷ each of the eighteen companies⁵⁸ that participates in the CFBAI had its own nutrition criteria for the products it advertises to children aged two to eleven on traditional media (*i.e.* television) and on emerging media (*i.e.* video games).⁵⁹ Although the companies had varying criteria for the amount of fat, sodium, and sugar contained in their products, the CFBAI considered all advertised foods that complied with these criteria to be "better-for-you." ⁶⁰ While this was technically true, these products still had poor nutritional value.

In fact, the majority of foods that complied with the nutrition standards set by these companies are not considered healthy by the HHS.⁶¹ For example, 68.5% of all food products advertised in 2009 by participating companies are classified as "Whoa" products, which have the poorest nutritional quality under the "Go-Slow-Whoa" food rating system used by the HHS.⁶² "Whoa" products should only be consumed in small

^{54.} KUNKEL ET AL., *supra* note 7, at 7.

^{55.} *About the Initiative*, COUNCIL OF BETTER BUS. BUREAUS, http://www.bbb.org/coun cil/the-national-partner-program/national-advertising-review-services/childrens-food-and-

beverage-advertising-initiative/about-the-initiative/ (last visited Mar. 9, 2014).

^{56.} *Id.*

^{57.} Id.

^{58.} Welcome to the Children's Food and Beverage Advertising Initiative, COUNCIL OF BETTER BUS. BUREAUS, http://www.bbb.org/council/the-national-partner-program/national-advertising-review-services/childrens-food-and-beverage-advertising-initiative/ (last visited Mar. 1, 2014).

^{59.} About the Initiative, supra note 55.

^{60.} *Id.*; KUNKEL ET AL., *supra* note 7, at 32.

^{61.} KUNKEL ET AL., *supra* note 7, at 26.

^{62.} Id. at 6. "Whoa" products are low in nutrients and highest in calories, sugar, and added fat. See id.
portions and "only once in a while or on special occasions."⁶³ The 68.5% figure represents only a marginal degree of improvement from the number of "Whoa" product advertisements aired by the same companies in 2005.⁶⁴ Furthermore, advertising of healthy foods to children under the "Go-Slow-Whoa" food rating system remains "virtually invisible," that is, almost non-existent. ⁶⁵ Only 0.5% of the advertisements aired by participating companies in 2009 were for truly healthy "Go" products that are low in fat and sugar, such as whole grain breads, fruits, vegetables, and other items that can be consumed "anytime."⁶⁶ This percentage has remained extremely low even after the launch of the CFBAI.⁶⁷

The shortfalls of the CFBAI have been analyzed using nutritional recommendations from the National Academy of Sciences.⁶⁸ A 2011 study concluded that 86% of televised food and beverage advertisements were for products high in saturated fat, sugar, and sodium.⁶⁹ This percentage was even higher among self-regulating companies.⁷⁰ The study found that 88% of CFBAI company advertisements targeting children in 2009 continued to be for products high in saturated fat, sugar, and sodium.⁷¹ Despite the pledges made by CFBAI companies to limit television advertisements featuring unhealthy items, the majority of the advertisements from all but two of the CFBAI companies were for products of poor nutritional quality.⁷² Furthermore, exposure to fast-food advertising between 2003 and 2009 increased among six to eleven year olds by 30.8%.⁷³ The increase in children's exposure to CFBAI fast-food television advertisements was nearly as high as the increase in their exposure to non-CFBAI fast-food 74 advertisements. television Although only two fast-food restaurants-McDonald's and Burger King-participate in the CFBAI, they account for almost half of the total fast-foods advertisements seen by children aged two to twelve.⁷⁵ The study found these results concerning in light of recent research that has revealed the poor nutritional content of fast food advertised to children.⁷⁶

Proponents of industry self-regulation argue that it is an effective alternative to governmental regulation in achieving the significant reforms

67. *Id*.

- 70. Id. at 1083.
- 71. *Id*.
- 72. *Id.*
- 73. *Id.* at 1080. 74. *Id.* at 1082.
- 75. *Id.* at 1082.
- 76. *Id. Id.*

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^{63.} *Id.* at 14.

^{64.} *Id.* at 26.

^{65.} Id. at 34.

^{66.} *Id.* at 6.

^{68.} Powell et al., *supra* note 8, at 1080.

^{69.} *Id.* at 1082.

needed in food advertising targeting younger children.⁷⁷ However, the credibility of these arguments is undermined by the inability of industry self-regulation efforts such as the CFBAI to significantly improve the overall nutritional quality of food and beverages in television advertisements targeting children.⁷⁸ Critics argue that any minimal improvement in the nutritional quality of these products is "occurring at a pace that does not reflect the urgency of the public health crisis the nation faces involving childhood obesity."⁷⁹ Notably, the Institute of Medicine issued a recommendation in 2006 that endorses congressional action if voluntary industry efforts are unsuccessful in "shifting emphasis away from high-calorie and low-nutrient foods and beverages to the advertising of healthful foods and beverages."⁸⁰

Thus far, CFBAI has not adequately reduced the number of advertisements directed at children that feature unhealthy food and beverage products.⁸¹ On December 31, 2013, however, new CFBAI-developed uniform nutrition criteria went into effect, thereby replacing the company-specific nutrition standards.⁸² These new criteria apply to ten different food groups and contain specific limitations on calories, total sugar, sodium, and saturated fat for each of the food categories.⁸³ However, approximately two-thirds of the products advertised to children by CFBAI companies in accordance with their own nutrition criteria already meet the recently established uniform criteria.⁸⁴ Although better than the prior standards, the new uniform standards will not significantly improve the nutritional quality of the products that are currently advertised during children's programming.⁸⁵

More importantly, even though all of the member companies have pledged to comply with the uniform nutrition criteria, it remains to be seen whether they will actually implement these new standards. The CFBAI requires participating companies to submit compliance reports about covered activities, which is the sole enforcement mechanism employed by

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84. *Id.* at 96.

^{77.} KUNKEL ET AL., supra note 7, at 34.

^{78.} Id. at 7.

^{79.} *Id.* at 22.

^{80.} COMM. ON FOOD MKTG. & THE DIETS OF CHILDREN & YOUTH, *supra* note 2, at 14–15.

^{81.} KUNKEL ET AL., *supra* note 7, at 6; Powell et al., *supra* note 8, at 1083.

^{82.} About the Initiative, supra note 55.

^{83.} FED. TRADE COMM'N, A REVIEW OF FOOD MARKETING TO CHILDREN AND ADOLESCENTS: FOLLOW-UP REPORT 95 (Dec. 2012), *available at* http://www.ftc.gov/sites/default/files/documents/reports/review-food-marketing-children-and-adolescents-follow-report/121221foodmarketingreport.pdf.

^{85.} As noted above, 68.5% of all food products advertised in 2009 by participating companies were products of the poorest nutritional quality. *See* KUNKEL ET AL., *supra* note 7, at 6. A 2011 study found that 88% of CFBAI company advertisements targeting children in 2009 continued to be for products high in saturated fat, sugar, and sodium. *See* Powell et al., *supra* note 8, at 1083.

the CFBAI to ensure that the participating companies are meeting the terms of their pledges.⁸⁶ If a company does not comply with its commitments under the CFBAI after receiving notice and having an opportunity to bring its conduct into compliance, it will face expulsion from the CFBAI.⁸⁷ Expulsion from the CFBAI appears to be the only consequence of non-compliance and may not be a strong enough incentive for companies to fully adopt the new criteria, considering that participation in the CFBAI is completely voluntary. Accordingly, because of the limited progress made by the CFBAI, the federal government should take action to implement the Institute of Medicine's recommendation to decrease the prevalence of advertisements that promote unhealthy food products during children's programming. To do this successfully, the federal government should consider the programs that have been established in other countries to achieve comparable objectives.

IV. INTERNATIONAL PERSPECTIVES

A. Overview of Efforts to Limit Unhealthy Food Advertisements in Europe

The correlation between childhood obesity and televised advertisements for unhealthy food has also been acknowledged throughout Europe, where the governments of many countries have taken regulatory measures to either limit children's exposure to such advertisements or to decrease their effect.⁸⁸ Notably, the prevalence of childhood obesity is significantly lower than it is in the United States in countries that have taken these regulatory measures.⁸⁹ Although some of the regulations enforced in European countries are broader than the regulatory approach proposed in this Note, they signify the effectiveness of government efforts

^{86.} *Id.*

^{87.} ELAINE D. KOLISH ET AL., COUNCIL OF BETTER BUS. BUREAUS, THE CHILDREN'S FOOD & BEVERAGE ADVERTISING INITIATIVE IN ACTION: A REPORT ON COMPLIANCE AND IMPLEMENTATION DURING 2010 AND A FIVE YEAR RETROSPECTIVE: 2006–2011, at 37 (Dec. 2011), *available at* http://www.bbb.org/us/storage/16/documents/cfbai/cfbai-2010-progress-report.pdf.

^{88.} See generally MARY WESTCOTT, QUEENSLAND PARLIAMENTARY LIBRARY, JUNK FOOD ADVERTISING ON CHILDREN'S TELEVISION (2009), available at http://www. parliament.qld.gov.au/documents/explore/ResearchPublications/ResearchBriefs/2009/RBR2 00907.pdf; WORLD HEALTH ORG., REGIONAL OFFICE FOR EUROPE, MARKETING OF FOOD HIGH IN FAT, SALT AND SUGAR TO CHILDREN: UPDATE 2012-2013 (2013) [hereinafter MARKETING OF FOOD HIGH IN FAT], available at http://www.euro.who.int/__data/assets/pdf_ file/0019/191125/e96859.pdf.

^{89.} See ORG. FOR ECON. CO-OPERATION AND DEV., OBESITY UPDATE 2012, at 7 (2012), *available at* http://www.oecd.org/health/49716427.pdf (finding that the percentage of overweight and obese children in the United States is much higher than in countries such as Norway, France, and Sweden, where governments have been actively involved in limiting children's exposure to unhealthy food television advertisements).

to combat the childhood obesity epidemic and thus serve as useful examples for the United States.

For instance, under Norway's Broadcasting Act, "[a]dvertisements may not be broadcast in connection with children's programmes, nor may advertisements be specifically directed at children."90 Regulations issued by the Norwegian government further elaborate on this provision by stipulating that advertisements cannot be broadcast ten minutes "directly children's programmes." ⁹¹ Similarly, television before or after advertisements directed at children who are under twelve years old have been banned in Sweden since 1991.⁹² Regulations targeting unhealthy food advertisements specifically have been adopted in countries such as Ireland, where candy and fast food television commercials are banned.⁹³ Furthermore, rising levels of childhood obesity motivated the French government to take action against unhealthy food advertisements in 2004, mandating that advertisements on television and radio "for beverages containing added sugar, salt or artificial sweeteners" must contain health information.⁹⁴ In 2007, the French government issued a decree that defined the kind of health information that must be included in these messages; four short messages, including "for your health, exercise regularly" and "for your health, avoid eating too many foods that are high in fat, sugar, or salt," are shown on horizontal bands during television advertisements of foods containing added sugar, salt or artificial sweeteners.⁹⁵ To ensure that companies include these public health warnings in such television advertisements, the government requires noncompliant companies to pay a fine of 1.5% of their total advertising budget.⁹⁶

The considerable efforts made by many European countries to decrease children's exposure to unhealthy food advertisements demonstrate their commitment to battling childhood obesity. In June 2013, the World Health Organization Regional Office for Europe ("WHO/Europe") called on *all* member states in the European region to adopt stricter controls on

^{90.} Act No. 127 of 4 December 1992 Relating to Broadcasting, KULTURDEPARTEMENTET § 3-1 (Sept. 2005), available at http://www.regjeringen.no/nb/dep/ kud/dok/lover_regler/reglement/2005/broadcasting-act-.html?id=420612.

^{91.} SISSEL L. BECKMANN, NORWEGIAN MINISTRY OF HEALTH AND CARE SERVS., REGULATION ON FOOD MARKETING AND ADVERTISING TO CHILDREN: REGULATIONS IN NORWAY 7 (June 17, 2010), *available at* http://www.naos.aesan.msssi.gob.es/naos/ficheros/ estrategia/IV_Convencion/Sissel_Beckmann.pdf.

^{92.} WESTCOTT, *supra* note 88, at 22.

^{93.} Marian Burros, *Eating Well: It'd Be Easier if SpongeBob Were Hawking Broccoli*, N.Y. TIMES (Jan. 12, 2005), http://query.nytimes.com/gst/fullpage.html?res=9A05EFDD1 638F931A25752C0A9639C8B63.

^{94.} Rhonda Jolly, *Marketing Obesity? Junk Food, Advertising and Kids* 39 (Parliament of Austl., Parliamentary Library, Social Policy Section, Research Paper No. 9, Jan. 12, 2011), *available at* http://www.aph.gov.au/About_Parliament/Parliamentary_Departments/Parliamentary_Library/pubs/rp/rp1011/11rp09#_ftnref163.

^{95.} Id.

^{96.} *Id*.

the marketing to children of foods that are high in saturated and trans fats, sugar and salt.⁹⁷ In its report, entitled *Marketing of Foods High in Fat, Salt and Sugar to Children: Update 2012-2013*, WHO/Europe states that the advertisement of unhealthy food and beverage products "is now widely recognized in Europe as a significant risk factor for child obesity and for the development of diet-related noncommunicable diseases." ⁹⁸ WHO/Europe's push for more government action to institute specific advertising regulations restricting the marketing of unhealthy food to children signifies not only that eliminating childhood obesity is a global challenge, but also that industry self-regulation is not a viable option.

B. A Closer Look: The United Kingdom and Québec

The United Kingdom and Québec have also implemented government regulations restricting the advertisement of certain food products to children. The results of the efforts in the United Kingdom and Québec demonstrate that such governmental regulation has the potential to be effective in helping to decrease the incidence of childhood obesity in the United States—directly contradicting the recent efforts at industry selfregulation that have had little benefit. Childhood obesity is a global concern and examining the success of other countries in reducing the prevalence of this problem may strengthen support for government regulation in the United States.

1. United Kingdom

The Office of Communications ("Ofcom") is the regulator of radio, television, wireless communications, and telecommunications services in the United Kingdom.⁹⁹ In 2004, after conducting extensive research, Ofcom concluded that television advertising had a direct effect on children's food choices.¹⁰⁰ Consequently, Ofcom recommended that rules for broadcast advertising be implemented to address childhood obesity.¹⁰¹ Following an additional period of analysis, Ofcom announced a ban on advertisements featuring products high in fat, salt, or sugar during programs whose target audience includes a twenty percent over-representation of children and

^{97.} Lax Marketing Regulations Contribute to Obesity Crisis in Children, WORLD HEALTH ORG. REGIONAL OFFICE FOR EUROPE (June 18, 2013), http://www.euro.who.int/en/what-we-publish/information-for-the-media/sections/latest-press-releases/lax-marketing-regulations-contribute-to-obesity-crisis-in-children.

^{98.} MARKETING OF FOOD HIGH IN FAT, supra note 88, at 1.

^{99.} OFFICE OF COMMC'NS, TELEVISION ADVERTISING OF FOOD AND DRINK PRODUCTS TO CHILDREN: FINAL STATEMENT 1 (Feb. 22, 2007), *available at* http://stakeholders.ofcom. org.uk/binaries/consultations/foodads_new/statement/statement.pdf.

^{100.} *Id.* at 2.

^{101.} *Id*.

adolescents aged four to fifteen.¹⁰² Additionally, this ban is effective during children's airtime, defined as specific periods of time on children's channels and children's slots on other channels.¹⁰³ The UK's Food Standards Agency developed a nutrient profiling model, which is used by broadcasters to assess whether a certain product is considered to be high in fat, salt, or sugar.¹⁰⁴

In its 2010 review of the effectiveness of its restrictions on food advertising, Ofcom reported considerable reductions in children's exposure to advertisements of foods high in fat, salt, or sugar. Overall, the regulations decreased children's exposure to these products by 37% from 2005 to 2009.¹⁰⁵ The results were particularly encouraging in regards to younger children aged four to nine, who saw 52% less advertising for these foods in 2009 as compared to 2005.¹⁰⁶ Another notable result of the advertising restrictions was that they contributed to a "significant shift" from advertising unhealthy foods to advertisements featuring food and beverages low in fat, salt, or sugar.¹⁰⁷ For instance, only 22.5% of all advertising spots in 2005 were for products low in fat, salt, or sugar.¹⁰⁸ By 2009, this figure had grown to 33.1%.¹⁰⁹ Due to the progress achieved in just a few years, Ofcom decided to maintain these restrictions on television advertisements indefinitely.¹¹⁰

2. Québec

The Québec government, also concerned about the harmful influence of advertising on children's consumption decisions, introduced the Québec Consumer Protection Act in 1978.¹¹¹ Two years later, the law came into effect.¹¹² Under this law, advertisements directed partly at adults and partly at children may not be broadcast during programs whose percentage of viewers aged two to eleven represents more than fifteen percent of the total viewing audience.¹¹³ Furthermore, advertisements targeting only children may not be broadcast during any program whose percentage of viewers

112. *Id.*

113. *Id*.

^{102.} OFFICE OF COMMC'NS, HFSS ADVERTISING RESTRICTIONS: FINAL REVIEW 1, 9 n.24 (July 26, 2010), *available at* http://stakeholders.ofcom.org.uk/binaries/research/tv-research/hfss-review-final.pdf.

^{103.} Id. at 1, 3.

^{104.} *Id.* at 1.

^{105.} *Id.* at 5.

^{106.} *Id.*

^{107.} *Id.* 108. *Id.*

^{108.} *Id.* 109. *Id.*

^{109.} *Id.* 110. *Id.*

^{111.} Tirtha Dhar & Kathy Baylis, Fast-Food Consumption and the Ban on Advertising Targeting Children: The Quebec Experience, 48 J. MKTG. RESEARCH 799, 801 (2011).

aged two to eleven is more than five percent of the viewing audience.¹¹⁴ Although this law applies to both traditional and electronic media, its enforcement has mostly focused on television.¹¹⁵

The impact of the Québec Consumer Protection Act was recently evaluated in a study that used the fast food product category to measure the law's effect on household consumption.¹¹⁶ The study found that the advertising ban imposed by the Act had a "statistically significant effect on fast food consumption at the household level."¹¹⁷ The ban decreased the probability of fast food purchase incidence by thirteen percent per week.¹¹⁸ Annually, this amounted to a considerable reduction in fast food calories consumed in French-speaking Québec households with children; between 13.4 and 18.4 billion fewer fast-food calories were estimated to have been consumed in these households due to the drop in fast food purchases.¹¹⁹ Furthermore, during the study period, French-speaking households with children were "significantly less likely" to purchase fast food if they lived in Québec than if they lived in Ontario, which does not have a similar advertising ban.¹²⁰ The study also indicated that the Act might continue to affect purchasing behavior as children become adults.¹²¹ Specifically, a French-speaking young adult living in Québec was thirty-eight percent less likely to purchase fast food in a given week than if she lived in Ontario.¹²² Considering these results, the ultimate conclusion of the study was that a ban on advertising targeting children such as the one enacted in Québec "can be effective in lowering or moderating consumption."¹²³

The success of these foreign regulations should motivate the United States government to reconsider its approach in combating the childhood obesity epidemic. Unlike industry self-regulation, which has been ineffective in adequately reducing children's exposure to unhealthy food advertisements, government regulation has proven to be successful internationally.¹²⁴ In addition to the United Kingdom and Québec, the

^{114.} *Id.*

^{115.} *Id.* Finally, The criteria used for determining when an advertisement targets children consists of three factors: (1) the "nature and intended purpose" of the advertisement, which is established by evaluating whether the product is consumed primarily by children; (2) the aspects of the advertisement, such as whether it uses fantasy, magic, or children-specific adventure are considered; and (3) the time the advertisement is shown and the place in which it is shown. *Id.*

^{116.} See generally id.

^{117.} Id. at 810.

^{118.} *Id.*

^{119.} *Id.*

^{120.} *Id.* at 809–10. It is primarily French-speaking children who are affected by the Québec ban, while English-speaking children—who have greater access to media from the neighboring U.S. states and Canadian provinces—are less affected. *Id.*

^{121.} *Id*.

^{122.} *Id.* at 809.

^{123.} *Id.* at 811. Notably, Québec has one of the lowest childhood obesity rates in Canada despite the fact that its children have very sedentary lifestyles. *Id.*

^{124.} See discussion supra Part IV.

governments of countries such as Norway, Sweden, Ireland, and France have also placed restrictions on food advertising to children.¹²⁵ As childhood obesity rates continue to increase and more children are diagnosed with serious illnesses, the United States government should consider joining these countries in enacting legislation with the goal of reducing the prevalence of childhood obesity.

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V. THE CHILDREN'S TELEVISION ACT

The United States government demonstrated a willingness to regulate some aspects of advertising during children's programming by enacting the Children's Television Act in 1990 to increase the amount of informational and educational programming available on television for children.¹²⁶ The CTA imposes requirements on broadcasters and cable operators and instructs the FCC to enforce these requirements. Broadcasters and cable operators must limit the duration of advertising during children's programming to no more than 10.5 minutes per hour on weekends and 12 minutes per hour on weekdays.¹²⁷ Although the CTA contains these specific limitations on the length of advertising during children's programming, it does not impose any content restrictions on the commercials that are aired. It does instruct the FCC to "prescribe standards applicable to commercial television broadcast licensees with respect to the time devoted to commercial matter in conjunction with children's television programming."¹²⁸ This is a positive grant of authority to the FCC to "enforce the obligation of broadcasters to meet the educational and informational needs of the child audience."129

The FCC subsequently issued regulations pertaining to commercial limits in children's programming ¹³⁰ and educational and information programming for children. ¹³¹ However, the FCC's regulations do not impose any restrictions on the content of television advertisements shown during children's programming, defined by the FCC as "programs originally produced and broadcast primarily for an audience of children 12 years old and younger."¹³² While this definition of children's programming is currently used in the context of FCC regulations restricting the duration of advertisements, in the future it should also be used by the FCC to

^{125.} Id.

^{126.} See Children's Educational Television, FCC, http://www.fcc.gov/guides/ childrens-educational-television (last visited Mar. 1, 2014).

^{127. 47} U.S.C. § 303a(b) (2006); 47 C.F.R § 76.225(a) (2013); 47 C.F.R. § 73.670(a) (2013).

^{128. 47} U.S.C. § 303a(a) (2006).

^{129.} Children's Television Act of 1990, Pub. L. No. 101-437, 104 Stat. 996 (1990).

^{130. 47} C.F.R. § 73.670 (2013); 47 C.F.R. § 76.225 (2013).

^{131. 47} C.F.R. § 73.671 (2013).

^{132. 47} C.F.R. § 73.670 (2013).

enforce limits on the content of advertisements during this kind of programming.

VI. PROPOSED SOLUTION

In spite of attempts by the federal government and the food and beverage industry to help resolve the problem of childhood obesity, obesity rates among children aged two to nineteen have been steadily increasing since the 1970s.¹³³ The most significant increase in obesity has been among children aged six to eleven; between 1976–1980 and 2009–2010, obesity increased from 6.5% to 18.0% in this age group.¹³⁴ This upward trend in obesity rates has also been observed in younger children aged two to five.¹³⁵ Specifically, obesity within this age group increased from 5.0% to 12.1% during the same time frame.¹³⁶

Rather than relying on voluntary commitments made by food and beverage companies, the federal government should be more assertive in trying to decrease the incidence of childhood obesity.¹³⁷ The fact that the governments of other countries are actively involved in reducing commercial advertisements that increase childhood obesity should send a strong message to the United States that its government should commit to doing the same. While the federal government does not have to replicate the measures taken by the governments of the United Kingdom and Québec, the regulations adopted by these governments may serve as useful guidelines.

