

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of)
)
Section 257 Triennial Report to Congress)
)
Identifying and Eliminating)
Market Entry Barriers)
For Entrepreneurs and other Small Businesses)
)

REPORT

Adopted: October 19, 2016

Released: October 27, 2016

By the Commission: Chairman Wheeler issuing a statement; Commissioners Pai and O’Rielly approving in part, dissenting in part, and issuing separate statements.

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I. EXECUTIVE SUMMARY

1. Section 257 of the Communications Act of 1934 (the Act), which was adopted as part of the Telecommunications Act of 1996, requires the Commission to conduct a proceeding examining the market entry barriers for entrepreneurs and other small businesses in the communications industry. The Commission completed that proceeding in May 1997. The law also instructs the FCC to report to Congress every three years on the actions the FCC has been taking to eliminate barriers for entrepreneurs and small businesses and to propose legislative changes that would further this goal. Section 257 instructs the Commission to undertake this work in a manner that promotes the policies and purposes of the Act favoring: 1) diversity of media voices, 2) vigorous economic competition, 3) technological advancement, and 4) promotion of the public convenience and necessity. As part of our ongoing commitment to implementing the policy Congress established in section 257, this Report discusses the Commission's recent activities to give entrepreneurs and small businesses opportunities to compete and succeed in the communications sector.

2. Over the past few years, the Commission has acted on a number of fronts to reduce the barriers that entrepreneurs and small businesses, including businesses owned by women and minorities, face in the communications marketplace. Most importantly, we have promoted the development of an open, interconnected broadband ecosystem that has given small firms access to marketing and production capabilities that were once available only to large and established firms. In many markets, high-speed Internet access has encouraged competition by radically lowering entry costs for new and small businesses. We have also taken action to create new opportunities for small companies to acquire crucial inputs such as wireless spectrum and broadcast licenses. And through specific regulatory relief and reforms of the FCC's administrative processes, we have reduced paperwork requirements for small firms.

3. As we discuss below, the Commission's agenda has been fully aligned with the four policy goals Congress expressed in section 257. We have created unprecedented opportunities for new and diverse media voices to find audiences. We have promoted vigorous competition on a playing field that is fair for both large and small firms, and that is consequently attracting record amounts of venture capital at the edge and in networks. And even as the communications technology sector has thrived, and network owners have continued to build out their networks and invest in breakthrough technologies like 5G, we have honored our core values of universal access, public safety, and consumer protection.

4. High-speed broadband, both wired and wireless, has revolutionized the way small businesses operate. It has reduced or eliminated many of the barriers that small and new firms traditionally faced when entering markets with larger, established competitors. No matter where they are physically located, a high-speed broadband connection gives small businesses access to billions of potential customers at very low costs and it allows them quickly scale their operations as demand for their product increases. A 2011 McKinsey report described the Internet as "a great leveler" for small businesses, "making it possible for a small firm to be a global company from day one, with the reach and capabilities that once only large companies could possess." Small firms that intensively use broadband-enabled applications have become key contributors to economic growth and job creation in the United States.

5. The FCC has taken a number of steps to promote the growth and development of the high-speed broadband network that entrepreneurs and small businesses are using to compete and succeed in the 21st century economy. Pursuant to our universal service obligations and our Section 706 mandate to remove barriers to infrastructure investment, the Commission is working to deploy high-speed broadband to the millions of Americans who do not yet have it, especially families and businesses located in rural and Tribal areas. Over the past decade, the Commission has also taken multiple actions to protect the open, interconnected architecture of the Internet, which makes possible the "permissionless innovation" that has been key to the growth of the digital economy. Recognizing that small, entrepreneurial "edge providers" are a key element of the Internet's "virtuous circle" of innovation and competition, the Commission has repeatedly acted—most recently in the 2015 Open Internet Order—to prevent large broadband providers from blocking or limiting small firms' access to the Internet. The 2015

Order prohibited the specific practices of blocking, throttling, and paid prioritization, and created a strong standard to protect Internet openness. Finally, the Commission has championed innovative uses of spectrum, including unlicensed spectrum and spectrum sharing, that give innovators low-cost access to spectrum and have led to the development of Wi Fi, Bluetooth, and other technologies that serve as the platforms for the explosive growth of the wireless broadband economy.