First, Congress should provide explicit direction to the FCC to restrict the advertisement of unhealthy foods during children's programming. The CTA as well as the FCC regulations promulgated in accordance with the CTA already impose limits on the amount of commercial matter that can be aired during children's programming.¹³⁸ However, neither the CTA nor the FCC regulations contain any restrictions on the content of the advertisements shown during children's programming, defined by the FCC as programs "originally produced and broadcast primarily for an audience of children 12 years old and younger."¹³⁹ Following Congress's mandate, the FCC should use its own definition of children's programming as the standard in restricting the advertisement of unhealthy foods. The role of the FCC is comparable to

^{133.} WHITE HOUSE TASK FORCE ON CHILDHOOD OBESITY, *supra* note 12, at 4.

^{134.} FRYAR ET AL., *supra* note 3, at 1.

^{135.} *Id.*

^{136.} Id.

^{137.} Voluntary self-regulation has proven to be largely ineffective in reducing children's exposure to unhealthy food advertisements. *See* discussion *supra* Part III.

^{138. 47} U.S.C. § 303a(b) (2006); 47 C.F.R. § 756.225 (2013); 47 C.F.R. § 73.670(a) (2013).

^{139.} See 47 C.F.R. § 73.670 (2013).

that of Ofcom, which issued rules for broadcast advertising to address childhood obesity in the United Kingdom. $^{\rm 140}$

Second, Congress should delegate to the FDA the task of adopting nutritional standards identifying which foods are unhealthy for consumption by children between the ages of two and eleven. The Food Standards Agency in the United Kingdom was responsible for developing nutritional guidelines that are now used by broadcasters to determine whether a specific food product is high in sugar, fat, or salt.¹⁴¹ As its sister agency in the United States, the FDA should have the same responsibility to determine what constitutes unhealthy food advertisements. Therefore, Congress should require the FDA to conduct an inquiry or a rulemaking to determine the criteria that should be used for classifying healthy and unhealthy foods.

Based on the experiences of countries such as the United Kingdom,¹⁴² collaboration between the FCC and the FDA is likely to be successful in helping to address the problem of childhood obesity. Thus far, the federal government has played a passive role in reducing the prevalence of childhood obesity.¹⁴³ Likewise, voluntary self-regulation efforts have not significantly decreased children's exposure to food advertisements featuring food products of poor nutritional quality.¹⁴⁴ Therefore, the federal government must consider other alternatives. The legislation proposed above is one viable option. Because it will most likely be challenged on First Amendment grounds, the next sections analyze the suggested legislation's constitutionality under the commercial speech doctrine.

VII. THE FIRST AMENDMENT AND REGULATIONS LIMITING COMMERCIAL SPEECH AS THEY RELATE TO RESTRICTIONS ON ADVERTISING

It is beyond dispute that advertising is a form of commercial speech—an "expression related solely to the economic interests of the speaker and its audience."¹⁴⁵ Accordingly, any potential FCC restrictions on television advertisements for unhealthy food products implicate the relationship between commercial speech regulation and the protection of First Amendment rights. Prior to 1975, the Supreme Court held that commercial speech was not protected under the First Amendment.¹⁴⁶ However, the Court has since recognized advertisements to be a form of

^{140.} OFFICE OF COMMC'NS, *supra* note 99, at 2, para. 1.6.

^{141.} OFFICE OF COMMC'NS, supra note 102, at 48, § (b)(vi).

^{142.} See discussion supra Part IV.B.

^{143.} See discussion supra Part II.

^{144.} KUNKEL ET AL., *supra* note 7, at 7.

^{145.} Cent. Hudson Gas & Elec. Corp. v. Pub. Serv. Comm'n of N.Y., 447 U.S. 557, 561, 563 (1980).

^{146.} Valentine v. Chrestensen, 316 U.S. 52, 54–55 (1942).

speech with "a limited measure of protection, commensurate with its subordinate position in the scale of First Amendment values."¹⁴⁷ As the Court gradually developed the commercial speech doctrine, it also introduced an analytical framework for assessing whether certain regulations on commercial speech are constitutional.

A. The Applicable Standard

One of the most significant Supreme Court cases regarding commercial speech is *Central Hudson Gas & Electric Corp. v. Public Service Commission*.¹⁴⁸ In this case, Central Hudson challenged New York's ban on promotional advertising by electrical utilities.¹⁴⁹ The ban required all electric utilities in the state to cease all advertisements promoting electricity use because there was not enough fuel to satisfy demand.¹⁵⁰ Although the New York Court of Appeals upheld the prohibition on advertising, the Supreme Court reversed the Court of Appeals' decision and outlined a four-part analysis to be used in commercial speech cases.¹⁵¹

The first determination that must be made in a commercial speech case is whether the First Amendment protects the speech.¹⁵² To satisfy this initial test, the speech "must concern lawful activity and not be misleading."¹⁵³ Next, the government's interest in regulating the speech must be substantial.¹⁵⁴ If these two inquiries are satisfied, the third question is whether the regulation directly advances the governmental interest asserted.¹⁵⁵ The final part of *Central Hudson* asks whether the particular regulation is more extensive than is necessary to serve the government's interest.¹⁵⁶

In *Central Hudson*, the speech was protected by the First Amendment because it satisfied the first part of the test, as the promotional advertising did not promote unlawful activity and was not inaccurate.¹⁵⁷ Satisfying the second step, the Court found that the government had a substantial interest in regulating promotional advertising of electric utilities.¹⁵⁸ With respect to the third part of the analysis, the Court held that

157. *Id.* at 566–67.

158. *Id.* at 568–69. The Commission offered two government interests as justifications for the ban, and the Court found that both were substantial. First, the Commission was concerned about energy conservation. *See id.* Second, the Commission was concerned that

^{147.} Ohralik v. Ohio State Bar Ass'n, 436 U.S. 447, 456 (1978).

^{148. 447} U.S. 557 (1980).

^{149.} Id. at 560.

^{150.} *Id.* at 559.

^{151.} Id. at 561, 566.

^{152.} Id. at 566.

^{153.} *Id.*

^{154.} *Id.*

^{155.} Id.

^{156.} *Id*.

the Commission's interest in energy conservation was directly advanced by the ban on promotional advertising because there was an "immediate connection between advertising and demand for electricity."¹⁵⁹

Finally, the Court examined whether the Commission's ban was no more extensive than necessary to further its interest in energy conservation.¹⁶⁰ The ban prohibited all promotional advertising, including information about electric devices or services that would not cause an increase in total energy consumption.¹⁶¹ The complete suppression of all promotional advertising was excessive and the Court held that the ban violated the First and Fourteenth Amendments.¹⁶² Based on the Court's reasoning in *Central Hudson* and in subsequent cases of commercial speech regulation, the last two prongs of the analysis tend to be the most contentious.¹⁶³

The Court further clarified the last element of the four-part examination in Board of Trustees of the State University of New York v. Fox, a case in which police arrested a sales representative for hosting a "Tupperware party" in a dormitory.¹⁶⁴ The State University of New York established a regulation that prohibited private commercial enterprises from operating on campus.¹⁶⁵ The Supreme Court acknowledged that Central Hudson and other decisions suggested that regulators must demonstrate that a particular regulation is the least restrictive means to advance their interest.¹⁶⁶ However, the Court clarified that it does not intend to impose such a high burden.¹⁶⁷ Instead, the Court requires a "fit that is not necessarily perfect, but reasonable" between the government's interest and the measures it takes to further this interest.¹⁶⁸ The government does not have to necessarily use the least restrictive means, so long as they are "narrowly tailored" to achieve its objective.¹⁶⁹ By refusing to enforce a least-restrictive means requirement, the Supreme Court granted more latitude to the government in commercial speech regulation.¹⁷⁰

The Supreme Court considered the four-step *Central Hudson* analysis most recently in *Lorillard Tobacco Co. v. Reilly*, where Massachusetts adopted regulations governing the advertisement of tobacco

162. *Id.* at 572.

- 164. 492 U.S. 469, 472 (1989). 165. *Id.* at 471–72.
- 165. Id. at 471-7.
- 167. *Id.* at 477.
- 168. *Id.* at 480.
- 169. *Id.*
- 170. Browne et al., *supra* note 163, at 101.

the promotional advertising would negatively impact the fairness of the utilities' rates. See id.

^{159.} *Id.* at 569.

^{160.} Id. at 569–70.

^{161.} *Id.* at 570.

^{163.} M. Neil Browne et al., Advertising to Children and the Commercial Speech Doctrine: Political and Constitutional Limitations, 58 DRAKE L. REV. 67, 107–10 (2009).

products.¹⁷¹ Only the last two parts of *Central Hudson's* analysis were at issue in that case.¹⁷² In reference to the third requirement of the test, the Court asserted that speech restrictions can be justified based solely on references to studies, history, consensus, and common sense.¹⁷³ In this case, the Court considered multiple studies and reports issued by the FDA, the Surgeon General, and the Institute of Medicine.¹⁷⁴ These materials showed rampant underage use of tobacco products and provided evidence that limiting youth exposure to advertisements featuring these products would decrease underage usage.¹⁷⁵ Consequently, the Court concluded that the state's interest in reducing the prevalence of tobacco advertising.¹⁷⁶

Next, the Court examined whether the outdoor advertising regulation satisfied the final step of the *Central Hudson* analysis—the reasonable fit test.¹⁷⁷ The Court was primarily concerned that this regulation would, in some geographical areas, constitute "nearly a complete ban" on advertising tobacco products to adults.¹⁷⁸ The broad sweep of the regulation was problematic because use of tobacco products by adults is a legal activity and tobacco retailers have an interest in conveying information about their products to them.¹⁷⁹ Ultimately, the Court concluded that the regulation did not satisfy the fourth step of the *Central Hudson* analysis.¹⁸⁰

The commercial speech doctrine evolved significantly before and after *Central Hudson*. The first two prongs of the *Central Hudson* inquiry are easily satisfied in most cases, but the third and fourth parts of the test present challenging constitutional hurdles.¹⁸¹ Similar to the regulations previously considered by the Supreme Court, the constitutionality of a regulation restricting advertising of unhealthy foods directed at children would also be determined using the *Central Hudson* test.

B. Regulation of Unhealthy Advertisements Directed at Children as a Valid Restriction on Commercial Speech

The rising incidence of childhood obesity across the nation is alarming and has been acknowledged by the federal government as a problem that must be resolved. An FCC regulation that restricts the advertisement of unhealthy foods during children's programming would be

- 175. *Id.*
- 176. *Id.* at 561.
- 177. *Id.* 178. *Id.* at 562
- 178. *Id.* at 562. 179. *Id.* at 564.
- 180. *Id.* at 561.
- 181. Browne et al., *supra* note 163, at 107.

^{171. 533} U.S. 525, 533 (2001).

^{172.} *Id.* at 555.

^{173.} *Id.* at 555.

^{174.} *Id.* at 559.

subject to review under the *Central Hudson* test.¹⁸² Based on the Supreme Court's reasoning in cases where restrictions on commercial speech were at issue, it is likely that the proposed regulation will satisfy all of the requirements of the *Central Hudson* analysis.

1. Constitutionally Protected Speech and Substantial Government Interest

The analysis of the first two parts of the *Central Hudson* test rarely presents contentious legal issues. The first step of the analysis is satisfied in the present case because advertisements of unhealthy food that are directed specifically at children do not concern an illegal activity and are not misleading.¹⁸³ Unhealthy food advertisements constitute a form of commercial speech that warrants First Amendment protection.¹⁸⁴ The second step is satisfied because the federal government has a substantial interest in regulating the advertisement of unhealthy food to children.¹⁸⁵ Ensuring that children are healthy is a substantial governmental interest that is comparable to the interests asserted by state governments in *Board of Trustees, Liquormart*, and *Lorillard Tobacco*. In those cases, facilitating an educational rather than a commercial atmosphere on a university campus, promoting temperance, and combating the use of tobacco by minors were all considered to be substantial governmental interests.¹⁸⁶

Childhood obesity is a growing problem that affects children's ability to develop into healthy adults and that creates a burden on the healthcare system.¹⁸⁷ Therefore, it is in the federal government's interest to take measures to help reverse the current trend in childhood obesity rates. Overweight children are considerably more likely to become overweight adults and to suffer from poor health.¹⁸⁸ Furthermore, the annual direct cost of childhood obesity in the United States is approximately \$14.3 billion.¹⁸⁹ Therefore, in addition to maintaining a healthy population of children, the

^{182. 47} C.F.R. § 73.670 (2013).

^{183.} Kennedy, *supra* note 11, at 517.

^{184.} *Id*.

^{185.} Id. at 518.

^{186.} See Bd. of Trs., 429 U.S. at 475; see also 44 Liquormart, Inc. v. Rhode Island, 517 U.S. 484, 504 (1996); Lorillard Tobacco, 533 U.S. at 555.

^{187.} The CDC has traced an upward trend in obesity rates among children aged two to eleven. Among children aged two to five, obesity increased from 5.0% to 12.1% between 1976–1980 and 2009–2010. The increase was even more significant among children aged six to eleven. In this age group, obesity increased from 6.5% to 18.0% within the same time periods. FRYAR ET AL., *supra* note 3, at 1; WHELAN ET AL., *supra* note 4, at 3. The increase in childhood obesity rates is concerning because obesity has been linked to various illnesses. *See supra* Part II.

^{188.} WHELAN ET AL., *supra* note 4, at 3; *see generally* AM. ACAD. OF CHILD & ADOLESCENT PSYCHIATRY, OBESITY IN CHILDREN AND TEENS (Mar. 2011), *available at* http://www.aacap.org/galleries/FactsForFamilies/79_obesity_in_children_and_teens.pdf.

^{189.} Hammond & Levine, *supra* note 5, at 287.

federal government also has a substantial interest in reducing the costs associated with childhood obesity. Based on the types of governmental interests found to be substantial in *Liquormart*,¹⁹⁰ *Lorillard Tobacco*,¹⁹¹ and *Board of Trustees*,¹⁹² it is likely that maintaining a healthy population of children and reducing the costs associated with childhood obesity also constitute substantial governmental interests.

2. Regulation Directly Advances the Government Interest

Under the third prong of the *Central Hudson* analysis, the government's substantial interest must be directly advanced by the regulation. It is likely that the courts would find that the proposal discussed above directly advances the federal government's interest in helping to reduce the incidence of childhood obesity. In *Lorillard Tobacco*, the Court held that the third part of the *Central Hudson* test was satisfied because the decision to regulate advertising of tobacco products with the goal of reducing the use of these products by minors was not based on "mere 'speculation and conjecture."¹⁹³ Central to this conclusion were the studies relied upon by the Attorney General in defending the regulation of tobacco product advertisements.¹⁹⁴ The cited studies showed that advertising affects demand for tobacco products and plays a contributory role in a young person's decision to use cigarettes.¹⁹⁵

The Committee on Food Marketing and the Diets of Children and Youth found strong evidence that exposure to television advertising of unhealthy foods, defined by the Committee as products with high amounts of calories and low amounts of nutrients, is associated with body fatness ("adiposity") in children aged two to eleven. ¹⁹⁶ Significantly, the association between advertisements of unhealthy foods and adiposity in children remains even after taking into account alternative explanations such as gender, race/ethnicity, and parent adiposity.¹⁹⁷ The study found that television advertising influences children in this age group to prefer and request unhealthy foods and beverages. ¹⁹⁸ Furthermore, television advertising affects children's short-term consumption as well as usual dietary intake of such food products.¹⁹⁹

197. *Id* at 286, 379.

199. Id.

^{190.} See 44 Liquormart, 517 U.S. at 490, 529.

^{191.} See Lorillard Tobacco, 533 U.S. at 527–28.

^{192.} See Bd. of Trs., 429 U.S. at 475.

^{193.} Lorillard Tobacco, 533 U.S. at 528.

^{194.} Id.

^{195.} Id.

^{196.} COMM. ON FOOD MKTG. & THE DIETS OF CHILDREN & YOUTH, *supra* note 2, at 187, 379.

^{198.} Id.

The findings of the Committee on Food Marketing and the Diets of Children and Youth have been confirmed by other organizations and studies. For example, the American Heart Association has concluded that advertising of high-calorie, low-nutrient foods is an "important causative factor in the obesity epidemic" because it contributes to a higher consumption of these foods by children.²⁰⁰ Multiple studies also have shown that reducing children's exposure to televised advertisements of unhealthy food products would have a considerable impact on the incidence of childhood obesity.²⁰¹ A study that examined whether limiting television advertisements of unhealthy foods can reduce childhood obesity concluded that up to one in three obese U.S. children might not be obese if they were not exposed to such advertising.²⁰² Furthermore, a study focusing specifically on the effects of fast-food advertising on childhood obesity rates concluded that the number of overweight children aged three to eleven would be reduced by eighteen percent if fast-food television advertisements were completely banned.²⁰³

Another study challenged the common presumption that children gain weight because watching television is a sedentary activity.²⁰⁴ This study concluded that viewing programs with advertising content was associated with childhood obesity even when confounding variables were taken into account.²⁰⁵ Importantly, these results remained unchanged even when the researchers controlled for the child's physical activity, the child's amount of sleep, the mother's body mass index, and the mother's educational level.²⁰⁶ By contrast, viewing noncommercial television, such as educational television without in-program commercials, had "no statistically significant association with subsequent or concurrent obesity." ²⁰⁷ Therefore, the study suggested that children's viewing of television advertisements for foods of low nutritional quality, rather than the act of watching television per se, leads to childhood obesity. ²⁰⁸

^{200.} AM. HEART ASS'N, UNDERSTANDING CHILDHOOD OBESITY: 2011 STATISTICAL SOURCEBOOK 12 (2011), *available at* http://www.heart.org/idc/groups/heart-public/@wcm/ @fc/documents/downloadable/ucm_428180.pdf.

^{201.} J. Lennert Veerman et al., *By How Much Would Limiting TV Food Advertising Reduce Childhood Obesity?*, 19 EUR. J. PUB. HEALTH 365, 367 (2009); Shin-Yi Chou et al., *Fast-Food Restaurant Advertising on Television and Its Influence on Childhood Obesity*, 51 J. L. & ECON. 599, 615–16 (2008).

^{202.} Veerman et al., supra note 201, at 367.

^{203.} Chou et al., *supra* note 201, at 616.

^{204.} Frederick J. Zimmerman & Janice F. Bell, Associations of Television Content Type and Obesity in Children, 100 AM. J. PUB. HEALTH 334, 336 (2010).

^{205.} Id.

^{206.} *Id.* "[T]he mother's BMI was a proxy for both the diet and physical activity patterns in the household, as well as genetic factors that might influence the child's BMI." *Id.*

^{207.} Id.

^{208.} Id.

unhealthy foods is more likely to achieve a reduction in childhood obesity than is restricting how much television children view.²⁰⁹

Based on the numerous studies that have established the link between exposure to television advertisements of unhealthy foods and children's consumption habits, it is likely that reviewing courts would conclude that a proposed regulation limiting the exposure of children to such ads meets the third prong of the *Central Hudson* test. As in *Lorillard Tobacco*, the government's decision to regulate unhealthy food advertisements targeting children aged two to eleven would not be based on "mere speculation and conjecture."²¹⁰ The studies discussed above show that the federal government's interest in reducing the prevalence of childhood obesity would be directly advanced by a regulation limiting children's exposure to unhealthy food advertisements during children's programming.

3. Narrowly Tailored Standard

Reviewing courts also would likely find that the last part of the Central Hudson analysis—whether there is a reasonable fit between the regulation and what the government seeks to accomplish-is satisfied in the present case. Unlike the regulations at issue in Liquormart and Lorillard Tobacco, the regulation proposed above is not overly broad and would therefore satisfy the final prong of the Central Hudson test. As an initial matter, a number of the companies that would be subject to the regulation have already voluntarily committed to advertising "better-foryou" foods to children by participating in the CFBAI.²¹¹ Moreover, the proposed regulation is narrowly tailored because it will only apply to children's programming. Children above the age of twelve and adults would still be able to view advertisements featuring foods not in compliance with the FDA's nutritional standards during programs targeted to them. By contrast, the Court found the regulation of tobacco product advertisements in Lorillard Tobacco to have an unacceptably broad effect.²¹² In that case, the Court was concerned that the regulations hindered the ability of adults to view the advertisements for tobacco products and consequently found that the fourth part of the Central Hudson test was not satisfied.²¹³ Based on the Court's reasoning in Lorillard Tobacco, it is unlikely that it would find that the proposed regulation presents a similar problem, because it would not restrict food advertisements aired during general audience programming.

^{209.} Id. at 337.

^{210.} Lorillard Tobacco, 533 U.S. at 528.

^{211.} About the Initiative, supra note 55.

^{212.} Lorillard Tobacco, 533 U.S. at 565–66.

^{213.} Id. at 561–62.

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The Court in Liquormart also found the existence of viable alternatives to be dispositive in its analysis of the fit between the state's regulations and the governmental interest of promoting temperance.²¹⁴ After offering examples of alternate forms of regulation that could have facilitated temperance without restricting speech, the Court held that the state did not establish a "reasonable fit" and that the fourth prong of the *Central Hudson* analysis was not fulfilled.²¹⁵ The Court would likely reach the opposite conclusion in regards to a narrowly tailored regulation of unhealthy food advertisements targeting children aged two to eleven. The most likely alternative to the proposed regulation is the continuation of industry self-regulation through programs such as the CFBAI. Industry self-regulation has been touted as an effective alternative to governmental regulation in reducing the prevalence of unhealthy food advertising targeting children in this age group.²¹⁶ However, self-regulation programs such as the CFBAI have proven to be ineffective in reducing young children's exposure to televised advertisements of unhealthy food products.²¹⁷ Therefore, it is doubtful that the Court will view self-regulation as a viable alternative to achieving the federal government's objective.

Under the Court's reasoning in *Liquormart* and *Lorillard Tobacco*, the regulations proposed in this Note satisfy the fourth part of the *Central Hudson* test. As clarified in *Board of Trustees*, the means used by the government to advance its interest do not have to be the least restrictive.²¹⁸ However, there must be a "reasonable fit" between the means used by the government and the ends it seeks to achieve.²¹⁹ A regulation that restricts the advertisement of unhealthy foods during children's programming is narrowly tailored to support the federal government's effort in combating childhood obesity by reducing children's exposure to this type of advertising. Considering these factors, it is likely that the Court would find that the last part of the *Central Hudson* analysis is satisfied in the present case.

In short, based on the Court's application of the *Central Hudson* analysis in *Board of Trustees, Liquormart*, and *Lorillard Tobacco*, the regulation in the instant case does not abridge speech in violation of the First Amendment. The federal government has a substantial interest in regulating children's exposure to this type of advertising to reverse the current trend in childhood obesity rates, and a regulation restricting unhealthy food advertisements during children's programming directly advances this substantial governmental interest. Finally, the proposed regulation is narrowly tailored to achieve the federal government's

^{214. 44} Liquormart, 517 U.S. at 507.

^{215.} *Id.* at 516.

^{216.} KUNKEL ET AL., *supra* note 7, at 34.

^{217.} Id. at 7, 26; Powell et al., supra note 8, at 1083.

^{218.} Bd. of Trs., 429 U.S. at 480.

^{219.} Id. at 470.

objective. The proposed regulation will only affect the content of advertisements aired during children's programming, defined by the FCC as programs "originally produced and broadcast primarily for an audience of children 12 years old and younger."²²⁰ Children above the age of twelve and adults will still be able to view commercials featuring unhealthy foods when watching other television programs. For these reasons, the courts are likely to uphold the proposed regulations restricting the advertisement of unhealthy foods during children's programming.