6. Many other Commission regulatory activities also reflect a commitment to lowering barriers for entrepreneurs and small businesses. In the past few years, for example, the Commission has taken a number of creative steps to promote competition in the wireless industry by making it easier for smaller firms to acquire the crucial input of licensed spectrum. In 2015, the Commission reformed its “designated entity” rules for the first time since 2006 to promote the participation of rural carriers and small businesses, including those run by minorities and women, in spectrum auctions. In its recent auction rules and spectrum policymaking, the FCC has also reduced barriers to entry for new and smaller providers by promoting device interoperability, reserving spectrum for non-nationwide providers, and creating geographically compact license areas that are more suitable for smaller bidders. In several transactions involving large, nationwide wireless carriers, the Commission required the carriers to continue offering data roaming agreements to their smaller competitors.

7. The Commission has also acted to create opportunities for new, small and diverse businesses in the broadcast industry. It amended its rules on “joint sales agreements” to stop larger broadcast companies from circumventing the FCC’s rules that protect competition and diversity in local television markets. It has issued hundreds of new low-power FM licenses to serve local and underrepresented communities and it has used bidding credits to help dozens of new entrants acquire commercial FM and AM licenses. The Commission has also undertaken an effort to revitalize AM radio service, which serves as a platform for a variety of voices and viewpoints.

8. As has been discussed in past section 257 reports, the Commission’s own procedures can be improved. Since late 2013, with the assistance and encouragement of Congress, the Commission has engaged in an agency-wide effort to reform and modernize its processes. Guided by the FCC Process Reform Staff Report issued in February 2014, the FCC has been working to operate more efficiently, reduce backlogs, and become more accessible and responsive to small businesses. In 2015, for example, the FCC waived regulatory fees for small businesses owing less than \$500 a year, a reform that provided financial relief to small firms and allowed the FCC to streamline its fee collection process. A series of information technology upgrades has made it easier for FCC stakeholders and the public to electronically search, obtain, and submit information to the Commission; at the same time, a number of Bureaus and Offices have reformed their application and reporting processes to reduce time and paperwork for regulatees.

9. The Commission’s in-house advocate for entrepreneurs and small businesses is the Office of Communications Business Opportunities (OCBO). OCBO’s mission is to recommend policies, programs, and practices “that promote participation by small entities, women, and minorities in the communications industry.” As part of this responsibility, OCBO leads the Commission’s efforts to meet its obligations under the Regulatory Flexibility Act (RFA) and other federal laws. Just as importantly, OCBO actively engages with the small business community to identify and address market entry barriers, in particular the barriers posed by lack of experience, industry connections, and training. OCBO sponsors and participates in a number of different seminars, workshops, and other programs that educate small and diverse businesses about the communications industry and connect them to potential funders.

10. The final section of this Report discusses a number of legislative proposals that would help entrepreneurs and other small businesses compete more effectively in the communications marketplace. These proposals include: preferential tax treatment for transactions involving small businesses; steps to speed up the deployment of broadband to unserved communities; supporting science, technology, engineering, and mathematics (STEM) education; and promoting small firms’ access to and innovative use of spectrum.

II. BACKGROUND ON SECTION 257

11. Section 257 of the Communications Act of 1934 (the Act), which was enacted into law as part of the Telecommunications Act of 1996, requires the FCC to conduct a proceeding examining “market entry barriers for entrepreneurs and other small businesses in the provision and ownership of telecommunications and information services, or in the provision of parts or services to providers of telecommunications and information services.”¹ The purpose of the proceeding is not just to identify the market entry barriers faced by entrepreneurs and small businesses in the communications sector, but to propose ways the FCC could eliminate those barriers “by regulations pursuant to its authority under this Act.”² The statute instructs the FCC to conduct this market entry barriers proceeding in a manner that promotes the policies and purposes of the Act favoring: 1) diversity of media voices, 2) vigorous economic competition, 3) technological advancement, and 4) promotion of the public convenience, and necessity.³

12. After an initial proceeding, section 257 requires the FCC to report to Congress every three years on its ongoing efforts to eliminate market entry barriers for entrepreneurs and small businesses.⁴ In these triennial reports, the FCC reviews and reports on the regulatory steps it has taken or can take to eliminate market entry barriers, and recommends legislative steps Congress can take to eliminate the barriers. These regulatory and statutory recommendations must be “consistent with the public interest, convenience, and necessity.”⁵

13. The Commission released its initial *Section 257 Report* on May 8, 1997.⁶ This Report identified a number of obstacles small businesses encountered in the communications marketplace, including access to capital,⁷ and the failure of incumbent carriers to honor their interconnection obligations.⁸ The Report also identified internal FCC procedures and practices that made it difficult for small businesses to communicate with the agency and comply with its rules, such as small firms’ inability to participate in public meetings or “walk the halls” of the Commission,⁹ the FCC’s slow pace of processing complaints,¹⁰ and burdensome filing and application requirements.¹¹ The 1997 report also included a separate section dedicated to examining unique obstacles for small businesses owned by women and minorities.¹² This section recognized “that minorities and women have experienced serious obstacles in attempting to participate in the telecommunications industry and that their greater participation would enhance the public interest.”¹³

¹ 47 U.S.C. § 257(a)

² *Id.*

³ *Id.* § 257(b).

⁴ *Id.* § 257(c).

⁵ *Id.*

⁶ *Section 257 Proceeding to Identify and Eliminate Market Entry Barriers for Small Businesses*, Report, 12 FCC Rcd 16802 (1997) (*1997 Section 257 Report*).

⁷ *Id.* at 16824-5, paras. 35-6.

⁸ *Id.* at 16846-7, paras. 82-5.

⁹ *Id.* at 16833-4 paras. 53-4.

¹⁰ *Id.* at 16849-50, paras. 86-88, 16871, paras. 126-28.

¹¹ *Id.* at 16851-2, paras. 91-2, 16889-91, paras. 159-161.

¹² *Id.* at 16917-35, paras. 210-25.

¹³ *Id.* at 16930, para. 221.

14. In the *1997 Section 257 Report*, the Commission stated that it would commence a comprehensive study to further examine the role of small businesses and businesses owned by women and minorities in the telecommunications industry and the impact of the FCC's policies on access to the industry for such businesses.¹⁴ In 2000, the Commission released a series of studies analyzing the impact of market entry barriers on businesses owned by women and minorities.¹⁵ The underlying goal of these market entry studies was to help the Commission determine whether it had a compelling interest in supporting programs that would promote license ownership by women and minorities.¹⁶ Specifically, the studies were to evaluate the Commission's authority to promote two interests—the broadcast of a diversity of views and the remedying of past discrimination—as the twin bases for meeting the legal standard for rules and policies that might be promulgated pursuant to section 257 and section 309(j), respectively.¹⁷

15. Consistent with section 257's triennial update requirement, the Commission delivered updates to the 1997 Report to Congress in 2000,¹⁸ 2004,¹⁹ 2007,²⁰ and 2011.²¹ This report, which includes items through the end of calendar year 2015, represents the latest installment in the Commission's ongoing efforts to document and eliminate market entry barriers for entrepreneurs and other small businesses.

III. DEFINITION AND GENERAL DISCUSSION OF “MARKET ENTRY BARRIERS FOR ENTREPRENEURS AND OTHER SMALL BUSINESSES”

16. To understand barriers to entry, this report begins with an economic analysis of the problem. Prospective entrants to a market must deploy a range of assets—financial, physical capital, human capital (knowledge and experience), etc. In the colloquial sense, these may be thought of as

¹⁴ *1997 Section 257 Report*, 12 FCC Rcd at 16933-4, paras. 223-225.

¹⁵ See *FCC Chairman Kennard and Commissioner Tristani To Host Policy Forum on Market Entry Barriers Faced By Small, Women-And Minority-Owned Businesses on Tuesday, December 12, 2000*, DA 00-2712, Public Notice (rel. Dec. 1, 2000).

¹⁶ In 1995, the Supreme Court decided *Adarand Constructors*, holding that any federal program in which the “government treats any person unequally because of his or her race” must satisfy the “strict scrutiny” constitutional standard of review. *Adarand Constructors v. Peña*, 515 U.S. 200, 227-30 (1995). The Court subsequently held in *VMI* that a state program that makes distinctions on the basis of gender must be supported by an “exceedingly persuasive justification” in order to withstand constitutional scrutiny. *United States v. Virginia*, 518 U.S. 515, 531-4 (1996).