VIII. CONCLUSION

Children are being inundated with unhealthy food advertisements,²²¹ which have been shown to influence young children's consumption of these products.²²² Meanwhile, childhood obesity rates in the United States are steadily increasing for children between the ages of two and eleven.²²³ Obese children are developing serious obesity-related illnesses that impede their ability to grow into healthy adults.²²⁴ The federal government and companies in the food and beverage industry have launched several initiatives to reduce children's exposure to such advertisements.²²⁵ However, these efforts at self-regulation have not led to any significant changes.²²⁶ Children are still viewing advertisements featuring unhealthy foods, and childhood obesity rates continue to climb.²²⁷ The federal government must reconsider its role in decreasing the prevalence of childhood obesity. Specifically, Congress should direct the FCC to use nutritional standards adopted by the FDA to restrict the advertisement of unhealthy foods during children's programming. Because the effect of such a regulation will be to constrain commercial speech, the constitutionality of the regulation must be assessed using the Central Hudson four-step analysis. The regulation proposed in this Note would pass the Central Hudson test. The government has a substantial interest in reducing the prevalence of childhood obesity in the United States considering the serious consequences of obesity on children's health and the direct annual cost of childhood obesity on the health care system. This substantial interest would be directly advanced by the proposed regulation because studies have shown that there is a link between exposure to unhealthy food

^{220. 47} C.F.R. § 73.670 n.2 (2013).

^{221.} See The Facts On Junk Food Marketing and Kids, supra note 1.

^{222.} COMM. ON FOOD MKTG. & THE DIETS OF CHILDREN & YOUTH, *supra* note 2; AM. HEART ASS'N, *supra* note 200.

^{223.} FRYAR ET AL., *supra* note 3.

^{224.} WHELAN ET AL., supra note 4.

^{225.} WHITE HOUSE TASK FORCE ON CHILDHOOD OBESITY, *supra* note 12; INTERAGENCY WORKING GRP. ON FOOD MARKETED TO CHILDREN, *supra* note 22 at 1–2; *About the Initiative, supra* note 55.

^{226.} See KUNKEL ET AL., supra note 7, at 6, 7, 26, 32, 34–35.

^{227.} Id. at 6; Powell et al., supra note 8, at 1083; FRYAR ET AL., supra note 3.

advertisements, consumption, and adiposity. Finally, the proposed regulation is narrowly tailored because it will only restrict advertisements of unhealthy foods during children's programming.

The Effective Prohibition Preemption in Modern Wireless Tower Siting

Andrew Erber*

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I. INTRODUCTION

In recent decades, rapid technological change, the growing importance of the information economy, and increased concern with local zoning values have precipitated conflict in the wireless communications sector over the placement of cellular towers. A war is being waged in federal courts, local zoning board meetings, and the halls of the Federal Communications Commission ("FCC") over the proper structure of local cellular markets and the appropriate role of local governments in the placement of wireless towers. On the one hand, state and local governments have inherent authority over the construction, placement, and appearance of buildings within their jurisdictions.¹ That authority is paired with a political loyalty to local constituencies who are primarily interested in limiting the construction of unsightly wireless towers near their properties. Advocates for strong local zoning authority point to a number of benefits that flow from regulating the use of land, including: reduction in nuisance costs associated with adjacent placement of incompatible uses;² protection of the aesthetic character of a neighborhood;³ and protection of public health.⁴ Where construction proposals conflict with these priorities, the delegation of police powers to zoning boards generally affords them a great deal of discretion in granting or denying variance from an approved zoning plan.⁵

^{1.} See generally PATRICIA E. SALKIN, AMERICAN LAW OF ZONING § 2:1 (5th ed. 2012). Though great variety exists in the administration of local regulations, zoning ordinances typically lay out contiguous areas within which specific uses are authorized, with alternative uses being precluded unless approved through a variance or special exception. Nick Tinari, *Cell Phone Towers in Residential Areas: Did Congress Let the Pig in the Parlor with the Telecommunications Act of 1996?*, 73 TEMP. L. REV. 269, 272 (2000).

^{2.} See Robert C. Ellickson, Alternatives to Zoning: Covenants, Nuisance Rules, and Fines as Land Use Controls, 40 U. CHI. L. REV. 681, 693 (1973).

^{3.} *See generally* T-Mobile Cent., LLC v. Unified Gov't of Wyandotte Cnty., 546 F.3d 1299 (10th Cir. 2008) (describing factors suggested by Kansas courts for use by municipalities in considering zoning changes or special use permits).

^{4.} See id. at 1312–13 (zoning decisions often include consideration of "1) the character of the neighborhood, 2) the zoning and uses of nearby properties, 3) the suitability of the property for the uses to which it is restricted, 4) the extent to which the change will detrimentally affect nearby property, 5) the length of time the property has been vacant as zoned, 6) the gain to the public health, safety, and welfare by the possible diminution of value in the developer's property as compared to the hardship imposed on the individual landowners, 7) recommendations of a permanent or professional planning staff, and 8) the conformance of the requested change to the city's master or comprehensive plan."); see also U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-10-779, ENHANCED DATA COLLECTION COULD HELP FCC BETTER MONITOR COMPETITION IN THE WIRELESS INDUSTRY 36–37 (July 2010), available at http://www.gao.gov/assets/310/308167.pdf.

^{5.} See Sprint Spectrum, L.P. v. Willoth, 176 F.3d 630, 645 (2d Cir. 1999). Constitutionally, local zoning authorities retain their power to regulate construction through the delegation of a state's police powers to protect the public health, safety, and morality of its citizenry. See SALKIN, supra note 1, § 2:1. Zoning regulations in the United States have their origins in the New York City ordinance of 1916. See Ellickson, supra note 2, at 692–93. Following the Supreme Court's decision in *Village of Euclid, Ohio v. Ambler Realty*

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Conflict is particularly likely in the case of wireless tower siting applications in urban and suburban areas where neighborhood character is linked, in the eyes of landowners, to the value of individual plots and to the aesthetic character of the area.⁶

Opposite these localized values are federal telecommunications policies, which seek generally to "promote competition and reduce regulation in order to secure lower prices and higher quality services for American telecommunications consumers and encourage the rapid deployment of telecommunications technologies."⁷ The creation of nationwide telecommunications networks, of which personal wireless services are an increasingly important part, often necessitates overcoming localized aesthetic values to roll out the full measure of network benefits to the national population.⁸ Wireless networks require comprehensive coverage and ubiquitous facilities nationwide to satisfy consumer expectations of strong mobile signals that provide reliable, high quality service.⁹

To aid in the deployment of advanced communications services, Congress passed section 704 of the Telecommunications Act of 1996 ("the Act"), codified at 47 U.S.C. section 332(c)(7).¹⁰ This subsection of the Act prescribes limitations on the authority of local governments in considering zoning permits for wireless tower siting applications and includes a number of preemptions.¹¹ When first enacted, these preemptions redefined federalstate relations with regard to wireless tower siting. Congress's balancing of federal and state values resulted in a dynamic preemption scheme that affords neither the FCC nor local zoning boards unilateral authority over

11. Id.

Co., 272 U.S. 365 (1926), upholding the constitutionality of zoning regulations, local zoning codes spread to every major metropolitan area, except Houston, Texas, and over 97% of cities having a population over 5,000. See id. at 692.

^{6.} See Steven J. Eagle, Wireless Telecommunications, Infrastructure Security, and the NIMBY Problem, 54 CATH. U. L. REV. 445, 455-57 (2005) (identifying multiple examples of conflict in urban areas over wireless tower siting ordinances and locations).

Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56, preamble 7. (1996).

See generally Petition for Declaratory Ruling to Clarify Provisions of Section 8. 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, WT Docket No. 08-165, FCC 09-99 (2009) [hereinafter 2009 Declaratory Ruling] (statement of Chairman Genachowski).

^{9. 2009} Declaratory Ruling, supra note 8, at para. 35.

⁴⁷ U.S.C. § 332(c)(7) (2006) (requiring that zoning authorities process wireless 10. tower citing applications within a "reasonable period of time," so that "any person adversely affected by any final action or failure to act by a State or local government . . . may, within 30 days after such action or failure to act, commence an action in any court of competent jurisdiction," and "[t]he court shall hear and decide such action on an expedited basis." (emphases added)).

tower placement.¹² Since the passage of the Act, such balancing has coincided with the explosive growth of cellular wireless services, both voice and data.¹³ Consumer adoption of new wireless technologies has spurred breakneck innovation in devices and the deployment of technical standards that support ever-increasing demands on wireless bandwidth.¹⁴ Non-uniform rules increase regulatory uncertainty and increase investment costs for wireless carriers, leading to slower wireless build-out and patchy network coverage.¹⁵

Section 332(c)(7)(B)(i)(II) of the Act ("the Effective Prohibition Preemption" or "the Preemption"), in particular, has caused a great deal of litigation since the Act was passed seventeen years ago. The Preemption provides that "the regulation of the placement, construction, and modification of personal wireless facilities by any state or local government or instrumentality thereof . . . shall not prohibit or have the effect of prohibiting the provision of personal wireless services."¹⁶ Indicative of the tension between federal and state interests discussed above, the federal circuit courts have interpreted the Effective Prohibition Preemption in a number of ways, resulting in a patchwork of inconsistent wireless tower siting rules across the nation.¹⁷ As with other lines of cases interpreting the section 332(c)(7) preemptions, ¹⁸ the primary question before the courts is the extent to which local authorities have been preempted by the language of the statute. Some rules grant localities greater flexibility in denying wireless siting applications¹⁹ while others promote competitiveness in the cellular sector by allowing carriers to fill significant gaps in their own coverage, irrespective of their competitors' deployments.²⁰

^{12.} See Ashira Pelman Ostrow, *Process Preemption in Federal Siting Regimes*, 48 HARV. J. ON LEGIS. 289, 291 (2011) (describing the interjurisdictional balancing of the Telecommunications Act).

^{13.} 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, *Tenth Report*, WT Docket No. 05-71, FCC 05-173 para. 186 (2005) (mobile telephony grew 30% from 2002–2005); see also 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, *Fifteenth Report*, WT Docket No. 10-133, FCC 11-103 para. 182 (2011) [hereinafter *Fifteenth Report*] (mobile messaging grew 117% from 2008–2011).

^{14.} *Fifteenth Report, supra* note 13, at para. 186.

^{15.} See AT&T Petition to Launch a Proceeding Concerning the TDM-to-IP Transition, WC Docket No. 12-353, at 5–6, 10–11 (filed Nov. 12, 2012).

^{16. 47} U.S.C. § 332(c)(7)(B)(i)(II) (2006).

^{17.} See infra Section II.B.

^{18.} *See, e.g.*, City of Arlington v. FCC, 668 F.3d 229 (5th Cir. 2012), *aff*^{*}d, 133 S. Ct. 1863 (2013).

^{19.} See T-Mobile Ne. LLC v. Fairfax Bd. of Supervisors, 672 F.3d 259 (4th Cir. 2012).

^{20.} See, e.g., MetroPCS, Inc. v. City of San Francisco, 400 F.3d 715, 733 (9th Cir. 2005).

In light of the balanced, pro-competitive policies of the 1996 Act and the dramatic changes in the wireless marketplace since the Act's adoption. the tension between local zoning prerogatives and the federal interest in reliable, ubiquitous advanced wireless networks becomes more pronounced every year. This Note reports on the current state of the circuit split over the Effective Prohibition Preemption, analyzes current FCC interpretations of the statutory text, and recommends both a statutory and administrative solution to adopt a pro-competitive standard for wireless tower siting. Part II describes the development of two circuit splits over the meaning of the Effective Prohibition Preemption and the current state of those splits. In Part III, this Note analyses the Preemption as a valid exercise of Congress's authority and examines the deference owed to the Commission in light of the Supreme Court's recent decision in City of Arlington v. Federal Communications Commission. This Part concludes that the Second, Third, and Fourth Circuits have failed to give the Commission the deference it is owed in its interpretation of the Preemption and that the Commission is likely owed deference under Chevron in this matter. Further, this Note observes that the Commission's 2009 Declaratory Ruling interpreting section 332(c)(7) falls short of resolving the multifaceted disputes over the Preemption, leaving zoning authorities with far too much discretion in construing the language of the statute. The Note concludes in Part IV with a proposed statutory amendment that would make explicit the competitionenhancing purposes of the Act. Alternatively, this Note recommends that the Commission supplement its 2009 Declaratory Ruling to resolve the remaining ambiguities and circuit splits not originally addressed in that order.

II. BACKGROUND

A. History of the Effective Prohibition Preemption

In our system of government, federal law necessarily takes precedence over conflicting state or local laws.²¹ Congress may preempt inherent state authority in a number of ways,²² one of which occurs when federal law directly conflicts with state law.²³ Constitutionally, local zoning

^{21.} See U.S. CONST. art. VI, cl. 2 ("This Constitution, and the Laws of the United States which shall be made in Pursuance thereof; and all Treaties made, or which shall be made, under the Authority of the United States, shall be the supreme Law of the Land ...").

^{22.} Other methods of preemption exist beyond the direct conflict doctrine. *See, e.g.,* Hines v. Davidowitz, 312 U.S. 52, 67 (1941) (holding that a state law can be preempted when "[the State's] law stands as an obstacle to the accomplishment and execution of the full purposes and objectives of Congress"); Pennsylvania v. Nelson, 350 U.S. 497, 509 (1956) (holding that where Congress has "occupied the field to the exclusion of parallel state legislation," the dominant interest of the Federal Government precludes state intervention).

^{23.} See Gibbons v. Ogden, 22 U.S. 1 (1824).

authorities retain their power to regulate construction through the delegation of a state's police powers to protect the public health, safety, and morality of its citizenry.²⁴ The great challenge for students of federal-state relations is in determining the extent of Congress's pronouncements, few of which are entirely lacking in ambiguity.

In passing the Act, Congress generally preserved the power of state and local governments over wireless siting decisions, but also provided for preempting such power when it conflicted with the Act's policy goals.²⁵ Before the Act, Congress had placed no restrictions on state and local authority to regulate the placement of wireless towers.²⁶ Yet, pursuant to the legislature's stated goal of increasing competition in the telecommunications sector,²⁷ Congress found it prudent to limit the ability of local authorities to stifle competition through heavy-handed zoning regulation.²⁸ Originally, the House of Representatives proposed to give the FCC direct power over the zoning of wireless towers.²⁹ The House proposal would have fundamentally altered the landscape of state and federal relations in the wireless telecommunications sector by vesting decisionmaking power over fundamentally local issues in a federal body. In conference, however, the House's wholesale preemption of local zoning authority was deemed too extreme a measure, and the conferees opted to "preserve[] the authority of state and local governments over zoning and land use matters except in the limited circumstances set forth in [the statute]."³⁰ Rather than completely upend the balance of state and federal power, the enacted text curbed local authority at the edges while preserving local discretion in tower placement, thereby encouraging cost-effective, reliable, and universal telecommunications service.³¹

The resulting section 332(c)(7) preemptions concern the "regulation of the placement, construction, and modification of personal wireless service facilities by any state or local government."³² Specifically, local authorities "(I) shall not unreasonably discriminate among providers of functionally equivalent services; and (II) shall not prohibit or have the

^{24.} See SALKIN, supra note 1.

^{25. 47} U.S.C. § 332(c)(7)(A) (2006).

^{26.} See generally 47 U.S.C. § 301 (1988).

^{27.} H.R. REP. No. 104-458, at 113 (1996) (Conf. Rep.), *reprinted in* 1996 U.S.C.C.A.N. 124, 124 ("to provide for a pro-competitive, de-regulatory national policy framework designed to accelerate rapidly private sector deployment of advanced telecommunications and information technologies and services . . . by opening all telecommunications markets to competition ").

^{28.} See 47 U.S.C. § 332(c)(7)(A) (titled "Preservation of local zoning authority").

^{29.} H.R. REP. No. 104-204(I), § 701, at 94 (1995), *reprinted in* 1996 U.S.C.C.A.N. 10, 61.

^{30.} H.R. REP. No. 104-458, § 704, at 207–08 (1996) (Conf. Rep.), *reprinted in* 1996 U.S.C.C.A.N. 124, 222.

^{31.} Eagle, *supra* note 6.

^{32.} See 47 U.S.C. § 332(c)(7)(B)(i) (2006).

effect of prohibiting the provision of personal wireless services." ³³ Additionally, Congress preempted state and local authorities from considering the environmental effects of radio frequency emissions, if in compliance with the FCC's rules,³⁴ and required timely,³⁵ written decisions supported by substantial evidence.³⁶ Should a carrier wish to challenge a locality's zoning denial on the basis of one of the aforementioned preemptions, Congress provided for judicial review of adverse decisions by the federal district courts.³⁷

After the passage of the Act, wireless providers acted quickly to avail themselves of these new preemptions of state zoning authority.³⁸ A pattern of litigation emerged whereby individual wireless providers would seek initial zoning board approval; a zoning board would deny the application or variance on concerns of aesthetics, property value, or neighborhood character; and then the provider would quickly file suit for expedited judicial review of the zoning denial.³⁹ Challengers succeeded in having the courts overturn zoning decisions using a number of the preemptions established in section 332(c)(7).⁴⁰ The Effective Prohibition Preemption, in particular, sparked substantial disagreement among the circuit courts, leading to a prolonged circuit split over the meaning of this provision.⁴¹

In 2008, CTIA–The Wireless Association, seeking to resolve this split and others, petitioned the Commission to issue a declaratory ruling to clarify the provisions of section 332(c)(7) related to the processing of tower siting applications before state and local zoning authorities.⁴² After issuing

38. Major wireless carriers quickly filed suit after the Act was passed, challenging adverse zoning decisions in courts around the country. *See, e.g.*, AT&T Wireless PCS, Inc. v. City Council of Va. Beach, 153 F.3d 423 (4th Cir. 1998); APT Pittsburgh Ltd. P'ship v. Penn Twp. Butler Cnty., 196 F.3d 469 (3d Cir. 1999).

41. See infra Sections II.B–II.D.

42. See 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, *Petition for*

^{33. 47} U.S.C. §§ 332(c)(7)(B)(i)(I)–(II) (2006).

^{34. 47} U.S.C. § 332(c)(7)(B)(iv) (2006).

^{35. 47} U.S.C. § 332(c)(7)(B)(ii) (2006).

^{36. 47} U.S.C. § 332(c)(7)(B)(iii) (2006).

^{37.} See 47 U.S.C. § 332(c)(7)(B)(v) (2006) ("Any person adversely affected by any final action or failure to act by a State or local government or any instrumentality thereof that is inconsistent with this subparagraph may, within 30 days after such action or failure to act, commence an action in any court of competent jurisdiction. The court shall hear and decide such action on an expedited basis.").

^{39.} See, e.g., AT&T Wireless PCS, Inc., 153 F.3d at 424–25.

^{40.} See, e.g., Sprint Spectrum v. Town of Durham, 1998 WL 1537756 (D.N.H. 1998) (holding that denial of zoning variance was not supported by "substantial evidence" as required by 47 U.S.C. § 332(c)(7)(B)(iii)); Nextel Partners, Inc. v. Town of Amherst, 251 F. Supp. 2d 1187 (W.D.N.Y. 2003) (town unreasonably discriminated against Nextel in violation of 47 U.S.C. § 332(c)(7)(B)(i)(I)); MetroPCS New York, LLC v. City of Mount Vernon, 739 F. Supp. 2d 409 (S.D.N.Y. 2010) (holding that city unreasonably delayed application to install wireless service facility, resulting in failure to put application on agenda of city planning board for four months after carrier made final submission).

proposed rules and hearing comments from industry groups, carriers, and state zoning authorities, the Commission promulgated a final order (the "2009 Declaratory Ruling"), which interpreted a number of provisions from that section.⁴³ This Note concerns the preemption of regulations having the effect of prohibiting the provision of personal wireless service.⁴⁴ The following sections address at greater length the circuit splits over section 332(c)(7)(b)(i)(II) and the FCC's 2009 Declaratory Ruling.

B. The Circuit Split on What Constitutes a Significant Gap in Coverage

As described above, the wireless preemption sections of the Act were particularly contentious, as they regulated the build-out of wireless service facilities during a period in which demand for advanced cellular service, and the infrastructure to support it, was exploding.⁴⁵ Quickly, splits emerged in the circuit courts on how the courts should interpret two aspects of the Effective Prohibition Preemption of section 332(c)(7).⁴⁶ Most courts evaluating zoning board decisions under section 332(c)(7) followed the basic analytical framework developed in a landmark Second Circuit case interpreting the Effective Prohibition Preemption: *Sprint Spectrum v. Willoth*.⁴⁷ In that case, Sprint sought review of an adverse district court decision upholding a ruling of the Planning Board for the Town of Ontario,

Declaratory Ruling, WT Docket 08-165, at 4 (filed July 11, 2008) [hereinafter 2008 Petition for Declaratory Ruling].

43. *See generally* 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*, FCC 09-99, 24 FCC Rcd. 13994 (2009).

identical regarding the 44. Nearly language effective prohibition of telecommunications services occurs in the context of common carrier regulation as well. See 47 U.S.C. § 253 (2006) ("No State or local statute or regulation, or other State or local legal requirement, may prohibit or have the effect of prohibiting the ability of any entity to provide any interstate or intrastate telecommunications service."). However, the wireless preemptions have generated much more litigation, conceivably because the installation of personal wireless facilities more fundamentally impinges upon local aesthetic and neighborhood character values. Compare Timothy J. Tryniecki, Cellular Tower Sitting Jurisprudence Under the Telecommunications Act of 1996-The First Five Years, 37 REAL PROP. PROB. & TR. J. 271, 276-85 (2002) (overview of litigation under section 332), with Nicholas D. Birck, Unlocking the Future with Digital Infrastructure and Wireless Technology: How Municipal Wireless Networks Equal Good Urban Planning, 58 SYRACUSE L. REV. 613, 617 (2008) (discussion of more limited litigation under section 253).

45. Mobile subscribership has increased approximately 700% since the Act was passed in 1996. *See* FCC, SECOND ANNUAL REPORT AND ANALYSIS OF COMPETITIVE MARKET CONDITIONS WITH RESPECT TO COMMERCIAL MOBILE SERVICES, FCC 97-75, Table 1 (Mar. 1997) (In 1996, mobile subscribership stood at 44 million.); 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, *Sixteenth Mobile Competition Report*, FCC 13-34, 28 FCC Rcd. 3700, 3708 (2013) [hereinafter *Sixteenth Report*] (In 2011, mobile subscribership stood at 316 million.).

46. See infra Table 1.

47. 176 F.3d 630.

New York. The local planning board had rejected Sprint's application to build three communications towers.⁴⁸ Sprint argued that unless it was allowed to construct "any and all towers" it deemed necessary, the effect would be to prohibit the provision of wireless services under section 332(c)(7)(B)(i)(II) of the Act.⁴⁹ The defendant Planning Board countered by arguing that a local authority should have broad discretion to deny applications as long as it does not ban all wireless service.⁵⁰

The *Willoth* court rejected both Sprint's ⁵¹ and the Board's arguments.⁵² Setting the stage for later analysis, the *Willoth* court proposed a two-step test for determining whether a variance denial was an "effective prohibition," based on two questions: (1) whether a significant gap in coverage exists; and (2) whether the wireless provider has provided sufficient evidence of the absence of alternatives in bridging the gap.⁵³ The *Willoth* court acknowledged that a significant gap in coverage existed in the town of Ontario, but rejected Sprint's "all or nothing" application, finding that substantial evidence existed in the record that fewer, less intrusive towers, could serve the municipality by less intrusive means.⁵⁴ Apart from the Fourth Circuit, discussed in detail in Part II.C.3, most subsequent cases interpreting the Effective Prohibition Preemption continued to utilize a form of the *Willoth* two-step analysis to determine whether a local zoning board had improperly denied a zoning application or variance which effectively prohibited personal wireless service under section 332(c)(7).

1. The Single Provider Rule

With regard to the first question, *i.e.* whether a significant gap in coverage exists in a given locality, the *Willoth* court established a "single provider rule" to give effect to the Preemption.⁵⁵ Under the single provider rule, a coverage gap is deemed significant if "a remote user of [personal wireless] services is unable either to connect with the land-based national telephone network, or to maintain a connection capable of supporting a reasonably uninterrupted communication."⁵⁶ This rule linked judicial relief to whether *any* wireless provider already serves the locality that an

54. *See id.* at 644.

^{48.} *Id.* at 634.

^{49.} *Id.* at 639.

^{50.} *Id.* at 640.

^{51.} *Id*.

^{52.} *Id.*

^{53.} *Id.* at 643 ("We hold only that the Act's ban on prohibiting personal wireless services precludes denying an application for a facility that is the least intrusive means for closing a significant gap in a remote user's ability to reach a cell site that provides access to land-lines.").

^{55.} See APT Pittsburgh, 196 F.3d at 478.

^{56.} Cellular Tel. Co. v. Zoning Bd. of Adjustment of Ho-Ho-Kus, 197 F.3d 64, 70 (3d Cir. 1999); *see also Willoth*, 176 F.3d at 643.

applicant proposed to serve.⁵⁷ Under this rule, the Effective Prohibition Preemption could not be triggered if any cellular provider already operated in the municipality under consideration. At the time of the Act's passage and in the early years of litigation over the Preemption, this interpretation of the statute made some sense. Wireline telephony was dominant over wireless in all respects-number of subscribers, universality of the network, and pervasiveness in consumers' lives. The theory behind the single provider standard is that if a wireless customer is able to complete calls to the land-based national telephone network, zoning authorities have fulfilled their obligations under the Effective Prohibition Preemption, and a court will not overturn the decision. The wireless revolution had not yet taken hold, and it was primarily viewed as a method for mobile subscribers to gain access to the much more extensive landline network. Under this rule, it is conceivable that a local incumbent could become the monopolist wireless carrier in a particular region by operation of the Preemption, surely a strange result from a statute purporting to "promote competition."58

In 2000, the Third Circuit followed the *Willoth* court's lead in adopting the single provider rule in *Omnipoint Communications v. Newtown Township.*⁵⁹ In that case, the Third Circuit relied on the same reasoning as the *Willoth* court, namely that the Effective Prohibition Preemption served to preserve the right of consumer to connect to the "national telephone network" through a single wireless carrier.⁶⁰ Although the court mentioned Congress's pro-competitive justifications for the Telecommunications Act of 1996 in passing, the *Omnipoint* court undertook no detailed analysis of the competitive effects of the single provider rule in limiting wireless competition.

2. The Multiple Provider Rule

Following the *Willoth* decision and adoption of the single provider rule by the Third Circuit, a separate line of cases developed out of the First Circuit. Initially in *National Tower v. Plainville Zoning Board of Appeals*,⁶¹ and then in *Second Generation Properties v. Town of Pelham*, the First Circuit held that a local zoning authority could be preempted from denying siting applications when petitioning carriers sought to fill a significant gap in their own wireless coverage. ⁶² The court in *Second Generation Properties* held that the courts should approach the Effective Prohibition Preemption with a focus on maximizing reliability and coverage for

^{57.} See Willoth, 176 F.3d at 643.

^{58.} Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56, preamble (1996).

^{59.} See 219 F.3d 240, 243–44 (3d Cir. 2000).

^{60.} Id. at 244.

^{61.} Nat'l Tower v. Plainville Zoning Bd. of Appeals, 297 F.3d 14, 20 (1st Cir. 2002).

^{62.} Second Generation Props. v. Town of Pelham, 313 F.3d 620, 629 (1st Cir. 2002).

consumers, regardless of their current wireless provider.⁶³ Given the procompetitive goals of the Act, the court reasoned that denial of any one carrier's construction permit or zoning variance could effectively prohibit the provision of personal wireless services because it denied their customers ubiquitous geographic coverage—without reference to the extent of competitors' networks.⁶⁴ Under this rule, a non-incumbent wireless carrier were to sue under the Act's provision for expedited judicial review,⁶⁵ then that carrier would be entitled to relief against the zoning board's failure to grant it accommodation to fill a significant gap in coverage.

This version of the first step of effective prohibition analysis has gained significant traction since it emerged out of the First Circuit in 2002.⁶⁶ In recent years, the Ninth and Sixth Circuits have adopted this reading of the Effective Prohibition Preemption.⁶⁷ In *MetroPCS v. City and County of San Francisco*, the Ninth Circuit adopted the rule that "a local regulation creates a 'significant gap' in service (and thus effectively prohibits wireless services) if the *provider in question* is prevented from filling a significant gap *in its own* service network."⁶⁸ More recently, in *T-Mobile Central, LLC v. Charter Township of West Bloomfield*, the Sixth Circuit weighed the comparative value of the single provider rule and the multiple provider rule, choosing to adopt the multiple provider rule as enunciated by the Ninth Circuit in *MetroPCS*.⁶⁹

Additionally, the Federal Communications Commission substantially adopted this rule in the 2009 Declaratory Ruling interpreting section 332(c)(7).⁷⁰ In the 2009 Declaratory Ruling, the FCC commented on the circuit split between the single provider and multiple provider interpretations of the Preemption.⁷¹ Siding with the First and Ninth Circuits, the Commission concluded that denying an application for the construction of personal wireless service facilities because one or more carriers already serve a given geographic market constitutes an unlawful regulation, triggering the (B)(i)(II) provision.⁷² Among other reasons, the Commission found that this interpretation of the Preemption more

^{63.} *Id.* at 634 ("The fact that some carrier provides some service to some consumers does not in itself mean that the town has not effectively prohibited services to other consumers.").

^{64.} Id.

^{65.} See 47 U.S.C. § 332(c)(7)(B)(v) (2006).

^{66.} See, e.g., 2009 Declaratory Ruling, supra note 8, at para. 56.

^{67.} *See* T-Mobile Cent. LLC, v. Charter Twp. of W. Bloomfield, 691 F.3d 794, 807 (6th Cir. 2012); *MetroPCS, Inc.*, 400 F.3d at 733.

^{68.} *Id.* at 732.

^{69.} Charter Twp. of W. Bloomfield, 691 F.3d at 806.

^{70.} Petition for Declaratory Ruling to Clarify Provisions of Section 332(c)(7)(B), *Declaratory Ruling*, FCC 09-99, 24 FCC Rcd. 13994, paras. 57–58 (2009).

^{71.} Id. at para. 56.

^{72.} Id.

accurately reflects the Act's "pro-competitive purpose"⁷³ by mitigating significant coverage gaps which would otherwise "diminish the service provided to their customers."⁷⁴

The Commission found that the statutory language referring to "the provision of personal wireless *services*" in plural implied contemplation by Congress that there be "multiple carriers competing to provide services to consumers."⁷⁵ Relying on these provisions and its general expertise in matters of telecommunications competition, the FCC substantially adopted the multiple provider rule in the 2009 Declaratory Ruling.⁷⁶

3. The Case-by-Case Rule

In addition to the single and multiple provider rules, the Fourth Circuit has charted its own course in interpreting the Effective Prohibition Preemption.⁷⁷ The Fourth Circuit takes a less formulaic approach to measuring whether zoning decisions effectively prohibit the provision of personal wireless service, eschewing Willoth's two-step framework in favor of a case-by-case analysis.⁷⁸ Recognizing that the Supreme Court generally holds federal preemption of state police powers to a high constitutional bar, the Fourth Circuit gives local authorities wide discretion in determining the terms and conditions of local zoning.⁷⁹ The Fourth Circuit reasons that by requiring a local zoning board to prove that a significant gap in coverage must be bridged by the least intrusive means, the other circuits have established a presumption which "shifts the burden of production to the local government to explain its reasoning for denying such an application."⁸⁰ Similarly, in AT&T Wireless PCS, Inc. v. City of Virginia *Beach*, the Fourth Circuit has interpreted the effective prohibition ban as only becoming effective upon the imposition of a blanket ban on the provision of wireless service.⁸¹

Following the FCC's 2009 Declaratory Ruling, the Fourth Circuit continued to hold to its case-by-case interpretation of the Effective Prohibition Preemption.⁸² The court supported this rule by identifying the limitations of the Commission's treatment of wireless tower siting

^{73.} Id.

^{74.} Id. at para. 61.

^{75. 2009} Declaratory Ruling, supra note 8, at para. 58 (citing Second Generation Props., 313 F.3d at 634).

^{76. 2009} Declaratory Ruling, supra note 8, at paras. 58, 61.

^{77.} See AT&T Wireless PCS, Inc., 155 F.3d at 429.

^{78.} Id.

^{79.} See T-Mobile Ne., 672 F.3d at 266–67.

^{80. 360} Degrees Comme'ns Co. v. Bd. of Supervisors of Albemarle Cnty., 211 F.3d 79, 87 (4th Cir. 2000).

^{81.} AT&T Wireless PCS, Inc., 155 F.3d at 428.

^{82.} *T-Mobile Ne.*, 672 F.3d at 267 ("[O]ur precedent regarding the interpretation of subsection (B)(i)(II), as detailed in our decision in *Albemarle County*, is unaffected by the FCC's ruling.").

preemption. In 2012, the court noted in *T-Mobile Northeast, LLC v. Fairfax County Board of Supervisors* that the FCC only ruled on the divide between the single provider and multiple provider interpretations of the Preemption, with no mention of the case-by-case analysis conducted by the Fourth Circuit.⁸³ Indeed, the court cited the *2009 Declaratory Ruling* in support of its move to strengthen the ability of local authorities to act independently of the constraints imposed by section 332(c)(7).⁸⁴ By distinguishing its standards from those rejected by the FCC, the Fourth Circuit continues to chart its own course on the judicial standards for reviewing what constitutes a significant gap in wireless coverage.

C. The Circuit Split on Filling the Significant Gap—Differing Evidentiary Standards

Along with disagreements on the first step of *Willoth* (on the definition of a significant coverage gap), the circuits are split on the evidence necessary to justify overturning a zoning board denial.⁸⁵ When seeking permission from zoning authorities to construct wireless facilities, carriers often must demonstrate the superiority of their chosen site over viable alternatives. The Act requires that any decisions to deny a request to construct personal wireless facilities "shall be in writing and supported by substantial evidence contained in a written record."⁸⁶ In reviewing zoning decisions for violation of the preemption provisions, courts often examine the written record to determine whether the showings presented to the zoning board are sufficient to support reversal of the denial.

The circuits have staked out three primary positions on how an applicant can show that their application would fill a significant coverage gap. The Second, Ninth, Third, and Sixth Circuits have laid out a rule which accepts showings that the proposed tower site is the *least intrusive* on the values the denial sought to serve.⁸⁷ In *T-Mobile Central, LLC v.* Charter Township of West Bloomfield, for example, the Sixth Circuit held that T-Mobile, in seeking to fill a significant gap in coverage, "made numerous good faith efforts to identify and investigate alternative sites" which may have been less intrusive.⁸⁸ Coupled with the observation that the

^{83.} See id.

^{84.} *Id.* (quoting the FCC stating that when "a bona fide local zoning concern, rather than the mere presence of other carriers, drives a zoning decision, it should be unaffected by our ruling today").

^{85.} See infra Table 1.

^{86. 47} U.S.C. § 332(c)(7)(B)(iii) (2006).

^{87.} See Willoth, 176 F.3d at 643 (holding that "the Act's ban on prohibiting personal wireless services precludes denying an application for a facility that is the least intrusive means for closing a significant gap in a remote user's ability to reach a cell site that provides access to land-line"); *MetroPCS, Inc.*, 400 F.3d at 735; *APT Pittsburgh*, 196 F.3d at 480; *Charter Twp. of W. Bloomfield*, 691 F.3d at 808.

^{88.} Charter Twp. of W. Bloomfield, 691 F.3d at 808.

Township offered no alternatives than the one for which T-Mobile applied, the showing of such good-faith effort was held to be sufficient to satisfy the least intrusive standard.⁸⁹

The First and Seventh Circuits have adopted a more exacting evaluative benchmark, requiring a showing "that there are no other potential solutions to the purported problem."⁹⁰ To satisfy this standard, a wireless carrier must demonstrate that *no viable alternatives exist* to the proposed facility site.⁹¹

Consonant with its concern for case-by-case analysis of wireless siting cases, the Fourth Circuit remains opposed to either formulation, preferring that "reviewing courts [] not be constrained by any specific formulation, but should conduct a fact-based analysis of the record, as contemplated by the Act, in determining whether a local governing body violated subsection (B)(i)(II)."⁹² In its 2009 Declaratory Ruling, the FCC did not issue an opinion on what showings are sufficient to support a challenge to a zoning denial.⁹³

D. The Current State of the Splits

As described above, courts interpreting the Effective Prohibition Preemption have developed different rules on how to apply the statutory language, resulting in a number of splits among the circuit courts. The first split addresses whether a *significant gap* in coverage exists and can be answered either by looking to whether there is any personal wireless coverage in a given locality (the single provider rule) or whether there exists a gap in the coverage of any individual wireless carrier (the multiple provider rule). The Second and Third Circuits have adopted this single provider rule while the First, Sixth, Seventh, and Ninth Circuits, along with the FCC, have adopted the multiple provider rule.

A second split, which does not mirror the first split, has developed in answering the *Willoth* court's question whether the wireless provider has provided sufficient evidence of the absence of alternatives in bridging the gap.⁹⁴ This split actually only occurs between circuits embracing the

^{89.} Id.

^{90.} Second Generation Props., 313 F.3d at 635; see also VoiceStream Minneapolis, Inc. v. St. Croix Cnty., 342 F.3d 818, 834–35 (7th Cir. 2003) (agreeing with the First Circuit and holding that "so long as the service provider has not investigated thoroughly the possibility of other viable alternatives, the denial of an individual permit does not 'prohibit or have the effect of prohibiting the provision of personal wireless services").

^{91.} Second Generation Props., 313 F.3d at 635 (holding that Second Generation Properties had a range of feasible solutions to their coverage problem and were required by the Telecommunications Act to make proactive choices and trade-offs to remedy the situation).

^{92.} *T-Mobile Ne.*, 672 F.3d at 267.

^{93.} See generally 2009 Declaratory Ruling, supra note 8.

^{94.} *Willoth*, 176 F.3d at 643 ("We hold only that the Act's ban on prohibiting personal wireless services precludes denying an application for a facility that is the least intrusive

multiple provider rule, so this Note characterizes it as a sub-split. These two splits, along with the rules governing them are summarized in Table 1 below.

		Spl		
		Single Provider Rule	Multiple Provider Rule	Case-by- Case
Split 2	Least Intrusive Means	2d Circuit, 3d Circuit	9th Circuit, 6th Circuit, FCC [no comment on step two]	4th Circuit does not accept either step of the
	No Alternative Sites	N/A	1st Circuit, 7th Circuit [7th Circuit: with respect to step two, but not step one]	formula for effective prohibition analysis.

Table 1: Standards and the Circuit Split

III. ANALYSIS

In analyzing the issues presented by the multiple circuit split surrounding the Effective Prohibition Preemption, Section A first looks at character of the preemptions and the intent of Congress in enacting them. Next, Section B analyzes the *Chevron* deference owed the Commission's interpretation of Effective Prohibition Preemption in its 2009 Declaratory *Ruling*. Finally, Section C determines which circuit splits survive the FCC's 2009 Declaratory Ruling and how the courts should address any remaining splits, going forward.

A. Characterizing Federal Preemption of State Police Powers Under the Effective Prohibition Preemption

The circuit splits described above mixed questions of statutory interpretation and administrative law. On its face, section 332(c)(7) limits certain valid exercises of state and local authority.⁹⁵ Certainly, some preemptive power is valid; the debate turns on the extent to which Congress intended to preempt local zoning authorities. Generally, courts are cautious in approaching both the content and the scope of valid preemptions of state authority, preferring to let stand valid exercises of state authority which do not "stand[] as an obstacle to the accomplishment

means for closing a significant gap in a remote user's ability to reach a cell site that provides access to land-lines").

^{95.} See 47 U.S.C. § 332(c)(7)(B) (2006).
and execution of the full purposes and objectives of Congress."⁹⁶ As with many provisions of the Telecommunications Act of 1996, the Effective Prohibition Preemption was the result of many compromises in the legislative process.⁹⁷ The House and Senate produced fundamentally different bills that were only reconciled in conference just prior to the passage of the Act.⁹⁸

Textually, the effective prohibition limitation resides in subsection (c)(7) of section 332, titled "Preservation of Local Zoning Authority."⁹⁹ On its face, the focus of Congress in enacting this subsection was not to categorically preempt local zoning authority that may conflict with the nationwide provision of wireless services.¹⁰⁰ Rather, the statute establishes narrow limitations on the discretion of state and local authorities pertaining to "[t]he regulation of the placement, construction, and modification of personal wireless service facilities."¹⁰¹

Four types of federal preemption of state powers exist within the United States' federal structure: (1) express preemption; (2) implied preemption; (3) conflict preemption; and (4) field preemption.¹⁰² Express preemption occurs when Congress enacts federal legislation expressly invalidating state powers on subject matter within the federal power.¹⁰³ Even without an express preemption provision, state law must give way to federal legislation to the extent that Congress impliedly intended to oust state law, it conflicts with a federal statute, or Congress intended federal law to occupy a field exclusively.¹⁰⁴

With the Act, Congress placed express limitations on the discretion of state and local authorities to discriminate between providers and prohibit the provision of services protected by a federal interest.¹⁰⁵ The Preemption itself, however, is limited by the reservation of local authority with regard to the specifics of tower construction.¹⁰⁶ Indeed, with the exception of section 332(c)(7), Congress specified that "nothing in this chapter shall

104. Kurns v. R.R. Friction Prods. Corp., 132 S. Ct. 1261, 1265 (2012).

106. 47 U.S.C. § 332(c)(7)(A) (2006).

^{96.} Hines v. Davidowitz, 312 U.S. 52, 67 (1941).

^{97.} See supra Part II.A.

^{98.} See H.R. REP. NO. 104-458, at 113 (1996) (Conf. Rep.).

^{99. 47} U.S.C. § 332(c)(7) (2006).

^{100.} Cf. 47 U.S.C. §§ 332(c)(7)(B)(i)-(iv) (2006) (enumerating circumstances of preemption).

^{101. 47} U.S.C. § 332(c)(7)(B)(i) (2006).

^{102.} Kinley Corp. v. Iowa Utils. Bd., 999 F.3d 354, 358 (8th Cir. 1993) ("Preemption traditionally comes in four 'flavors': (1) 'express preemption,' resulting from an express Congressional directive ousting state law; (2) 'implied preemption,' resulting from an inference that Congress intended to oust state law in order to achieve its objective; (3) 'conflict preemption,' resulting from the operation of the Supremacy Clause when federal and state law actually conflict, even when Congress says nothing about it; and (4) 'field preemption,' resulting from a determination that Congress intended to remove an entire area from state regulatory authority.") (citations omitted).

^{103.} See United States v. Carolene Prods. Co., 304 U.S. 144, 147–56 (1938).

^{105.} See 47 U.S.C. § 332(c)(7)(B) (2006) (titled "Limitations").

limit or affect the authority of a state or local government or instrumentality thereof over decisions regarding the placement, construction, and modification of personal wireless services." ¹⁰⁷ Accordingly, section 332 leaves in place the general authority of the states to regulate telecommunications services "to ensure the universal availability of telecommunications service at affordable rates." ¹⁰⁸ By retaining these elements of state authority, Congress did not intend the federal occupation of the field of wireless telecommunications to the complete exclusion of state authority.¹⁰⁹

The question confronted by the courts interpreting the Preemption, then, is the exact scope of the limitation of state authority. Of course, statutory language should not be interpreted as "mere surplusage,"¹¹⁰ meaning that the Effective Prohibition Preemption must have some preemptive force to avoid reading the clause out of the statute altogether. By judicially raising the bar to enforcement of the provision beyond the reach of the wireless carriers, the single provider standard does just that—letting zoning authorities frustrate wireless deployment.

The competition-enhancing purposes of the Act contemplate activity of multiple wireless carriers within each local jurisdiction to incentivize the deployment of universal, reliable connections.¹¹¹ In this context, prohibition of service can mean unreasonably raising the barriers to entry through the use of zoning regulations. When local zoning authorities deny wireless carriers the zoning permits and variances necessary to build out their competing networks, they read this language out of the statute and potentially hamstring the purpose of the Act—developing robust competition in the telecommunications sector.¹¹²

^{107.} *Id.*

^{108. 47} U.S.C. § 332(c)(3)(A) (2006).

^{109.} See Omnipoint Corp. v. Zoning Hearing Bd., 181 F.3d 403, 407 (3d Cir. 1999). Generally, preemption of an entire field is implied where the scheme of federal regulation is "so pervasive as to make reasonable the inference that Congress left no room for the States to supplement it." Rice v. Santa Fe Elevator Corp., 331 U.S. 218, 230 (1947). Here, Congress expressly reserved to the states all rights not limited by section 332(c)(7). 47 U.S.C. § 332(c)(7)(A) (2006).

^{110.} See Montclair v. Ramsdell, 107 U.S. 147, 152 (1883) ("[courts should] give effect, if possible, to every clause and word of a statute, avoiding, if it may be, any construction which implies that the legislature was ignorant of the meaning of the language it employed.").

^{111.} See 2009 Declaratory Ruling, supra note 8, at paras. 58–61

^{112.} Delay or denial of siting approval can be a constraint on a key input to the wireless telecommunications sector. *See 2008 Petition for Declaratory Ruling, supra* note 42, at 4 n.10 (citing App'ns of AT&T Wireless Servs., Inc. & Cingular Wireless Corp., *Memorandum Opinion and Order*, WT Docket No. 04-70, 19 FCC Rcd. 21522, para. 137 (2004) (describing the difficulty of acquiring tower siting permits as a possible obstacle to effective competition in wireless communications)), *available at* http://apps.fcc.gov/ecfs/ document/view?id=6520038471.

B. Chevron *Deference in Light of* City of Arlington v. Federal Communications Commission

Following the 2009 Declaratory Ruling, none of the circuits involved in the effective prohibition split have addressed the question of Chevron deference owed to the FCC in the course of interpreting the Effective Prohibition Preemption.¹¹³ However, with the Supreme Court's recent decision in City of Arlington v. Federal Communications Commission, the issue of *Chevron* deference in the case of wireless tower siting preemption is likely to become more important. In that case, a Texas municipality challenged the "shot-clock" provisions of the Commission's 2009 Declaratory Ruling, which prescribed presumptive reasonable timelines for local zoning authorities to rule on variance applications-90 days to process an application for a collocated antenna and 150 days to process all other applications.¹¹⁴ The City of Arlington framed its challenge as an attack on the supposed deference owed to an administrative agency's interpretation of its own jurisdiction.¹¹⁵ Arlington contended that courts should not defer to an agency's determination of its own jurisdiction at "Chevron Step Zero," based on both separation of powers and federalism principles implicated by the preemptions present in section 332(c)(7).¹¹⁶ The Court rejected these arguments and concluded that the FCC was, indeed, entitled to deference in interpreting section 332(c)(7).¹¹⁷ In ruling for the Commission, the Court upheld the 2009 Declaratory Ruling shot clock rules and explicitly held that the agency was afforded deference in interpreting a statutory ambiguity concerning the agency's jurisdiction.¹¹⁸ The Court rejected conceiving of section 332(c)(7) as a jurisdictional limitation on the Commission merely because its provisions implicated the relationship between federal and state authorities.¹¹⁹

Though *City of Arlington* only addressed the Act's reasonable time requirement,¹²⁰ otherwise known as the "shot-clock" rules, the decision is widely regarded as a more generalized administrative law ruling,¹²¹ and

^{113.} Most recently, the Sixth Circuit refused to interpret section 332(c)(7) *de novo*, adopting the multiple provider rule without reference to any deference owed to the Commission. *See generally Charter Twp. of W. Bloomfield*, 691 F.3d 794.