¹⁷ The released studies were the following: Christine Bachen et al., *Diversity of Programming in the Broadcast Spectrum: Is there a Link between Owner Race or Ethnicity and News and Public Affairs Programming?* (Dec. 1999); William D. Bradford, *Discrimination in Capital Markets, Broadcast/Wireless Spectrum Service Providers and Auction Outcomes* (Dec. 2000); KPMG, Economic Consulting Services, *Estimation of Utilization Rates/Probabilities of Obtaining Broadcast Licenses from the FCC* (Nov. 2000); Ernst & Young, *FCC Econometric Analysis of Potential Discrimination Utilization ratios for Minority- and Women- Owned Companies in FCC Wireless Spectrum Auctions* (Dec. 2000); and Ivy Planning Group, *Market Entry Barriers, Discrimination and Changes in Broadcast and Wireless Licensing 1950 to Present* (Dec. 2000). All five of these studies are available at http://transition.fcc.gov/opportunity/meb_study.

¹⁸ *Section 257 Report to Congress, Identifying and Eliminating Market Entry Barriers for Entrepreneurs and Other Small Businesses*, Report, 15 FCC Rcd 15376 (2000).

¹⁹ *Section 257 Triennial Report to Congress, Identifying and Eliminating Market Entry Barriers for Entrepreneurs and Other Small Businesses*, Report, 19 FCC Rcd 3034 (2004).

²⁰ *Section 257 Triennial Report to Congress, Identifying and Eliminating Market Entry Barriers for Entrepreneurs and Other Small Businesses*, Report, 22 FCC Rcd 21132 (2007).

²¹ *Section 257 Triennial Report to Congress, Identifying and Eliminating Market Entry Barriers for Entrepreneurs and Other Small Businesses*, Report, 26 FCC Rcd 2909 (2011).

barriers to entry. The pure economic concept of barriers to entry is more narrowly focused. Because entry can take time (if only to assemble the necessary assets), Carlton and Perloff focus on long-run barriers to entry and define the term as “a cost that must be incurred by a new entrant that incumbents do not have (or have not had to) bear.” Tracing the historical development of the term, Carleton and Perloff enumerate three categories of barrier to entry: “(1) absolute cost advantage, (2) economies of large-scale production that requires large capital expenditures, and (3) product differentiation.”²²

17. Clearly, it will discourage entry if the incumbent firm can produce the product at a lower cost than any entrant (thus having an “absolute cost advantage”). Lower cost could stem from the particular skill of certain staff or from access to superior technology protected by a patent. To the extent that certain inputs are absolutely critical to the production process and there are constraints on their availability to entrants, lack of access to these inputs could be considered an absolute cost (dis)advantage. Resources such as spectrum, without which it is impossible to provide wireless voice service, or very popular copyrighted video content, without which it may be impossible to provide a viable multichannel video programming distributor (MVPD) service, are examples.

18. The need to incur large capital expenditures in order to realize economies of large-scale production should not, at first glance, affect entrants and incumbents differently. However, two considerations suggest that this factor is important. First, capital markets may be imperfect, and thus over-estimate the risks associated with lending to a potential entrant. Second, if the large capital expenditure represents an investment in assets that cannot be recovered and transferred to another enterprise in the event that entry fails (sunk costs), then the risk of entry is magnified, which may act as a deterrent. In practice then, the large-scale economies that are implied by high fixed costs, particularly in the presence of capital market imperfections, may be considered a barrier to entry.

19. There is another sense in which economies of scale may, at least temporarily, affect incumbents and entrants differently. Suppose that an incumbent firm is operating at or above the level of production at which average costs are minimized (the minimum efficient scale or MES). If an entrant is not able to achieve that scale instantaneously, it will incur losses for a period of time until (due to advertising or word of mouth by customers or some other mechanism) it can increase its production to MES. Once this happens, excess profits will be competed away. However, the entrant will be faced with a period of losses; presumably larger prospective losses reduce the attractiveness of entry.

20. Product differentiation can also create a barrier to entry, to the extent that the incumbent has a “first mover advantage” in terms of establishing its brand identity. A later entrant may thus face significant advertising and other marketing expenditures in order to establish and differentiate its competing brand in the minds of consumers.