^{114.} *Id.* at 1866–67.

^{115.} See generally Brief for Petitioners, City of Arlington, 133 S. Ct. 1863 (2013) (No. 11-1545).

^{116.} *Id.* at 11–14.

^{117.} City of Arlington, 133 S. Ct. at 1874–75.

^{118.} *Id*.

^{119.} *Id.* at 1873.

^{120. 47} U.S.C. § 332(c)(7)(B)(ii) (2006).

^{121.} See Samuel L. Feder et al., City of Arlington v. FCC: The Death of Chevron Step Zero?, 66 FED. COMM. L.J. 47, 48 (2013) (framing the decision as a general ruling on administrative law by asserting that "the Supreme Court held that an agency should receive *Chevron* deference for its interpretation of a statutory ambiguity concerning its "jurisdiction"—that is, the scope of its regulatory authority.")

likely applies to other 332(c)(7) preemptions such as section (B)(i)(II). Because the Commission has directly addressed the first step of effective prohibition analysis and the Supreme Court has generally affirmed that deference is owed to the Commission when interpreting section 332(c)(7) in *City of Arlington v. Federal Communications Commission*, it seems to follow that the courts should defer to the FCC in adopting the multiple provider rule as the correct interpretation of the Effective Prohibition Preemption.

However, despite kind words from Justice Scalia in the *City of Arlington* majority opinion, the Commission cannot rest on its laurels and expect deference on other provisions of section 332(c)(7) without a more complete analysis. First, the Court in *City of Arlington* limited its inquiry to the question of whether "a court should apply *Chevron* to . . . an agency's determination of its own jurisdiction,"¹²² leaving unaddressed the second question presented in the petition for certiorari: "Whether the FCC may use its general authority under the Communications Act to limit or affect state and local zoning authority over the placement of personal wireless service facilities."¹²³ Without conducting a detailed *Chevron* two-step analysis with regard to the "shot clock" interpretations of section 332(c)(7)(ii), the Court affirmed the Fifth Circuit's decision to uphold the FCC's interpretation of the provision.¹²⁴

With this background in mind, we proceed to whether the FCC would be entitled to deference with respect to its interpretation of the Preemption. Under the well-known *Chevron* two-step, a court asks two questions to determine whether an agency's interpretation of its organic statute is to be afforded deference: (1) whether the statute is ambiguous; and (2) if the statute is silent or ambiguous with respect to the specific question, the court then asks whether, "the agency's answer is based on a permissible construction of the statute."¹²⁵ As discussed above, the FCC, considered both the single provider standard and the multiple provider standard in the 2009 Declaratory Ruling. After weighing the interests of localities and the nation at large, the FCC adopted the multiple provider standard as more closely aligned with Congress's intent "to improve service quality and lower prices" through the construction of "nationwide wireless networks by multiple wireless carriers."¹²⁶

For an agency interpretation to be afforded deference under *Chevron*, the statute must be ambiguous and the interpreting agency must have proposed a permissible construction.¹²⁷ In determining whether a provision

^{122.} Id. at 1867–68.

^{123.} Petition for a Writ of Certiorari at i, *City of Arlington*, 133 S. Ct. 1863 (2013) (No. 11-1545).

^{124.} See generally City of Arlington, 133 S. Ct. 1863.

^{125.} See Chevron U.S.A., Inc. v. Natural Res. Def. Council, 467 U.S. 837, 842–43 (1984).

^{126. 2009} Declaratory Ruling, supra note 8, at para. 61.

^{127.} Chevron, 467 U.S. at 842–43.

is ambiguous, a court first looks at the plain language of the statute.¹²⁸ In relevant part, section 332(c)(7) specifies that state and local governments "shall not prohibit or have the effect of prohibiting the provision of personal wireless services."¹²⁹ With respect to the first clause, it is clear that universal bans on the provision of wireless services are prohibited by the statute-most courts have acknowledged as much.¹³⁰ The real test of this subsection's ambiguity is in the meaning of "the effect of prohibiting" personal wireless service-the subject of the circuit splits described above.¹³¹ The background for this interpretation is the entirety of the Telecommunications Act of 1996, which Justice Scalia has characterized as "a model of ambiguity or even self-contradiction."¹³² The Supreme Court has acknowledged that "contrasting positions of the respective parties and their amici" may demonstrate that a statute "[d]oes embrace some ambiguities."¹³³ Given the facial uncertainty as to what constitutes an effective prohibition, the extensive litigation debating this term since the provision's enactment, and the continuing disagreement between parties as to the necessary requirements for identifying a significant gap and the record necessary to activate the Preemption, an ambiguity exists in the Effective Prohibition Preemption as to Congress's meaning.

With regard to the second step of *Chevron*, whether the agency adopted a permissible construction of the statute, the Commission would probably also prevail. Generally, the FCC has broad power to administer the its enabling statutes.¹³⁴ When the Commission interprets the Act, courts have consistently acknowledged its broad discretion in filling statutory gaps.¹³⁵ In the 2009 Declaratory Ruling, the Commission acknowledged the split among the circuit courts between the multiple provider rule and single provider standard.¹³⁶ Recognizing that the Act does not give guidance on what constitutes effective prohibition,¹³⁷ the Commission

134. Iowa Utils. Bd., 525 U.S. at 378–79.

^{128.} Id.

^{129. 47} U.S.C. § 332(c)(7)(B)(i)(II) (2006).

^{130.} Even the Fourth Circuit has distinguished between blanket bans and the case-bycase analysis it mandates its district courts to conduct. *See T-Mobile Ne.*, 672 F.3d at 267.

^{131.} Id. (citing Albemarle Cnty., 211 F.3d at 88 n.1).

^{132.} AT&T Corp. v. Iowa Utils. Bd., 525 U.S. 366, 397 (1999).

^{133.} Dewsnup v. Timm, 502 U.S. 410, 416 (1992). *But see* De Osorio v. Mayorkas, 695 F.3d 1003, 1016 n.1 (9th Cir. 2012) (M. Smith, J., dissenting) (noting that a circuit split does not always clearly demonstrate ambiguity in a statute).

^{135.} See Nat'l Cable & Telecomms. Ass'n v. Brand X Internet Servs., 545 U.S. 967 (2005) (noting that "the Commission has the discretion to fill . . . statutory gap[s]" when Congress is silent on a matter pertaining to the Act.).

^{136. 2009} Declaratory Ruling, supra note 8, at para. 56 n.175.

^{137.} See *id.* at para. 56 n.176 (quoting Omnipoint Holdings, Inc. v. City of Cranston, 586 F.3d 38, 48 (1st Cir. 2009) ("Beyond the statute's language, the [Communications Act] provides no guidance on what constitutes an effective prohibition, so courts . . . have added judicial gloss.")) (alteration in original).

undertook to interpret the language of the Preemption anew through a declaratory ruling. 138

The Commission offered four primary justifications for construing this section to apply "not just to the first carrier to enter into the market, but also to all subsequent entrants."¹³⁹ First, the prohibition applies to the "the provision of wireless services," implying contemplation of multiple carriers, rather than a singular service.¹⁴⁰ Second, the single provider rule ignores possible service gaps in the incumbent provider's network, thereby undermining the deployment of personal wireless services and contradicting the intent of the statue.¹⁴¹ Third, the Commission found a "blanket ban" approach unavailing, finding that "[s]tate and local authority to base zoning regulation on other grounds is left intact by this ruling."¹⁴² Finally, the Commission found the multiple provider standard more consonant with the statutory objectives of section 332(c)(7).¹⁴³ The Commission found that their construction of the statute would "improve service quality and lower prices for consumers" by ensuring real competition between wireless carriers nationwide.¹⁴⁴

Using numbers from CTIA and PCIA, the Commission reported that the cell site deployment was increasing for each of the four major wireless providers. ¹⁴⁵ As of December 2012, CTIA reports that its members maintain an estimated 301,779 cell sites, a 5.6% increase in cellular siting since June 2012.¹⁴⁶ The number of towers necessary for the provision of wireless service parallels the growing importance of intermodal competition with voice services and increasing reliance on data services as a complement and substitute for traditional wireless voice. According to the Sixteenth Competition Report, "[m]obile wireless Internet access service could provide an alternative to wireline service for consumers who are willing to trade speed for mobility, as well as consumers who are relatively indifferent with regard to the attributes, performance, and pricing of mobile and fixed platforms."¹⁴⁷ More households than ever rely exclusively on

143. 2009 Declaratory Ruling, supra note 8, at para. 61.

^{138.} *Id.* at para. 56; *cf. Brand X*, 545 U.S. at 982 ("A court's prior judicial construction of a statute trumps an agency construction otherwise entitled to *Chevron* deference only if the prior court decision holds that its construction follows from the unambiguous terms of the statute and thus leaves no room for agency discretion.").

^{139. 2009} Declaratory Ruling, supra note 8, at para. 57.

^{140.} Id. at para. 58. (quoting 47 U.S.C. § 332(c)(7)(B)(i)(II) (2006)).

^{141.} Id. at para. 59.

^{142.} Id. at para. 60; 47 U.S.C. § 332(c)(7)(B)(i)(I)-(II) (2006).

^{144.} Id.

^{145.} Fifteenth Report, supra note 13, at para. 308.

^{146.} See CTIA-THE WIRELESS ASS'N, SEMI-ANNUAL YEAR-END 2012 TOP-LINE SURVEY RESULTS (2013), available at http://files.ctia.org/pdf/CTIA_Survey_YE_2012_Graphics-FINAL.pdf.

^{147.} See Sixteenth Report, supra note 45, at 3725.

mobile wireless for their primary voice service.¹⁴⁸ Also, approximately 142.1 million consumers subscribed to mobile wireless Internet at the end of 2011.¹⁴⁹

This increased reliance on wireless as a primary communications service tends to undermine the rationale given by the Single Provider jurisdictions in justifying a pure call completion standard. ¹⁵⁰ Single Provider jurisdictions have tended to place too much reliance on the specific historical circumstances that were in existence at the time the Act was passed while ignoring the explicit purpose of the Act, to "promote competition and reduce regulation in order to secure lower prices and higher quality services for American telecommunications consumers and encourage the rapid deployment of telecommunications technologies."¹⁵¹ Neither in the Preemption, nor in the statutory preamble, does Congress wed the efficacy of the statutory language to perpetuating a specific mode of telecommunications access. Rather, the competitive framework envisioned by the Act would enable market entry and produce unpredictable market structures that would evolve over time-"an open marketplace where competition and innovation can move as quick as light."¹⁵² In balancing the deference granted to local zoning authorities, the emergence of an important new telecommunications sector-nearuniversal, high-speed wireless service—and the clear consumer preference toward faster and more pervasive wireless coverage are appropriate considerations. By ignoring the consequences of interpretations of the Preemption on market structures and access, in favor of a narrow historical reading of congressional purpose, the Single Provider jurisdictions ignore the purpose of the law and potentially stunt access to new technologies.

In addition to the numbers cited by the Commission in its 2009 *Declaratory Ruling*, courts considering *Chevron* deference should also weigh the economic benefits of universal 3G and 4G LTE network deployment. As rapid adoption rates have shown, wireless broadband connections have the potential to transform many areas of the American

^{148.} *Id.* at para. 367 ("According to the National Health Interview Survey (NHIS), approximately 34.0 percent of all adults in the U.S. lived in wireless-only households during the first half of 2012.").

^{149.} *Id.* at para. 247. Given trends in smartphone adoption and the rollout of 4G data services, the subscription rates of mobile wireless Internet services will likely only increase.

^{150.} Even if not owed complete deference under *Chevron*, changed economic and social situations often call for courts to reevaluate prior decisions without regard to *stare decisis*. *See* Lawrence v. Texas, 539 U.S. 558 (2003) (stating that "*stare decisis* is not an inexorable command . . . [where a] holding has not induced detrimental reliance of the sort that could counsel against overturning it once there are compelling reasons to do so.").

^{151.} Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56, preamble (1996).

^{152.} William J. Clinton, Remarks by the President in Signing Ceremony for the Telecommunications Act Conference Report (Feb. 8, 1996), *available at* http://clinton4. nara.gov/WH/EOP/OP/telecom/release.html.

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economy.¹⁵³ Wireless carriers expect to continue investing heavily in mobile connectivity over the next decade, with capital expenditures expected to increase from roughly \$12 billion in 2010 to \$15 billion in 2015.¹⁵⁴ Mobile application downloads accounted for an estimated \$7.3 billion in revenue in 2011, with that number expected to increase to \$14 billion in 2012.¹⁵⁵ Sectors as diverse as education, health care, and business experience increased productivity and economic opportunities from high-bandwidth, ubiquitous wireless connections.¹⁵⁶

When the Second and Third Circuits adopted the Single Provider Rule, local carriers provided wireless services by connecting customers to the nationwide wireline network.¹⁵⁷ No one could have predicted the massive outpouring of capital and consumer interest in always-connected wireless broadband devices. Given the vast benefits offered by ubiquitous, reliable cellular services, and the appropriateness of competition considerations in effective prohibition analysis, as discussed above, the multiple provider rule is a permissible construction of section 332(c)(7)(B)(i)(II), and the Commission will likely be afforded deference in its interpretation of that provision.

Such an interpretation would be buttressed by the need for textual uniformity and internal consistency within the Act. When Congress uses similar text within the same statute, courts generally presume that the same meaning was intended.¹⁵⁸ In the case of the 1996 Telecommunications Act, Congress used nearly identical effective prohibition language in section 253(a) of the Act with regard to the preemption of local zoning authority over traditional wireline common carriers.¹⁵⁹ Fewer circuits have considered this provision when compared with the number that have expounded upon section 332(c)(7),¹⁶⁰ but those that have addressed the meaning of the section 253 effective prohibition clause have given it more

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^{153.} EXEC. OFFICE OF THE PRESIDENT, COUNCIL OF ECON. ADVISORS, THE ECONOMIC BENEFITS OF NEW SPECTRUM FOR WIRELESS BROADBAND 7 (2012), *available at* http://www.whitehouse.gov/sites/default/files/cea_spectrum_report_2-21-2012.pdf.

^{154.} Id. at 40.

^{155.} Id. at 7.

^{156.} *Id.* at 9–11. McKinsey estimated that mobile health services could be worth \$20 billion in annual revenue. *Global Mobile Healthcare Opportunity*, MCKINSEY & CO. (Feb. 18, 2010), http://www.mckinsey.it/idee/practice_news/global-mobile-healthcare-opportunity .view.

^{157.} See Cellular Tel. Co., 197 F.3d at 70; see also Willoth, 176 F.3d at 643.

^{158.} Sprint Telephony PCS, L.P. v. Cnty. of San Diego, 543 F.3d 571, 578–79 (9th Cir. 2008) (quoting Smith v. City of Jackson, 544 U.S. 228, 233 (2005) ("[W]e begin with the premise that when Congress uses the same language in two statutes having similar purposes, particularly when one is enacted shortly after the other, it is appropriate to presume that Congress intended that text to have the same meaning in both statutes.")).

^{159. 47} U.S.C. § 253(a) (2006) ("No State or local statute or regulation, or other State or local legal requirement, may prohibit or have the effect of prohibiting the ability of any entity to provide any interstate or intrastate telecommunications service.").

^{160.} The lack of developed case law on 47 U.S.C. section 253(a) may result from the lack of a judicial review provision analogous to 47 U.S.C. section 332(c)(7)(B)(v).

preemptive power than the corresponding wireless preemption in section 332.¹⁶¹ In *Puerto Rico*, the First Circuit struck down a local ordinance that imposed a gross revenue fee on a local telecommunications provider because the ordinance materially inhibited or limited the ability of the provider "to compete in a fair and balanced legal and regulatory environment."¹⁶² This standard links the preemption of local ordinances to competition among carriers and tends to corroborate the multiple provider rule's incorporation of competition analysis into the evaluation of local zoning decisions on wireless tower siting.

In light of the deference afforded the FCC in the *City of Arlington* case and the reasons discussed above, a court addressing evaluating the 2009 Declaratory Ruling's interpretation of the Effective Prohibition Preemption would likely grant deference to the agency in choosing the Multiple Provider standard. That Rule reflects a congressional preference for market entry and innovation, provides regulatory flexibility to reflect emerging consumer preferences, and interprets the Preemption in a manner consonant with other preemptive language in the statute. But even deference to the FCC's 2009 Declaratory Ruling does not resolve all outstanding issues surrounding the Preemption. As discussed in the following section, conflict over the Fourth Circuit's case-by-case rule and the evidentiary standards necessary for proving a significant gap in coverage will likely survive the FCC's efforts in this arena.

C. Circuit Splits that Survive the 2009 Declaratory Ruling

Since the 2009 Declaratory Ruling was issued, district courts in the Second and Third Circuits have consistently ignored the Commission's interpretation of the Effective Prohibition Preemption and have disregarded the *Chevron* deference that the Commission is owed. In *T-Mobile Northeast, LLC v. Incorporated Village of East Hills*, the District Court for the Eastern District of New York did not cite the FCC's declaratory ruling in stating the Second Circuit rule under *Willoth* that "a plaintiff will prevail on a [prohibition of service] claim if it[] shows both that a 'significant gap' exists in wireless coverage and that its proposed facility is 'the least intrusive means' to close that gap."¹⁶³ The District Court for the Northern District of New York in *Cellco Partnership d/b/a Verizon Wireless v. Town of Colonie* also failed to cite the 2009 Declaratory Ruling in holding for the plaintiff for lack of substantial evidence.¹⁶⁴ In a 2011 case, the District

^{161.} *See* Puerto Rico v. Municipality of Guayanilla, 450 F.3d 9, 18 (1st Cir. 2006); *see also Sprint Telephony*, 543 F.3d at 578–79; Level 3 Comme'ns, LLC v. City of St. Louis, 477 F.3d 528, 532–33 (8th Cir. 2007).

^{162.} Puerto Rico, 450 F.3d at 19.

^{163.} T-Mobile Ne., LLC v. Incorporated Village of East Hills, 779 F. Supp. 2d 256, 274 (E.D.N.Y. 2011).

^{164.} Cellco Partnership d/b/a Verizon Wireless v. Town of Colonie, No. 1:10-cv-581, 2011 WL 5975028 (N.D.N.Y. Nov. 28, 2011).

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Court for the Eastern District of Pennsylvania also passed on whether to defer to the FCC's rejection of the Third Circuit's single provider standard.¹⁶⁵ If district courts in the Second and Third Circuits continue to ignore the Commission's interpretation of section 322(c)(7)(B)(i)(II), the split will be perpetuated, leading to differential treatment for carriers operating in different parts of the country.

The continued reliance of the Second, Third, and Fourth Circuits on less competitively neutral standards will be particularly pronounced in the provision of advanced wireless services. Under *City of Arlington*, the courts should probably resolve the multiplicity of differing rules regarding Effective Prohibition Preemption in accord with the deference owed the Commission on its interpretation of section 332(c)(7) in the 2009 *Declaratory Ruling*, as discussed above.

Nevertheless, *Chevron* deference will not suffice to resolve all outstanding splits within the circuits with respect to effective prohibition. While the FCC addressed the split between the single and multiple provider standards, ¹⁶⁶ it did not even mention the Fourth Circuit's case-by-case analysis of "effective prohibition," nor the evidentiary split in filling the significant gap. Because of the Commission's failure to address these issues, these splits on the implementation of the Effective Prohibition Preemption will continue to remain in force for the foreseeable future.

1. The Fourth Circuit's Case-by-Case Rule and the 2009 Declaratory Ruling

The Fourth Circuit continues to chart its own course in wireless preemption analysis. The court most recently addressed the Commission's 2009 Declaratory Ruling in T-Mobile Northeast, LLC v. Fairfax County Board of Supervisors.¹⁶⁷ In that case, T-Mobile sought to install three antenna panels on ten-foot extensions to an existing 100-foot cell phone transmission pole, but was denied by the Fairfax County zoning board.¹⁶⁸ the Planning Commission staff had issued a report Although recommending approval of T-Mobile's applications, after public hearing, the Planning Commission denied T-Mobile's application due to the "significant and adverse" visual impact of the proposed facility.¹⁶⁹ An appeal to the Board of Supervisors was unavailing.¹⁷⁰ T-Mobile filed suit, but the district court granted summary judgment in favor of the Board.¹⁷¹

^{165.} Liberty Towers, LLC v. Zoning Hearing Bds. of Falls Twp., No. 10-7149, 2011 WL 6091081, at *6 (E.D. Pa. Dec. 6, 2011).

^{166. 2009} Declaratory Ruling, supra note 8, at para. 56.

^{167. 672} F.3d at 262.

^{168.} *Id.* at 262–64.

^{169.} *Id.* at 263–64.

^{170.} *Id.* at 264.

^{171.} Id.

On appeal, the Fourth Circuit analyzed their precedent in light of the recently released *2009 Declaratory Ruling*.¹⁷² In its briefs, T-Mobile argued that the FCC had rejected a "blanket ban" approach as "inconsistent with the language and purpose of the [Communications] Act."¹⁷³ The court, however, characterized the Commission's ruling as only rejecting blanket prohibitions and distinguished its cases in *Virginia Beach* and *Albemarle*.¹⁷⁴ The reformulated Fourth Circuit approach does not focus its analysis on the number of wireless service providers in a locality. Rather, the Fourth Circuit has instructed reviewing courts to consider wireless siting applications on a "case-by-case basis" in which "bona fide local zoning concern[s]," not the presence of an incumbent carrier, can serve as legitimate grounds for zoning denials.¹⁷⁵ This construction allows plaintiffs to prevail in Effective Prohibition Preemption suits by showing that "a local governing body has a general policy that essentially guarantees rejection of all wireless facility applications" or by demonstrating that the "denial of an application for one particular site is 'tantamount' to a general prohibition of service."¹⁷⁶

By shifting the focus of effective prohibition analysis away from the enumeration of incumbent carriers, the Fourth Circuit has continued to reject the multiple provider standard adopted in the 2009 Declaratory *Ruling*.¹⁷⁷ However, because the Commission's ruling did not directly address the case-by-case rule as laid out in that circuit's precedent, the split will continue because *Chevron* deference cannot be brought to bear on this split.¹⁷⁸

2. Remaining Sub-Split Within the Multiple Provider Standard on the Evidentiary Standards Necessary to Support a Finding of Effective Prohibition

By the time the Commission adopted the 2009 Declaratory Ruling, the circuit split over the two-step effective prohibition analysis was welldeveloped in both the case law ¹⁷⁹ and in the academic literature. ¹⁸⁰ However, the Commission did not address the second prong of effective

178. See discussion supra Section III.C.

^{172.} See id. at 265–66.

^{173.} *Id.* at 265.

^{174.} *Id*.

^{175.} Id. at 267 (quoting 2009 Declaratory Ruling, supra note 8, at para. 62).

^{176.} *Id.* at 266.

^{177.} See 2009 Declaratory Ruling, supra note 8, at para. 56.

^{179.} See, e.g., MetroPCS, Inc., 400 F.3d at 734–35 (discussing the circuit split on the second step after the "significant gap" test as to "the intrusiveness or necessity of its proposed means of closing the gap").

^{180.} See, e.g., Robert B. Foster, A Novel Application: Recent Developments in Judicial Review of Land Use Regulation of Cellular Telecommunications Facilities Under the Telecommunications Act of 1996, 40 URB. LAW. 521, 530 (2008).

prohibition analysis in its 2009 Declaratory Ruling.¹⁸¹ As discussed above, the split in the second step exists between jurisdictions that have adopted the multiple provider rule.¹⁸² In wireless tower siting cases, facts are extremely localized, and claims under the Effective Prohibition Preemption must necessarily be considered in light of specific circumstances under which a zoning application was denied.¹⁸³ As a result of this intense localization, evidentiary showings are extremely important to plaintiffs for the purpose of (1) demonstrating a significant gap in a carriers' coverage and (2) showing that a zoning board's denial of a specific application results in an inability to fill the gap within a carrier's network.

There are a number of possible explanations for why the FCC may have avoided ruling on step two of the effective prohibition analysis. First, the primary thrust of the Commission's argument in the 2009 Declaratory *Ruling* focuses on the competition-enhancing purpose behind the section 332(c)(7) preemptions and how the multiple provider standard accomplishes increasing carrier competition in the provision of wireless services.¹⁸⁴ The Commission expressly limits its interpretation to preclude only zoning denials "based solely on the presence of other carriers."¹⁸⁵ Specifically, the Commission states that "where a bona fide local zoning concern, rather than the mere presence of other carriers, drives a zoning decision, it should be unaffected by our ruling today."¹⁸⁶ Step two of the multiple carrier effective prohibition analysis necessarily evaluates the sufficiency of carrier showings with regard to the existence of a coverage gap and the measures taken by the applicant in mitigating legitimate local zoning concerns over the application.

Both the least intrusive means test and the no viable alternatives tests involve evaluating a carrier's application in light of local zoning concerns. Under the First Circuit's formulation of the no viable alternatives test, that court would have required a showing that "no other feasible sites existed"

^{181.} See generally 2009 Declaratory Ruling, supra note 8.

^{182.} To recap, the First and Seventh Circuits require a showing that there are "no alternative sites which would solve the problem." *Second Generation Props.*, 313 F.3d at 629; *see also VoiceStream Minneapolis*, 342 F.3d at 834–35. The Second, Third, Ninth, and Sixth Circuits require a showing that "the manner in which [the carrier] proposes to fill the significant gap in service is the least intrusive on the values that the denial sought to serve." *APT Pittsburgh*, 196 F.3d at 480; *see also Omnipoint Commc 'ns*, 331 F.3d at 398; Nextel W. Corp. v. Unity Twp., 282 F.3d 257, 266 (2002); *Willoth*, 176 F.3d at 643. The Fourth Circuit stands apart in rejecting a structured analysis of zoning decisions, preferring to rely on a "case-by-case" analysis. *T-Mobile Ne.*, 672 F.3d 259.

^{183.} Charter Twp. of W. Bloomfield, 691 F.3d at 798.

^{184.} See 2009 Declaratory Ruling, supra note 8, at para. 56. The Commission begins its analysis with a narrow observation of the split between the single provider and multiple provider models and ends paragraph 56 with a conclusion limited to the finding that "the fact that another carrier or carriers provide service to an area is an inadequate defense under a claim that a prohibition exists." *Id.*

^{185.} Id. at para. 62.

^{186.} Id.

outside of the proposed site that would remedy the purported gap.¹⁸⁷ Failure to demonstrate that existing towers could not accommodate transmitters capable of covering the carrier's gap and inability to prove the inefficacy of a shorter tower would condemn a carrier's challenge to a zoning denial under this formulation.¹⁸⁸ All of these concerns necessarily implicate the specific facts of the zoning denial and the values on which the zoning application was denied. The FCC's reservation of these issues to local zoning authorities may demonstrate an unwillingness to wade into disputes over zoning values unrelated to purely competitive issues.

Second, the Commission may have elected not to intrude on the judicial prerogatives of Article III courts in hearing appeals from local zoning authorities. Under section 332(c)(7)(B)(v), any person adversely affected by a state or local government final action or failure to act is given the right to "commence an action" in "any court of competent jurisdiction."¹⁸⁹ Also under this section, persons adversely affected by a zoning board's application denial that was based on concerns over "the environmental effects of radio frequency emissions" are given recourse to petition the Commission for relief.¹⁹⁰ Because the FCC was given specific jurisdiction only over denials dealing with RF complaints, it is likely that the 2009 Declaratory Ruling shied away from making an inordinate number of judgments on how courts should weigh local zoning concerns in evaluating petitions for relief. Though not mentioned explicitly in the 2009 Declaratory Ruling, the FCC may have adopted a narrow reading of the statute in accordance with the canon of the expressio unius est exclusio alterius canon of statutory interpretation. That principle states that "the expression of one subject, object, or idea is the exclusion of other subjects. objects, or ideas."¹⁹¹ In this case, the expressio unius principle might operate to deny the FCC jurisdiction over complaints related to local zoning board siting decisions because the Commission was granted express jurisdiction over denials relating to RF complaints. By expressly granting this authority to the Commission, the agency may have reasoned that Congress intended to deny it authority to prescribe the substantive sufficiency of zoning board justifications for variance denials. Nevertheless, whatever the reason for avoiding the issue, the Commission never addressed the evidentiary standards necessary to sustain a finding that a board effectively prohibited the provision of personal wireless services. In light of these limitations on the Commission's handling of the Effective Prohibition Preemption, the split on evidentiary standards will likely continue.

^{187.} Second Generation Props., 313 F.3d at 635.

^{188.} *Id*.

^{189. 47} U.S.C. § 332(c)(7)(B)(v) (2006).

^{190.} Id.

^{191.} Clifton Williams, *Expressio Unius Est Exclusio Alterius*, 15 MARQ. L. REV. 191, 191 (1931).

IV. RECOMMENDATIONS

As discussed above, a number of circuit splits over the meaning the Effective Prohibition Preemption have survived the FCC's 2009 *Declaratory Ruling*. Specifically, the second step of *Willoth* and the Fourth Circuit's rejection of *Willoth's* two-step framework survive the 2009 *Declaratory Ruling*.¹⁹² The Commission did not adequately address the second step of effective prohibition analysis or the Fourth Circuit's extreme deference to local zoning authorities. Even though *Chevron* deference is likely owed to the agency on its adoption of the multiple provider rule, these issues remain problematic for wireless carriers seeking siting rights in hostile localities and perpetuate uncertainty for local zoning boards on what evidentiary record they must develop for variance denials to survive judicial scrutiny. Below, this Note briefly explores two potential methods of resolving the remaining splits interpreting the Preemption.

A. Congressional Action—Amending Section 332(c)(7)(B)(i)(II) to Include Explicit Consideration of Competitiveness Issues in Preemption Analysis

As a statute aimed at regulating an increasingly dynamic and convergent sector, the Telecommunications Act is beginning to show its age.¹⁹³ As formerly siloed sectors begin to deploy IP-based content-delivery solutions, wireless carriers will become just one more way for consumers to access packet-switched bits.¹⁹⁴ Regulatory models that fail to create a level playing field between competing industries will likely result in inefficient allocations of resources and ultimately hurt consumers.

Assurance of reasonable siting access is key to the deployment of next generation wireless technologies.¹⁹⁵ In reforming the Act, Congress could consider including an explicit requirement that local zoning authorities consider the competitive effects of their wireless siting determinations. An amended section 332(c)(7)(B)(i)(II) might read: "shall not prohibit or have the effect of prohibiting the provision of personal wireless services by commercial mobile services providers in a way that impedes competition."

Such an amendment would clarify the text in a number of ways. First, it would codify in the Preemption Congress's concern for enhancing

^{192.} See 2009 Declaratory Ruling, supra note 8, at paras. 60-61.

^{193.} See, e.g., Raymond L. Gifford, The Continuing Case for Serious Communications Law Reform (Mercatus Ctr., Working Paper No. 11-44, 2011), available at http://mercatus.org/sites/default/files/publication/Gifford_Communications_Law_Reform.p df.

^{194.} *See, e.g.*, Comments of AT&T at 2, AT&T Petition to Launch a Proceeding Concerning the TDM-to-IP Transition, FCC GN Docket No. 12-353 (rel. Jan. 28, 2013).

^{195.} See Fifteenth Report, supra note 13, at para. 58.

competition in the telecommunications market. Single provider jurisdictions would no longer be able to ignore values of wireless competitiveness, ubiquity, and reliability when clearly expressed in the text of the statute. As discussed above, the Act contemplates multi-firm activity in the provision of personal wireless services.¹⁹⁶ When courts require only a minimal showing of service by a single carrier to avoid preemption of zoning denials, they read this language out of the statute and thereby frustrate the competition-enhancing purposes of the Act.

Second, local zoning authorities would be incentivized to take competitiveness into account in their zoning determinations. Although the Preemption standards usually only arise in the context of court cases challenging permitting denials, local zoning commissions would have an increased incentive to take a closer look at the carriers' showings on the existence of a significant gap in coverage. As the burden for proving the existence of a significant gap in coverage, requiring the zoning boards to at least consider a Congressionally mandated public policy concern would not impose an undue burden on the zoning authorities. Such filings would provide zoning commissions with knowledge of the operations of the relevant carrier. Additionally, with mobile phone penetration reaching 93.5%, ¹⁹⁷ most commissioners likely have personal knowledge of the wireless availability in their areas, to begin with, thereby further mitigating the burden.

Finally, an amendment such as that described above would preclude zoning authorities from enacting moratoria on the siting of wireless infrastructure. In comments on the *Fifteenth Wireless Competition Report*, PCIA reported that rather than denying individual permits or variances, some zoning authorities had adopted policies indefinitely suspending the consideration of wireless tower siting permits.¹⁹⁸ Such across-the-board moratoria are supportable under the Single Provider Rule whereby a locality has not effectively prohibited wireless service where there already exists at least one wireless service provider. This type of activity runs completely counter to the values protected by the Preemption. Under a modified preemption, the reliance that zoning authorities place on the single provider rule would be undercut and these moratoria would not be allowed.

^{196.} See generally supra Section III.

^{197.} Id. at para. 158.

^{198.} *Id.* at para. 314 n.900 (citing Comments of PCIA at 12, Wireless Telecommunications Bureau Seeks Comment on the State of Mobile Wireless Competition, WT Docket No. 10-133 (rel. July 30, 2010) ("These moratoria often apply to collocations as well as new wireless sites.")).

B. FCC Action—Issuing a New Declaratory Ruling to Address the Remaining Circuit Splits

Absent a statutory amendment, the FCC could do more to promote the adoption of uniform preemption rules regarding the Effective Prohibition Preemption. In lieu of a petition to the contrary, the Commission could issue a notice of proposed rulemaking to directly address the evidentiary standards described above. Upon consideration of relevant comments, the Commission could modify the 2009 Declaratory Ruling to incorporate an interpretation of the second Willoth step on evidentiary burdens. Because the Effective Prohibition Preemption has been interpreted by most courts as necessarily implicating the standard by which wireless providers aim to fill a demonstrated gap in coverage, the Commission will be on a firm footing in reevaluating its declaratory ruling to address this issue.

Additionally, if the Commission desires to fully adopt the multiple provider rule nationwide, the Fourth Circuit's case-by-case rule needs to be addressed expressly. As discussed above, the Fourth Circuit has been reluctant to acknowledge the balance between federal and local values embodied by Congress in the Telecommunications Act. Where the other circuits and the FCC have adopted a rule by which zoning decisions may be overcome by a showing of effective prohibition, the Fourth Circuit's caseby-case analysis affords so much weight to local values as to render superfluous the language of the Preemption

The Commission is not ideally situated to resolve this interpretive issue because it holds neither direct nor indirect authority over the Fourth Circuit decision-making. Nevertheless, by addressing the case-by-case rule head on, the Commission can build a record of disapproval of this doctrine, which may be owed *Chevron* deference, and on which other circuits may rely in future Effective Prohibition Preemption cases.

V. CONCLUSION

Issues of federal preemption of state authority are always thorny due to the distributed nature of power in the U.S. system of government. In the case of the Effective Prohibition Preemption, there has been a long history of disagreement over the extent to which the Telecommunications Act of 1996 curtails the power of local zoning authorities to approve or deny zoning permits with respect to wireless towers. Given the increased reliance placed on mobile networks for basic telephone service and its growing economic importance of the connectivity of average Americans, the ability of wireless providers to build out advanced networks is more important than ever. With the Supreme Court's recent ruling in favor of deference to the Commission in *City of Arlington v. Federal Communications Commission* and the history of the Commission's involvement in interpreting section 332(c)(7), the *Willoth* step one circuit split is likely to be resolved in favor of the multiple provider rule. However, splits remain both with the Fourth Circuit's case-by-case analysis which favors local decision-making over developing competition-friendly rules in multiple provider jurisdictions and in the evidentiary standards necessary to sustain a challenge to zoning variance denials. Congress and the FCC should act to resolve these remaining splits and replace uncertainty with uniform rules for the use of the Effective Prohibition Preemption in resolving disputes between local zoning authorities and cellular carriers in a manner that promotes competition.

The First Amendment and Public Television Advertising: The Need for Clarity After *Minority Television*

James Chapman*

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I. INTRODUCTION

Seeking to liberalize its regulatory scheme of advertisements on public television, the Federal Communications Commission ("FCC") in 1981 did away with its long-standing prohibition of public television broadcasters airing any promotional content and adopted "the minimum regulatory structure that preserves a reasonable distinction between commercial and noncommercial broadcasting."¹ Congress followed by codifying the FCC's new regulatory framework at 47 U.S.C. sections 399a and 399b.² Section 399b specifically prohibits public television stations from airing three types of advertisements: for goods and services, regarding public issues, and supporting or opposing any political candidate.³

In 2006, Minority Television Project, Inc. ("Minority Television" or "Minority") brought suit, claiming these statutes and regulations were facially unconstitutional as abridging the First Amendment's protection of the freedom of speech.⁴ The U.S. District Court for the Northern District of California upheld the laws, applying intermediate scrutiny and determining that the prohibitions were narrowly tailored to further the substantial governmental interest in preserving public broadcasting as a source of programming unavailable on commercial stations.⁵

On appeal, a sharply divided panel of the U.S. Court of Appeals for the Ninth Circuit upheld the ban on advertisements for goods and services, but struck down as unconstitutional the prohibitions on public issue and political advertisements.⁶ Each judge on the panel wrote separately: Judge Bea wrote for the court,⁷ Judge Noonan concurred in the judgment but disagreed strongly with Judge Bea's analysis and reasoning,⁸ and Judge Paez dissented and would have upheld all the restrictions as constitutional.⁹

^{1.} Comm'n Policy Concerning the Noncommercial Nature of Educ. Broad. Stations, *Second Report and Order*, FCC 81-204, 86 F.C.C. 2d 141, para. 6 (1981) [hereinafter *1981 Report & Order*].

^{2. 47} U.S.C. §§ 399a, 399b (2006 & Supp. V 2011). Section 399a authorizes public television stations to broadcast announcements that include organizations' logograms, as long as the announcements do not interrupt regular programming. 47 U.S.C. § 399a (2006 & Supp. V 2011).

^{3. 47} U.S.C. § 399b (2006 & Supp. V 2011); see also 47 C.F.R. § 73.621(e) (2013).

^{4.} Minority Television Project, Inc. v. FCC (*Minority I*), 649 F. Supp. 2d 1025, 1027 (N.D. Cal. 2009).

^{5.} *Id.* at 1042.

^{6.} Minority Television Project, Inc. v. FCC (*Minority II*), 676 F.3d 869, 872 (9th Cir. 2012).

^{7.} *Id*.

^{8.} Id. at 890 (Noonan, J., concurring in the judgment).

^{9.} *Id.* at 892 (Paez, J., dissenting).

The Ninth Circuit then voted to accept the case for en banc review.¹⁰ The en banc court reversed the panel and upheld the restrictions as constitutional.¹¹ Judge McKeown wrote for the court and seven other judges applying intermediate scrutiny and finding the three restrictions to be narrowly tailored to a substantial governmental interest.¹² Judge Callahan partially concurred and partially dissented. She would have upheld the ban on ads for goods and services, but would have struck down the ban on public issue and political ads.¹³ Chief Judge Kozinski, joined by Judge Noonan, dissented. He would have held all the restrictions unconstitutional under the First Amendment.¹⁴

Generally, a content-based line between permitted and prohibited speech, like the one drawn in section 399b, would be heavily disfavored in our First Amendment law.¹⁵ However, the Supreme Court has long accepted different standards of scrutiny for laws that regulate the broadcast medium due to the unique considerations and scarcity of spectrum.¹⁶ Even operating within this unique analytical framework, the Ninth Circuit failed to adequately take into account three considerations: (1) the full range of relevant First Amendment interests, (2) the proper rigor needed in an intermediate scrutiny analysis, and (3) the impact of recent First Amendment case law, especially concerning issue and political advertisements.

This Comment critically evaluates the Ninth Circuit's opinions in Minority Television Project, Inc. v. Federal Communications Commission and argues that the en banc court failed to take the full range of First Amendment interests into account and conduct a proper intermediate scrutiny analysis under current First Amendment jurisprudence. Part II

^{10.} Minority Television Project, Inc. v. FCC (*Minority III*), 704 F.3d 1009, 1009–10 (9th Cir. 2012).

^{11.} Minority Television Project, Inc. v. FCC (*Minority IV*), 736 F.3d 1192, 1195 (9th Cir. 2013) (en banc).

^{12.} Id. at 1205–06.

^{13.} Id. at 1211 (Callahan, J., concurring and dissenting).

^{14.} Id. at 1211, 1223 (Kozinski, C.J., dissenting).

^{15.} See, e.g., United States v. Stevens, 559 U.S. 460, 468 (2010) ("[A]s a general matter, the First Amendment means that government has no power to restrict expression because of its message, its ideas, its subject matter, or its content." (quoting Ashcroft v. ACLU, 535 U.S. 564, 573 (2002))).

^{16.} See, e.g., Reno v. ACLU, 521 U.S. 844, 868 (1997) (citations omitted) (highlighting the "special justifications for regulation of the broadcast media that are not applicable to other speakers," including the "history of extensive Government regulation of the broadcast medium," "the scarcity of available frequencies at its inception," and "its 'invasive' nature"); see also FCC v. Pacifica Found., 438 U.S. 726, 731 n.2 (1978) (giving four reasons that "[b]roadcasting requires special treatment": (1) children's access to it; (2) an especially acute private interest in the home; (3) unconsenting adults may without warning be subject to offensive language; and (4) "there is a scarcity of spectrum space, the use of which the government must therefore license in the public interest"); Red Lion Broad. Co. v. FCC, 395 U.S. 367, 400–01 (1969) (acknowledging "the scarcity of broadcast frequencies" as justification for permitting greater governmental regulation).

recounts the factual and procedural history of this case, and Part III examines the en banc Ninth Circuit opinions. Part IV then critiques the Ninth Circuit's approach and argues for greater weight to be given to First Amendment interests, more rigor in its intermediate scrutiny analysis, and a more comprehensive consideration of the impact of recent First Amendment case law, particularly in the context of issue and political ads. Part V closes the Comment with an analysis of the implications of the *Minority Television* decision on future cases and the prospects for Supreme Court review.

II. BACKGROUND

A. Facts of the Case

Our story begins in 1952, when the FCC first reserved broadcasting channels for noncommercial educational stations ("NCEs" or "public broadcast stations").¹⁷ When licensing noncommercial educational stations, the FCC, at the time, imposed an outright prohibition against public broadcast stations airing any promotional content to enable and encourage public broadcast stations to develop unique educational programming options free from market pressures. ¹⁸ By 1982, however, public broadcasters were in a bind. Growing financial pressures, coupled with anemic federal appropriations, prompted Congress and the FCC to revisit the restrictions on NCE promotional content, seeking to strike "a reasonable balance between the financial needs of [public broadcast] stations and their obligation to provide an essentially non-commercial service."¹⁹

Congress thus adopted 47 U.S.C. sections 399a and 399b,²⁰ and the FCC promulgated 47 C.F.R. section 73.621(e) to implement these statutes.²¹ Section 399a authorizes a public television station to broadcast "any business or institutional logogram" so long as any such announcement does not "interrupt regular programming."²² A public broadcast station may

^{17.} Amendment of Section 3.606 of the Comm'n's Rules & Regs., *Sixth Report and Order*, 41 F.C.C. 148, paras. 33–36 (1952) (reserving channels for NCE television stations). *See also* 47 U.S.C. §§ 303(a), (b) (2006 & Supp. V 2011) (giving the FCC authority to "[c]lassify radio stations" and "[p]rescribe the nature of the service to be rendered by each class of licensed stations"). The FCC first set aside broadcasting channels for NCEs in the radio context in 1938 soon after passage of the original Communications Act. *See* 3 Fed. Reg. 312 (Feb. 9, 1938).

^{18. 17} Fed. Reg. 3905, 4062 (May 2, 1952); see also 1981 Report & Order, supra note 1, at para. 4.

^{19. 1981} Report & Order, supra note 1, at para. 1.

^{20.} See 47 U.S.C. §§ 399a, 399b (2006 & Supp. V 2011).

^{21.} See 47 C.F.R. § 73.621(e) (2013).

^{22. 47} U.S.C. § 399a(b) (2006 & Supp. V 2011).

not, however, "make its facilities available to any person for the broadcasting of any advertisement,"²³ which is defined as

any message or other programming material which is broadcast or otherwise transmitted in exchange for any remuneration, and which is intended—
(1) to promote any service, facility, or product offered by any person who is engaged in such offering for profit;
(2) to express the views of any person with respect to any matter of public importance or interest; or
(3) to support or oppose any candidate for political office.²⁴

In this framework, Congress sought to find a balance that enabled broadcasters to secure funding beyond federal appropriations while insulating them from commercial influences so that public television could maintain its unique programming niche and not succumb to market pressures to change its content.²⁵

Fast forward to 1999. Minority Television Project, Inc. owns and operates the public television station KMTP–TV in San Francisco, which focuses on multicultural programming and non-English language television programs.²⁶ KMTP–TV does not receive funding from the Corporation for Public Broadcasting.²⁷ Over the course of its operations from 1999–2002, Minority Television broadcast approximately 1,900 announcements that, in 2003, the FCC's Enforcement Bureau determined violated section 399b's prohibition against advertisements.²⁸ The FCC subsequently fined Minority \$10,000, which Minority paid in full.²⁹ When Minority appealed the fine,

^{23. 47} U.S.C. § 399b(b)(2) (2006 & Supp. V 2011).

^{24. 47} U.S.C. § 399b(a) (2006 & Supp. V 2011). The FCC's implementing regulations give more guidance as to what types of announcements violate the statutory ban on advertisements. The FCC has permitted "logograms or slogans which identify and *do not* promote" and "value neutral descriptions of a product line or service," among others. Comm'n Policy Concerning the Noncommercial Nature of Educ. Broad. Stations, *Public Notice*, FCC 86-161, 7 FCC Rcd. 827, 827 (1992) (emphasis in original).

^{25.} See Comm'n Policy Concerning the Noncommercial Nature of Educ. Broad. Stations, *Memorandum Opinion and Order*, FCC 82-327, 90 F.C.C. 2d 895, paras. 2–3 (1982).

^{26.} *Minority II*, 676 F.3d at 872.

^{27.} *Id.* Like all other public broadcasting stations, however, KMTP–TV relies on federal and state subsidies, individual donors, corporation contributions, foundation grants, and income from special events. *See id.*

^{28.} Minority Television Project, Inc., *Notice of Apparent Liability for Forfeiture*, DA 02-1945, 17 FCC Rcd. 15646 (2002); *Minority II*, 676 F.3d at 873.

^{29.} Minority Television Project, Inc., *Forfeiture Order*, DA 03-4062, 18 FCC Rcd. 26611 (2003); *Minority IV*, 736 F.3d at 1196.

the FCC denied its Application for Review ³⁰ and its Petition for Reconsideration.³¹ Minority then sought review in the federal courts.

B. Procedural History and Lower Court Opinions

Minority filed a Petition for Review of the FCC orders in the Ninth Circuit, and that court transferred the case to the district court.³² The district court upheld the prohibitions on advertisements as narrowly tailored to further the substantial governmental interest "of insulating broadcasters from special interests and ensuring high quality programming."³³

The district court, while applying intermediate scrutiny pursuant to Federal Communications Commission v. League of Women Voters,³⁴ gave considerable deference to the determinations of Congress and the FCC that an advertising ban targeting those particular types of ads was narrowly tailored to the FCC's interest in "remov[ing] the programming decisions of public broadcasters from the normal kinds of commercial market pressures"³⁵ so they are able to "air programs with particular qualities consistent with their educational mission," particularly children's programming.³⁶ Minority Television did not contest this substantial government interest; it targeted instead the tailoring of the statute.³⁷ To determine the law's tailoring, the court looked to the tests established in *Turner* I^{38} and *Turner* II^{39} : the government must demonstrate that the harms it addresses are real and the regulation will in fact alleviate those harms in a direct and material way,⁴⁰ and the law must be reasonable and supported by substantial evidence in the record before Congress.⁴¹ The district court found these tests satisfied, and it found the same justifying rationale applied to each category of banned advertisement in its analysis.⁴

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^{30.} Minority Television Project, Inc., *Order on Review*, FCC 04-293, 19 FCC Rcd. 25116 (2004); *Minority IV*, 736 F.3d at 1196.

^{31.} Minority Television Project, Inc., *Memorandum Opinion and Order*, FCC 05-180, 20 FCC Rcd. 16923 (2005); *Minority IV*, 736 F.3d at 1196.

^{32.} *Minority IV*, 736 F.3d at 1196.

^{33.} *Minority I*, 649 F. Supp. 2d at 1033.

^{34. 468} U.S. 364 (1984). *League of Women Voters* addressed the prohibition against NCEs "engag[ing] in editorializing." *Id.* at 366. The Court struck down this ban by applying intermediate scrutiny, where the restriction must be narrowly tailored to further a substantial governmental interest. *Id.* at 380.

^{35.} *Minority I*, 649 F. Supp. 2d at 1034 (quoting *1981 Report & Order, supra* note 1, at para. 3).

^{36.} *Id.* at 1034–35.

^{37.} *Id.* at 1035.

^{38.} Turner Broad. Sys., Inc. v. FCC (*Turner I*), 512 U.S. 622, 664 (1994) (opinion of Kennedy, J.).

^{39.} Turner Broad. Sys., Inc. v. FCC (Turner II), 520 U.S. 180, 211 (1997).

^{40.} *Minority I*, 649 F. Supp. 2d at 1031 (quoting *Turner I*, 512 U.S. at 664 (opinion of Kennedy, J.)).

^{41.} Id. (quoting Turner I, 512 U.S. at 665–66 (opinion of Kennedy, J.)).

^{42.} *Id.* at 1037–41, 1042.

Further, the district court found the advertising ban to be a contentbased restriction on speech because section 399b "requires a content-based evaluation of advertisements." ⁴³ It noted that the statute allows paid promotional use of logograms and identification of services, but prohibits advertisements on issues of public importance and political candidates, which "lie at the core of the First Amendment."⁴⁴ However, the court also noted that the statute permits unpaid political speech, such as a station editorial.⁴⁵ The court then deferred to Congress's judgment that allowing paid commercial, issue, and political advertisements (potentially making public broadcasting stations financially dependent on advertising) would impact programming choices of public broadcasting stations, replacing niche educational programs with more popular programs with greater massmarket appeal.⁴⁶ The court similarly rejected the notion that the FCC's allowance of paid, promotional advertising by non-profits undercuts the narrow tailoring argument.⁴⁷

Finally, the court rejected reliance on other First Amendment cases striking down content-based restrictions, particularly *Metromedia*, *Inc. v. City of San Diego*⁴⁸ and *City of Cincinnati v. Discovery Network, Inc.*,⁴⁹ because of the pervasive regulation and unique nature of the broadcasting spectrum.⁵⁰

On appeal, a three-judge panel of the Ninth Circuit took a different approach and upheld the prohibition of advertisements for goods and services, but struck down the prohibition of public issue and political advertisements.⁵¹ The panel, like the district court, found "clear content-based restrictions on the station's speech" and held that intermediate scrutiny applied under *League of Women Voters* because "content-based speech restrictions that apply to broadcasters are subject to a less demanding form of judicial scrutiny."⁵² The court, however, found that a "*robust* form of intermediate scrutiny applies to content-based restrictions on broadcast speech which burden political expression" and that *League of Women Voters* requires "judicial 'wariness' *within* [intermediate scrutiny]."⁵³

^{43.} *Id.* at 1042.

^{44.} *Id.*

^{45.} *Id.*

^{46.} *Id.* at 1033–35, 1042.

^{47.} *Id.* at 1043, 1046.

^{48. 453} U.S. 490, 521 (1981) (plurality opinion) (regulations of outdoor advertising displays).

^{49. 507} U.S. 410, 430–31 (1993) (ban on distribution of commercial handbills in news racks on public sidewalks).

^{50.} See Minority I at 1045 n.8 ("[T]he First Amendment permits more intrusive regulation of broadcast speakers than of speakers in other media." (quoting *Turner I*, 512 U.S. at 637)).

^{51.} *Minority II*, 676 F.3d at 872.

^{52.} Id. at 875.

^{53.} *Id.* at 878 (emphases in original).

The panel largely agreed with the district court on the characterization and analysis of the substantial governmental interest and agreed that the ban on advertisements for goods and services was narrowly tailored to further that interest because "Congress's conclusion that paid promotional messages by for-profit entities pose a threat to extinguish public broadcast stations' niche programming was supported by substantial evidence."⁵⁴

The panel parted ways with the district court, however, in its analysis of the public issue and political advertising bans. It found "no evidence in the record—much less 'substantial evidence' . . . to connect the ban on this speech to the government's interest in maintaining certain types of programming."⁵⁵ The panel found this part of the ban to be based, at best, on "pure speculation" and emphasized that "[u]pholding the ban on public issue and political advertising requires more than speculation."⁵⁶ Critically, the panel differentiated these categories from advertisements for goods and services because public issue and political ads "pose no threat of commercialization [and so] cannot be narrowly tailored to serve the interest of preventing the commercialization of broadcasting."⁵⁷ The panel faulted the district court for being too deferential to Congress and the FCC in its intermediate scrutiny review, and relied on non-broadcast First Amendment cases to reach its result.⁵⁸

Judge Noonan, concurring in the judgment, asserted that drawing guidance from these non-broadcast First Amendment cases was inappropriate and suggested eliminating the lesser scrutiny that regulations of political speech on broadcast media receive under the First Amendment.⁵⁹ Judge Paez, dissenting, would have affirmed the district court, and also criticized Judge Bea for his reliance on "cases involving non-broadcast, content-neutral, and commercial speech restrictions" and for demanding too much proof from Congress instead of deferring to congressional predictive legislative judgments, findings, and the measures adopted to address them.⁶⁰

Following the panel's decision, Minority requested rehearing en banc, and the Ninth Circuit voted to accept it.⁶¹ The en banc court proceeded to largely reverse the three-judge panel, upholding all the prohibitions on advertisements against First Amendment challenges.⁶² The

60. Id. at 893 (Paez, J., dissenting).

^{54.} *Id.* at 884.

^{55.} *Id.* at 885.

^{56.} *Id*.

^{57.} *Id.* at 887 (internal quotations omitted).

^{58.} See id. at 887–89 (discussing and citing Discovery Network, 507 U.S. 410).

^{59.} *Id.* at 890–91 (Noonan, J., concurring in the judgment) (referencing Citizens United v. Fed. Election Comm'n, 558 U.S. 310, 326 (2010)).

^{61.} *Minority III*, 704 F.3d at 1009–10.

^{62.} *Minority IV*, 736 F.3d at 1195.

court applied intermediate scrutiny and held that the ban was narrowly tailored to further a substantial governmental interest.⁶³

Ш THE *MINORITY TELEVISION* EN BANC OPINIONS

A. The Majority

Judge McKeown, for the en banc Ninth Circuit, agreed that intermediate scrutiny was the applicable standard of review under League of Women Voters.⁶⁴ The court declared that this standard was "deferential" and was "not strict scrutiny light," but was instead a balancing test between the statute and the First Amendment interests.⁶⁵ The court accordingly rejected any hard look at the evidence before Congress, giving "credence to congressional findings" because "Congress is 'not obligated, when enacting its statutes, to make a record of the type that an administrative agency or court does to accommodate judicial review.""66

Turning to the substantial governmental interest, the court found two: (1) "maintaining the unique, free programming niche filled by public television" and (2) "ensuring the diversity and quality of public broadcast programming."⁶⁷ Again, Minority did not dispute the existence of the substantial governmental interest.⁶⁸

The more difficult inquiry was to the statute's narrow tailoring. The court began by emphasizing "the contrast between this case and the ban on editorialization in League of Women Voters."69 In contrast to the outright ban on editorializing in that case, the "targeted" advertisement ban here was "specifically targeted at the real threat-the influence of paid advertising dollars" and left "untouched speech that does not undermine the goals of the statute."⁷⁰ The court found that the statutory allowance for paid advertisements from non-profits and the targeting of three specific categories of ads for prohibition to reflect Congress's tailoring of the statute.⁷¹ According to the court, such legislative choices did not doom the statute. ⁷² Congress's definition of advertisement, the court said, demonstrated its focus on "prevent[ing] the commercialization of public broadcasting," and thus brought political and issue ad money into the definition of commercialization.⁷³

^{63.} Id. at 1206.

^{64.} Id. at 1197-98.

^{65.} Id. at 1200-01.

^{66.} Id. at 1199 (quoting Turner I, 512 U.S. at 666 (opinion of Kennedy, J.)).

^{67.} Id. at 1201.

^{68.} Id.

Id. at 1204. 69. Id. at 1205.

^{70.} 71. Id.

^{72.}

Id.at 1205-06. 73. Id. at 1205.

The court rejected the contentions that the statute was either overinclusive or underinclusive. First, the court dismissed the attack on political and issue ads as overinclusive, in contrast to the ads for goods and services, as "a distinction without a difference," looking to congressional intent on the attempt to minimize commercialization.⁷⁴ Citing the vast amount of money that political advertisers spent in 2008 and a "bombard[ment] with political and issue ads served the same purpose as the prohibition on political speech has in our First Amendment jurisprudence," the court found "no evidence that Congress was targeting political speech . . . as opposed to the programming influence exerted by advertising dollars."⁷⁶

The court then dismissed the underinclusiveness attack on the statute based on the allowance of paid promotional messages from non-profits because "non-profit advertising is a drop in the bucket money wise and . . . has no programmatic impact."⁷⁷ The court called Minority's reliance on cases such as *Discovery Network*⁷⁸ and *Metromedia*⁷⁹ "misplaced" because "public broadcasting stations are not billboards."⁸⁰ At bottom, the court found that "exempting non-profit advertising underscores, rather than undermines, Congress's narrow tailoring" and that there were no sufficient less restrictive means to accomplishing its goals.⁸¹

B. The Partial Concurrence and Dissent

Judge Callahan wrote a two-paragraph partial concurrence and dissent.⁸² She would have upheld the prohibition against ads for goods and services, but she would have struck down the prohibition against political and issue advertisements because those "restrictions implicate the First Amendment's core concerns and are not justified on this record even under [intermediate scrutiny]."⁸³

^{74.} *Id.* at 1206.

^{75.} *Id*.

^{76.} *Id*.

^{77.} *Id.* at 1207.

^{78. 507} U.S. 410.

^{79. 453} U.S. 490.

^{80.} *Minority IV*, 736 F.3d at 1208.

^{81.} *Id.* at 1209–10.

^{82.} *Id.* at 1211 (Callahan, J., concurring and dissenting).

^{83.} Id.

C. The Dissent

Chief Judge Kozinski, joined by Judge Noonan in dissent, would have struck down all the prohibitions in section 399b as unconstitutional.⁸⁴ Chief Judge Kozinski began his dissent by emphasizing that the court should exercise "skepticism, not deference" when it comes to First Amendment questions and faulted the court for "embrac[ing] every justification advanced by the government without the least hesitation."⁸⁵ The dissent warned that the court did not do intermediate scrutiny "how [it] *should* be done," as in *League of Women Voters*, where the Supreme Court struck down the restrictions on speech "because the government's justifications were speculative."⁸⁶ Instead, the dissent charged, the court's opinion was "a fine example of rational basis review," but not intermediate scrutiny, "if [it] is to have any bite."⁸⁷

On the question of the substantial governmental interest, the dissent began by being "doubly skeptical" because the statute's "curious line between permissible and impermissible speech" is content-based and because the prohibited political and issue speech has traditionally been treated "with the greatest solicitude." 88 The dissent objected to the majority's definition of commercialization; the dissent instead found that "commercialization . . . deals with commerce; it says nothing at all about advertising for political candidates or on issues of public interest."89 Those types of ads "implicate[] the First Amendment's core concern with ensuring an informed electorate"—a mission that should be shared by the educational mission of public television.⁹⁰ The record did not explain "why political and issue ads are dangerous, if advertising for non-commercial entities . . . isn't."91 The dissent determined that key differences between political and issue ads and ads for goods and services discredited the attempt to uphold the statute under intermediate scrutiny.⁹² The dissent focused on political ads' "transitory and episodic" nature, noting that they do not "present the same capture problem" as ads for goods and services because producers are "in the market for the long haul."93

Dismissing the testimony in the congressional record as speculation and "a bunch of talking heads bloviating about their angst,"⁹⁴ the dissent

93. *Id.* Chief Judge Kozinski is referring to the intuition that NCEs would change their programming to attract long-term commercial advertisers, but would not be under the same pressure to do so with political or issue advertisers because of their ephemeral nature.

94. *Id.* at 1216.

^{84.} Id. at 1211–12, 1223 (Kozinski, C.J., dissenting).

^{85.} *Id.* at 1212.

^{86.} *Id.*

^{87.} *Id.*

^{88.} *Id.* at 1213.

^{89.} *Id.*

^{90.} *Id*.

^{91.} *Id.* at 1214.

^{92.} Id.

identified "structural constraints" that undermine the claim that accepting these three types of ads would fundamentally change the nature of public broadcasting programming. ⁹⁵ In fact, the dissent argued, accepting advertising dollars could help stations "acquire or produce programs that they could not otherwise afford" and "would help public broadcast stations gain independence from the federal government."⁹⁶ And if those structural constraints are not enough to prevent the harm, "there are many intermediate restraints, far short of a complete prohibition," such as "limiting the duration and placement of advertisements, and ensuring diversity of funding."⁹⁷

Positing that "it's time to reconsider the applicability of intermediate scrutiny to broadcast restrictions," the dissent argued that "advertisements are speech" and that "[e]xcluding advertising from public broadcasting deprives viewers of the opportunity to obtain . . . important information."⁹⁸ It closed by arguing that striking down the prohibitions "would set public television . . . free to pursue its public mission to its full potential."⁹⁹

IV. A CRITIQUE OF THE EN BANC NINTH CIRCUIT'S APPROACH

A. Applicable First Amendment Law

An analysis of the questions presented in *Minority Television* begins where the courts have started their discussions—with an assessment of the fact of this case in the context of the Supreme Court's decisions in *League of Women Voters, Turner I*, and *Turner II*.

In *League of Women Voters*, the Supreme Court invalidated a prohibition on editorializing by public broadcasters who receive federal funding.¹⁰⁰ The Court began by emphasizing that expression on matters of public importance "is entitled to the most exacting degree of First Amendment protection." ¹⁰¹ But "broadcast regulation involves unique considerations," including spectrum scarcity, so the Court applied intermediate scrutiny, upholding a restriction only when it is "narrowly tailored to further a substantial governmental interest."¹⁰² To evaluate the narrow tailoring of the law, the Court conducted "a critical examination" of

100. 468 U.S. at 395–401.

^{95.} *Id.* at 1217 (for instance, "[f]ederal funding for public broadcasting stations is also conditioned on their maintaining programming that is consistent with the goals of the statute").

^{96.} *Id.* at 1220.

^{97.} *Id.* at 1221.

^{98.} Id. at 1212, 1220.

^{99.} *Id.* at 1223.

^{101.} *Id.* at 375–76.

^{102.} Id. at 380–81.

each party's interests in the unique facts of each case.¹⁰³ *League of Women Voters* was also a case that directly addressed content-based restrictions on speech, striking at the heart of the First Amendment.¹⁰⁴ The Court closely examined the tailoring of the law and found it lacking, and the Court also decried the law's "patent overinclusiveness and underinclusiveness."¹⁰⁵ Faced with the exacting demands of the First Amendment, and remembering to be "particularly wary" of content-based restrictions on speech, the Court held the ban on editorializing could not stand.¹⁰⁶

The Court clarified the test for determining the sufficiency of a statute's tailoring in Turner I and Turner II. In Turner I, the Court concluded that intermediate scrutiny was appropriate to judge the constitutionality of the statute's must-carry provisions applied to cable as content-neutral restrictions with only incidental burdens on speech.¹⁰⁷ It further concluded that the government must prove the tailoring of the law-that the law will in fact alleviate real harms in a direct and material way.¹⁰⁸ While "Congress' predictive judgments are entitled to substantial deference," they are not "insulated from meaningful judicial review altogether." ¹⁰⁹ Instead, a court should conduct its own "independent judgment of the facts" to determine whether "Congress has drawn reasonable inferences based on substantial evidence."¹¹⁰ After vacating and remanding for further development of the record,¹¹¹ the case reached the Court again in Turner II. There, the Court upheld the must-carry provisions under intermediate scrutiny, holding that the substantial evidence before Congress and the more fully developed record before the district court supported Congress's determinations.¹¹²

B. Shortcomings of the En Banc Ninth Circuit's Opinion

With this background in mind, the en banc Ninth Circuit's opinion fails to adequately take into account three considerations: (1) the full range of relevant First Amendment interests, (2) the proper rigor needed in an intermediate scrutiny analysis, and (3) the impact of recent First Amendment case law, especially concerning issue and political ads.

^{103.} Id.

^{104.} *Id.* at 383–84. *League of Women Voters* addressed a content-based restriction in section 399 (the ban on editorializing) that is analogous to the current content-based restrictions in section 399b (the ban on three types of advertisements).

^{105.} *Id.* at 396.

^{106.} *Id.* at 384.

^{107. 512} U.S. at 641, 661–62.

^{108.} Id. at 664 (opinion of Kennedy, J.).

^{109.} *Id.* at 666.

^{110.} Id. (quoting Sable Commc'ns v. FCC, 492 U.S. 115, 129 (1989)).

^{111.} *Id.* at 668.

^{112.} Turner II, 520 U.S. at 185.

1. The Full Range of Relevant First Amendment Interests

First, a careful reading of the Ninth Circuit's opinion in *Minority Television* reveals that the court almost exclusively focused its analysis on the justifications offered by the government in defense of section 399b—important considerations, to be sure. However, the opinion includes scant—if any—independent discussion of the countervailing First Amendment interests at stake.

The court's opinion largely recites the government's proffered explanations and justifies why the government's testimony supports section 399b.¹¹³ In this respect, the opinion much more resembles *Turner II* than *League of Women Voters*.¹¹⁴ *Turner II* was about a content-neutral regulation of cable, not broadcast, that only incidentally burdened speech rather than being focused on political and issue speech.¹¹⁵ The Supreme Court in *League of Women Voters*, however, demonstrated how to do intermediate scrutiny in this context correctly. It critically evaluated the government's evidence, instead of simply repeating it, and gave independent consideration to First Amendment interests in order to carefully determine whether the law was narrowly tailored to the substantial governmental interest.¹¹⁶ Making a determination of substantial evidence without close examination of its relationship to tailoring, as the Ninth Circuit did, is more consistent with a deferential form of review. Intermediate scrutiny demands something more.¹¹⁷

The court's attempts to draw a distinction between the outright ban in *League of Women Voters* and the targeted ban in this case overlook the fact that drawing this sort of content-based line is disfavored in our First Amendment law.¹¹⁸ No one disputes that a total ban on all advertisements on public television, as was the law until 1981, would be constitutional.¹¹⁹ Selecting particular categories of speech to prohibit, however, signals

^{113.} See Minority IV, 736 F.3d at 1202–04.

^{114.} Compare id., and Turner II, 520 U.S. at 191–93, with League of Women Voters, 468 U.S. at 384–95.

^{115.} See Turner II, 520 U.S. at 185.

^{116.} See League of Women Voters, 468 U.S. at 384–95.

^{117.} See, e.g., *id.* (demonstrating an intermediate scrutiny analysis of a restriction on speech in the broadcast medium).

^{118.} During the en banc oral argument, however, some of the judges simply dismissed the notion that this is a regulation of speech: "Congress saw this as economic regulation, not as speech regulation... It's economic regulation that affects speech... "Oral Argument at 36:56, *Minority IV*, 736 F.3d 1192 (No. 09-17311) [hereinafter Oral Argument Audio], *available at* http://www.ca9.uscourts.gov/media/view.php?pk_id=0000010583.

^{119.} See 47 U.S.C. §§ 399a, 399b (2006 & Supp. V 2011); 1981 Report & Order, supra note 1; 17 Fed. Reg. 4062 (May 2, 1952); see also Christopher L. Shipley, Sesame Street-Brought to You by the Letter \$: How Political Advertising Could Impact Public Broadcasting, 21 COMMLAW CONSPECTUS 336, 337–40 (2013).

discrimination, not tailoring.¹²⁰ The court also too casually dismissed the dearth of evidence supporting the ban on issue and political ads. When the court noted that there was "no evidence that Congress was targeting political speech,"¹²¹ it must not have taken a second glance at the text of section 399b, which specifically singles out and prohibits issue and political advertisements.¹²² Further, the court's reference to the money spent in the 2008 election cannot justify the constitutionality of a law passed in 1982.¹²³ More fundamentally, speech does not lose its protection because money is spent to project it.¹²⁴ Lastly, the court's similar dismissal of the exemption for non-profit advertisements was also inappropriate for intermediate scrutiny review, where a more searching inquiry is required.¹²⁵ While perhaps it is not fatal to the law, the court dismissed it too easily without even a discussion of the associated First Amendment interests.¹²⁶ A paragraph-by-paragraph review of the court's opinion reveals a continued focus on the congressional action and justifications.¹²⁷ Little, if anything, in the court's opinion is structured around a discussion of the countervailing interests in protecting free speech.¹²⁸

Of course, there are different First Amendment interests for the ban on goods and services and the ban on issue and political ads. Commercial speech (the category for ads for goods and services) only received First

124. Va. State Bd. of Pharmacy v. Va. Citizens Consumer Council, Inc. (Va. Pharmacy), 425 U.S. 748, 761 (1976).

Minority IV, 736 F.3d at 1207-09. An example in this litigation illustrating the 125. tension here was the fact that Planned Parenthood could broadcast a paid message promoting its services, but not to support a candidate who shares its views or to promote sex education in schools. See, e.g., Minority II, 676 F.3d at 874-75. A pregnancy counselor, moreover, could not advertise her services under section 399b(a)(1). Id. The issue need not be an all or nothing proposition, though. Congress can regulate public television advertising, just not by drawing content-based lines in this way. Furthermore, at oral argument, regarding this possible distinction, counsel for the FCC was asked, "Specifically, what was it that supports the distinction [between allowing non-profit advertisements, but not issue or political ads] drawn by Congress? . . . What evidence is there supporting that distinction?" Counsel admitted, "Well, if the distinction is for the non-profit groups, there is no, there is nothing." Oral Argument Audio, supra note 118, at 43:17. Again, later in oral argument during a discussion of the permissible scope of the record, counsel for the FCC was asked, "Is the answer is there is nothing on that distinction before Congress?" He responded, "Your Honor, the short answer is going to be yes." Id. at 49:34. The questioning moved on before he was able to elaborate.

127. See generally id.

^{120.} See R.A.V. v. City of St. Paul, 505 U.S. 377, 391–93 (1992) (describing an ordinance that prohibited hate speech against certain groups as content discrimination).

^{121.} *Minority IV*, 736 F.3d at 1206.

^{122. 47} U.S.C. §§ 399b(a)(2), (3) (2006 & Supp. V 2011).

^{123.} See League of Women Voters, 468 U.S. at 394 (examining the legislative history of section 399 and refusing to consider post-enactment justifications). More generally, intermediate scrutiny, unlike rational basis review, demands that courts examine only the justifications asserted by the government at the time the law was passed. See, e.g., United States v. Virginia, 518 U.S. 515, 533 (1996).

^{126.} See Minority IV, 736 F.3d at 1207–09.

^{128.} See generally id.

Amendment protection in 1976.¹²⁹ Soon afterward, the Supreme Court coalesced around a modified *Central Hudson* test for the constitutionality of restrictions on commercial speech, which generally allows for more restrictions than do the Court's tests for other types of speech, although the test has been tightened recently.¹³⁰ On the other hand, political speech and speech on matters of public importance receive the highest form of protection.¹³¹ They are at the summit of our First Amendment hierarchy. While a court would generally apply strict scrutiny to restrictions on political and issue speech, even in the broadcast medium it receives special protection: a particularly skeptical version of intermediate scrutiny applies.¹³²

The Ninth Circuit further erred when it accepted the idea of "insulating" broadcasters.¹³³ Properly understood, the First Amendment does not insulate. It does the opposite—it exposes. At its core is the idea that the government may not "prescribe what shall be orthodox"¹³⁴ in society; it demands the acceptance of a diversity of viewpoints and thoughts in the marketplace of ideas. The United States often stands alone in our protection of free speech; our usual response to offensive or disagreeable speech is not to suppress it, but is instead to expose the paucity of its persuasiveness through counter-speech.¹³⁵ Further, the insulation here is not of the broadcasters, for they still need, pursue, and

^{129.} See Va. Pharmacy, 425 U.S. at 761–62.

See, e.g., Sorrell v. IMS Health Inc., 131 S. Ct. 2653, 2667-68 (2011) (describing 130. the test for regulating commercial speech); see also Central Hudson Gas & Elec. Co. v. Pub. Serv. Comm'n of N.Y., 447 U.S. 557, 566 (1980). The Ninth Circuit drew all three types of ads into the definition of "commercialization," presumably because section 399b only defines advertisement as a message broadcast "for any remuneration." Minority IV, 736 F.3d at 1196. Because only the ban on ads for goods and services should fall into a commercial speech analysis, contra Minority IV, 736 F.3d at 1196, the Ninth's Circuit's analysis raises a new problem that it does not adequately address-the unequal regulation of paid and unpaid speech. Take, for instance, two identical ads on any topic-one would be restricted if the advertiser paid the broadcaster, and the identical one would be permitted to air if no money is paid. See 47 U.S.C. § 399b(a) (2006 & Supp. V 2011) (defining advertisement only as programming material broadcast "in exchange for any remuneration"). Speech cannot lose protection simply because money is spent to project it. Va. Pharmacy, 425 U.S. at 761; Citizens United, 558 U.S. at 351; Buckley v. Valeo, 424 U.S. 1, 35-59 (1976) (per curiam). Further, it seems natural to differentiate between commercial advertising-and apply Virginia Pharmacy and its progeny-and political advertising, which receives more protection, as in Citizens United. The program at issue in Citizens United did not receive mere commercial speech protection despite money paid to produce, market, and broadcast it. Citizens United, 558 U.S. at 319-20, 372.

^{131.} *See, e.g., League of Women Voters*, 468 U.S. at 381 (quoting NAACP v. Claiborne Hardware Co., 458 U.S. 886, 913 (1982)).

^{132.} See id. at 380–81, 384.

^{133.} *Minority IV*, 736 F.3d at 1203, 1205.

^{134.} Texas v. Johnson, 491 U.S. 397, 414 (1989).

^{135.} See, e.g., United States v. Alvarez, 132 S. Ct. 2537, 2549 (2012) (opinion of Kennedy, J.).

obtain funding from a variety of sources, but is of the public, so a court should be especially skeptical.¹³⁶

More fundamentally, the Ninth Circuit did not address the fact that removing section 399b's prohibition on advertising would not *force* broadcasters to accept ads; it would *permit* them to. They would still be able to exercise their normal editorial discretion to be able to accept or reject any proffered advertisement.¹³⁷ This goes to the question of the government's central proposition, mostly unquestioned by the court, that permitting broadcasters to accept ads would induce them to change their content. While this is asserted by the government and readily accepted by the Ninth Circuit, its premise deserves a closer look, especially by a court undertaking an intermediate scrutiny analysis.

Public broadcasters already accept paid advertisements from nonprofits and other funding from commercial sources (for example, underwriting, logograms, or benefit events). Acceptance of these channels of funding did not suddenly cause the broadcasters to drop their ordinary programming in favor of more commercially viable options. Indeed, it seems strange to think that an ad promoting a non-profit that works on diabetes issues would not affect programming, while an ad selling hamburgers would be corrupting.

Looking at these questions with a critical eye, a court should examine the funding sources already permitted by Congress and the FCC, and critically consider their effects, if any, on public broadcast programming. Such a court would find that many sources—including underwriting,¹³⁸ logograms,¹³⁹ unpaid advertisements,¹⁴⁰ and paid advertisements from nonprofits¹⁴¹—did not threaten programming. Given these facts, the assertion that allowing commercial, political, or issue advertisements will destroy the niche programming should not be so unquestionably accepted. The unique and valuable programming public television offers has survived the expansion of promotional messaging through each of these iterations. Logograms and paid non-profit ads looked as harmful in 1952 as these three types of advertisements look today.¹⁴² Public television survived those changes, and courts should be wary of claims that public television would not survive future changes.

^{136.} Minority II, 676 F.3d at 872; League of Women Voters, 468 U.S. at 384.

^{137.} See, e.g., Turner II, 520 U.S. at 222.

^{138.} *Minority IV*, 736 F.3d at 1205.

^{139.} Id. at 1210; see also 47 U.S.C. § 399a(b) (2006 & Supp. V 2011).

^{140.} *Minority IV*, 736 F.3d at 1208.

^{141.} Id. at 1208–09.

^{142.} See 17 Fed. Reg. 4062 (May 2, 1952); *1981 Report & Order, supra* note 1, at paras. 2–6, 35–37. Relatedly, the FCC has not determined whether public broadcasters are permitted to air political logograms (for instance, the logo of a political campaign, such as one might see on a yard sign).

Indeed, it seems likely that public television would not only survive after removing the advertisement ban—it would thrive.¹⁴³ Allowing ads would not only provide more funding for public television—which presumably would help further stations' public education missions—but allowing issue and political ads in particular would directly further the public education goals by contributing to the exchange of ideas.

2. The Proper Rigor in an Intermediate Scrutiny Analysis

Second, the Ninth Circuit's analysis in *Minority Television* is in stark contrast with the Supreme Court's analysis in League of Women Voters. The Court there was skeptical of the government, and it critically examined the proffered explanations and the tailoring of the law.¹⁴⁴ The Ninth Circuit here did no such thing. Instead, it accepted the evidence in the record before Congress with no further thought given in its opinion, with none of the skepticism inherent in intermediate scrutiny, and without undergoing a critical examination, as League of Women Voters requires.¹⁴⁵ The Ninth Circuit's opinion more closely resembles the Court's opinion in Turner II, a content-neutral regulation of cable, not broadcast, that burdened speech only incidentally and did not touch political and issue speech at the core of the First Amendment.¹⁴⁶ A factual situation more analogous to League of Women Voters makes additional judicial wariness appropriate.¹⁴⁷ While the Turner II Court looked to the fully developed record in front of the district court, it is not clear whether such a look is appropriate when a reviewing court is performing League of Women Voters's style of intermediate scrutiny given the critical factual differences between the two cases.¹⁴⁸

Even within the unique framework of the special First Amendment justifications for broadcast regulation, the Ninth Circuit did not adequately perform its intermediate scrutiny analysis. On the first component, both sides agree that there is a substantial government interest, and the court was correct in concluding that as well.¹⁴⁹ The more challenging analysis, however, relates to the law's tailoring and the credibility of the evidence used to support it.¹⁵⁰ While Chief Judge Kozinski's dissent likely discounts

^{143.} Minority IV, 736 F.3d at 1219–20 (Kozinski, C.J., dissenting).

^{144.} See generally League of Women Voters, 468 U.S. at 384–95.

^{145.} Compare id. at 384, with Minority IV, 736 F.3d at 1202–04.

^{146.} Turner II, 520 U.S. at 185, 189.

^{147.} *Cf. id.* at 217. However, Justice Stevens recognized as much concurring in *Turner II*: "If this statute regulated the content of speech rather than the structure of the market, our task would be quite different." *Id.* at 225 (Stevens, J., concurring).

^{148.} See League of Women Voters, 468 U.S. at 384; Minority IV, 736 F.3d at 1197 (looking to the "evidence before Congress").

^{149.} *Minority IV*, 736 F.3d at 1200–03.

^{150.} The en banc court found the law to satisfy the narrow tailoring requirement. *Id.* at 1209–10. However, a variety of less restrictive means comes to mind, some mentioned by
the evidence before Congress too heavily and does not give even a modicum of respect to Congress's predictive judgment, the majority is likely too deferential under any serious form of intermediate scrutiny review.

The court failed to distinguish among the three different prohibitions for purposes of First Amendment analysis.¹⁵¹ As applied to the restriction on advertisements for goods and services, there is a stronger case that the evidence shows that the restriction is narrowly tailored for this purpose, would survive intermediate scrutiny, and would be upheld. More testimony and evidence speaks directly to the commercialization of public television than speaks to the effects of political or issue ads, where advertisers would have different interests and priorities.¹⁵² However, as applied to the ban on issue and political speech, the court further failed in its duty under *League of Women Voters* to be particularly skeptical in the tailoring analysis. The majority does not point to any evidence in support of these particular prohibitions, instead lumping all three prohibitions together and doing a disservice to careful judicial analysis and the First Amendment.¹⁵³ This is perhaps the most significant flaw in the majority's analysis.

3. The Impact of Recent First Amendment Case Law

Third, the Ninth Circuit failed to consider adequately the potential impact of recent changes in our First Amendment law since 1984, when *League of Women Voters* was decided, especially regarding issue and political speech.

This case law, while not directly on point in the broadcast media context, strongly suggests that our First Amendment jurisprudence has evolved in recent years toward stronger skepticism of content-based

Chief Judge Kozinski in dissent: (1) a number of content-neutral time, place, and manner restrictions, including (a) limiting the duration of an advertisement, or (b) only allowing ads during certain times of the day (the evening or overnight hours, for instance, to avoid any possible corruption of children's programming during the day); or (2) providing in law that no one advertiser could be responsible for more than 1% of a public broadcaster's annual income. *See generally id.* at 1221 (Kozinski, C.J., dissenting).

^{151.} The Supreme Court's cases seem to counter the Ninth Circuit's analytical approach. *Compare Va. Pharmacy*, 425 U.S. 748 (commercial advertising), *with Citizens United*, 558 U.S. 310 (political advertising). The Court has developed separate tests for judging the validity of regulations of commercial and political speech. *Compare Central Hudson*, 447 U.S. at 566, *and* Bd. of Trs. of the State Univ. of N.Y. v. Fox, 492 U.S. 469, 475–78 (1989), *with Citizens United*, 558 U.S. 310. The Ninth Circuit, however, did not perform these separate analyses.

^{152.} Compare Minority IV, 736 F.3d at 1203, with id. at 1213–15 (Kozinski, C.J., dissenting).

^{153.} *Id.* at 1203, 1205 (majority opinion) (not particularly categorizing the three prohibitions, but holding that all of them contribute to the "commercialization" of public television).

restrictions.¹⁵⁴ Cases like *Discovery Network*, 44 Liquormart, and the other cases modifying *Central Hudson* have tightened the test for commercial speech, making prohibitions harder to maintain.¹⁵⁵ More recently, a series of cases has cemented strong presumptions against speech restrictions of many types in our law. Cases like *Ashcroft v. ACLU*, *Snyder, Stevens, Brown, Citizens United, Sorrell, Bennett, Alvarez,* and *Agency for International Development* all have as a common theme that restrictions on speech presumptively are strongly disfavored and that the Court will examine them with a highly skeptical eye.¹⁵⁶ Of course, each of those cases arose with a distinct factual background and posed different legal questions, but they are instructive as to the general trend of movement in our First Amendment law.

The Supreme Court has been strongly protective of the First Amendment in recent years in a variety of different contexts, even when the outcome may be unpopular.¹⁵⁷ In light of this and the exacting form of intermediate scrutiny required by *League of Women Voters*, the Ninth Circuit should have acknowledged this trend and afforded greater recognition of the First Amendment interests at stake than it did, especially for issue and political advertisements. The court should have affirmed the principle that speech does not lose its protection because money is spent to project it¹⁵⁸ and the bedrock notion that government may not lead us away

^{154.} See, e.g., 44 Liquormart, Inc. v. Rhode Island, 517 U.S. 484 (1996); Brown v. Entm't Merchs. Ass'n, 131 S. Ct. 2729 (2011).

^{155.} Discovery Network, 507 U.S. at 415–18; 44 Liquormart, 517 U.S. at 511–12. See also, e.g., Sorrell, 131 S. Ct. at 2667–68; Fox, 492 U.S. at 469, 475–78.

^{156.} See generally Ashcroft v. ACLU, 542 U.S. 656 (2004) (Child Online Protection Act); Stevens, 559 U.S. 460 (depictions of animal cruelty); Citizens United, 558 U.S. 310 (independent campaign expenditures); Snyder v. Phelps, 131 S. Ct. 1207 (2011) (military funeral protests); Brown, 131 S. Ct. 2729 (violent video games); Sorrell, 131 S. Ct. 2653 (prescription information confidentiality); Ariz. Free Enter. Club's Freedom Club PAC v. Bennett, 131 S. Ct. 2806 (2011) (campaign matching funds); Alvarez, 132 S. Ct. 2537 (plurality opinion) (Stolen Valor Act); Agency for Int'l Dev. v. Alliance for Open Soc'y Int'l, Inc., 133 S. Ct. 2321 (2013) (HIV & AIDS funding condition). This trend has continued after the en banc Ninth Circuit's decision in Minority Television. See McCutcheon v. Fed. Election Comm'n, 572 U.S. ____, (2014) (slip op., at 3) (opinion of Roberts, C.J.) (aggregate campaign contribution limits); see also id. at ____ (slip op., at 2) ("Money in politics may at times seem repugnant to some, but so too does much of what the First Amendment vigorously protects.").

^{157.} See, e.g., Snyder, 131 S. Ct. at 1219.

^{158.} *Va. Pharmacy*, 425 U.S. at 761. Additionally, when pressed on the question of suppression of political speech, the justification offered by the government was inadequate: "Because we have three billion dollars that was spent last year on political advertising." Oral Argument Audio, *supra* note 118, at 53:12. Not only does an explanation of what happened in 2012 (in all media, not only broadcast) fail to justify a congressional action in 1982, but the amount or vigor of speech alone cannot justify its suppression. *See, e.g., Buckley*, 424 U.S. at 19, 48–49; Cohen v. California, 403 U.S. 15, 25–26 (1971); Davis v. Fed. Election Comm'n, 554 U.S. 724, 739 (2008).

from that "fixed star in our constitutional constellation" by drawing content-based lines in order to ban speech.¹⁵⁹

C. Other Implicated Questions

Consideration of the questions in *Minority Television* gives rise to other tangential issues of perennial concern in our First Amendment jurisprudence.

At a basic level, the Ninth Circuit failed to identify whose speech is restricted by section 399b—the broadcaster or the would-be advertiser. The court also failed to consider whether the restrictions violate the public's right to "receive suitable access . . . to . . . ideas and experiences."¹⁶⁰ Answering these questions can be a vital precursor to the subsequent First Amendment analysis, especially in helping to identify alternative channels of communication and questions of government speech.

This case also implicates the questions of whether public television broadcasting can properly be understood as government speech, ¹⁶¹ or whether some form of a public forum analysis should be undertaken.¹⁶² While the Supreme Court has previously held that the government does not create a public forum when it creates or provides subsidies for public

^{159.} W. Va. State Bd. of Educ. v. Barnette, 319 U.S. 624, 642 (1943).

^{160.} *Red Lion*, 395 U.S. at 390; *see also Va. Pharmacy*, 425 U.S. at 757 ("If there is a right to advertise, there is a reciprocal right to receive the advertising."); *id.* (stating that there is a right to "receive information and ideas" (quoting Procunier v. Martinez, 416 U.S. 396, 408–09 (1972))). *But see, e.g.*, Muir v. Ala. Educ. Television Comm'n, 688 F.2d 1033, 1042 (5th Cir. 1982) (finding no right of an individual viewer to compel the broadcast of a program). The Ninth Circuit quoted from and cited favorably to *Red Lion*, but then gave the idea no further discussion. *Minority IV*, 736 F.3d at 1201. In the en banc oral argument, counsel for Minority indicated that "we are talking about the First Amendment rights of the people who want to put the underwriting announcements on," which gave rise to questions about Minority's standing to make the First Amendment challenge on behalf of would-be advertisers. Oral Argument Audio, *supra* note 118, at 5:22. The en banc opinion, however, did not squarely address this question.

^{161.} See, e.g., Pleasant Grove City v. Summum, 555 U.S. 460, 470 (2009).

^{162.} See, e.g., Int'l Soc'y for Krishna Consciousness, Inc. v. Lee, 505 U.S. 672, 678–80 (1992). The question of conceiving of public broadcasting as a limited purpose public forum came up during the Ninth Circuit panel oral argument. Judge Bea called the difference between a regulation of the advertiser and a regulation of the broadcaster "similar to the difference that we have between public forums and limited public forums. The limited public forum here is the broadcast band. It's a limited public forum. It's regulated by the government. Has been since 1939." Oral Argument at 8:35, *Minority II*, 676 F.3d 869 (No. 09-17311), *available at* http://www.ca9.uscourts.gov/media/view.php? pk_id=0000006391. This idea received no further discussion, though, and was not addressed in the panel's opinion. The idea that section 399b could be interpreted as merely a condition affixed to government funding, to being a public broadcasting licensee, or to being tax exempt, was also considered but was not addressed in any way in either the panel or en banc opinions.

broadcasting,¹⁶³ the public forum doctrine and its theoretical underpinnings still have important analytical contributions to the questions here.

While a government speech framework is probably not applicable in this context, on its face it would appear that the government, in creating and funding public television stations, is providing a public forum for others to speak, much like in *Rosenberger* and *Velazquez*.¹⁶⁴ Consequently, more thought should be given to whether we should take a second look at applying the public forum doctrine to public television broadcast stations that receive federal funds, not in the framework in *Forbes*, granting a right of access to the public,¹⁶⁵ but instead as limiting the types of distinctions the government can make in its restrictions on speech.

All of these examples are variants of the underlying concern: whether broadcast should continue to be treated differently in our First Amendment law. While the Supreme Court has consistently refused to alter its framework, recently we have seen some interesting language—albeit dictum—from the Court suggesting that the Justices' attitudes may be shifting.¹⁶⁶ Continued debate is appropriate on this challenging question as an original matter and in light of rapid technological change that may abrogate the purpose of the rule.¹⁶⁷

V. CONCLUSION

If the Ninth Circuit's opinion in *Minority Television* is the final word in this case, it could have implications on courts' analyses of similar questions around the country. The court's lack of consideration of a variety of First Amendment interests may lead other courts to perform a similarly narrow-sighted analysis. Its relatively lax form of intermediate scrutiny may lead to other courts engaging in the same type of highly deferential

^{163.} See Ark. Educ. Television Comm'n v. Forbes, 523 U.S. 666, 679 (1998). The Court applied the public forum analysis in *Forbes* to a debate that aired on public television, but found the *debate* to be a nonpublic forum. *Id.* at 669. Advertisements are not like the rest of public television programming in that they are third-party speech. The public forum doctrine could be applied to advertising, therefore, without applying it generally to public television programming, regardless of what the Court's result would be on the merits of the question.

^{164.} *See* Rosenberger v. Rector & Visitors of the Univ. of Va., 515 U.S. 819, 834 (1995); Legal Servs. Corp. v. Velazquez, 531 U.S. 533, 542 (2001). Perhaps the special treatment of broadcast would counsel for a different analysis in that context, however.

^{165.} Forbes, 523 U.S. at 678.

^{166.} *Citizens United*, 558 U.S. at 326; *Brown*, 131 S. Ct. at 2733; *see also* Denver Area Educ. Telecomms. Consortium, Inc. v. FCC, 518 U.S. 727, 812 (1996) (Thomas, J., concurring in the judgment in part and dissenting in part) ("The text of the First Amendment makes no distinctions among print, broadcast, and cable media").

^{167.} *Minority IV*, 736 F.3d at 1223 (Kozinski, C.J., dissenting) (noting that "[w]e shouldn't turn a blind eye to the vast technological changes in the field of mass communications that make broadcasting less significant and pervasive everyday"); *see also id.* at 1212–13.

evaluation in similar cases. And its cursory treatment of recent First Amendment law may provide precedential authority for other courts to distinguish those cases as well, when perhaps those cases properly provide applicable principles more than a court would otherwise acknowledge.

The Ninth Circuit's analysis, reasoning, and rationale could be expanded in future cases to cover issues not like the factual situation in *Minority Television*.¹⁶⁸ Given the analytical shortcomings of the Ninth Circuit's opinion, and the Supreme Court's recent rigorous protection of First Amendment rights regarding political expression and expression on matters of public importance, ¹⁶⁹ Supreme Court review of *Minority Television* could be an ideal vehicle for the Court to provide some much-needed clarity in how lower courts should analyze similar questions. However, the unique factual situation in *Minority Television*—in the context of advertising (a decidedly unpopular funding device) on public television broadcasting (a beloved fixture of American life)—may dissuade the Court from disrupting the Ninth Circuit's decision. Perhaps, even, the Ninth Circuit's conclusion would still be reached using a proper analytical framework.¹⁷⁰

The other major question looming in the background—whether broadcast media should continue to be treated differently in our First Amendment jurisprudence—is also not necessarily squarely presented in this case, although the Court could certainly reach that question in this case if it so chose. But if the Justices are inclined to reconsider that big question, the presence of a narrower ground of decision, such as the shortcomings identified above, might dissuade the Court from granting certiorari. With those caveats, *Minority Television* at its core appears to be a prime candidate for Supreme Court review and is particularly cert-worthy not only because it resulted in a divided en banc Ninth Circuit, but also because it would give the Court a chance to clarify the proper analytical framework that applies in similar cases.

^{168.} For instance, an analogous analysis could sustain a governmental limitation of expression of other categories of advertisement or other types of speech on public broadcasting stations, as long as the restriction does not approach the outright ban that was invalidated in *League of Women Voters*. Similar reasoning could provide justification for the government drawing further content-based lines on advertisements and other speech on public television, or perhaps even drawing viewpoint-based lines, although the analytical jump needed to get there would be more of a step.

^{169.} See, e.g., McCutcheon, 572 U.S. at ____ (slip op., at 14–17) (opinion of Roberts, C.J.), Snyder, 131 S. Ct. 1207; Brown, 131 S. Ct. 2729; Citizens United, 558 U.S. 310.

^{170.} The Justices may wonder then if the Court's review of this case is proper, instead of waiting for a case where reversal and a clarified framework are both more appropriate.