21. Although not an economic barrier to entry *per se*, in many cases entry requires particular skills and experience on the part of key personnel. These are important for operational reasons but they may also play a role in the capital market. Consider a would-be radio station operator. She may have all the necessary talents and knowledge but if she has no demonstrated experience running a station, the capital market may overestimate the risk associated with lending to her and she may be unable to raise the funds necessary to start her business. This has various practical implications. One obvious one is that training opportunities for would-be entrepreneurs and small business people are of great importance. Training enables them not just to gain operational skills but to develop a record of performance that they can take to the capital market and use to present themselves as promising loan or equity investment prospects. A second one is that smaller-scale opportunities can play an important role in the process by which an entrepreneur enters a sector, whether it be telecommunications, broadcasting, or the provision of an Internet service. Ensuring that smaller-scale opportunities are available is one way to fill the pipeline with promising and skilled entrepreneurs ready and able to move up to the next level, along an

²² Dennis W. Carlton & Jeffrey M. Perloff, *Modern Industrial Organization* 171-6 (1990).

“experience path.” In broadcasting, for example, AM radio stations present a better entry-level service opportunity than a full-power television station.

22. When businesses, either for efficiency reasons or possibly to deter entry, choose to provide bundled or integrated services, this can be an obstacle to entry in the same way that a large minimum efficient scale can be for a single product or service. Bundling or joint provision that improves efficiency is referred to as “economies of scope.” Just as economies of scale can be a barrier to entry because they raise the sunk costs of investment necessary for entry, economies of scope can have the same effect. For example, there may be efficiencies from incumbent producers integrating downstream into retail distribution. If so, then newcomers would likely need to enter at both stages as well, representing a larger investment than entering at just the production stage. A similar situation may arise in the case of broadband and multichannel video program distribution (MVPD) services. If it is necessary to offer both in order to have an attractive product for consumers, the investment is higher and consequently entry may be more difficult. Policies to encourage entry of online video distributors (OVDs) could have the collateral effect of reducing entry barriers for those who wish to provide standalone broadband service.

23. This discussion indicates that any measures or developments (including advances in technology) that reduce the MES of production can facilitate entry by smaller entities. In the wireless communications area, for example, measures such as roaming requirements and offering capacity on a wholesale basis, thus facilitating MVNO (mobile virtual network operator) entry, can be seen as reducing entry barriers. Under some circumstances, offering spectrum licenses in small blocks (by bandwidth and/or geographic area) can have the same effect, particularly if MES is small. Interconnection agreements between wireless providers, whether pursuant to regulatory requirements or pure market interaction, can also have the effect of reducing MES. Another example of measures that reduce MES is the buying cooperative National Cable Television Cooperative (NCTC). This group aggregates small cable operators and negotiates on their behalf for access to cable programming, enabling the small operators to acquire programming at lower prices.

24. For information service providers, widely-available and inexpensive broadband is an important input small firms and new entrants can use to address the MES issue. For example, broadband Internet service substantially reduces the distribution cost for audiovisual products, video as well as audio. In tandem with advances in digital technology that have reduced the production costs of audiovisuals (e.g., music recorded at home and mixed on a laptop computer, movies shot using smartphones), the barriers to entry (colloquially speaking) to production and distribution of audiovisual products have dropped substantially and there has been a concomitant massive increase in production. So-called “user-generated content,” or “UGC” is ubiquitous (on YouTube, for example), and, a growing number of individuals and small entities are able to monetize their UGC via advertising sales. In some cases, video content that begins as short-form episodes posted on a website can evolve into commercially-supported and distributed programming. So the “experience path” concept mentioned above can work for those who use broadband as a content distribution platform in addition to those who provide telecommunications or media services directly.

IV. FCC ACTIVITIES TO GIVE ENTREPRENEURS AND OTHER SMALL BUSINESSES FULL AND OPEN ACCESS TO THE BROADBAND NETWORK ECONOMY

25. There are approximately 28 million small businesses in the United States.²³ These firms employ almost half of our country’s private-sector workers and have created the majority of new U.S.

²³ U.S. Small Business Administration (SBA), Office of Advocacy, Frequently Asked Questions (March 2014) (defining small business as “an independent business with fewer than 500 employees”), <https://www.sba.gov/advocacy/frequently-asked-questions-about-small-business>. As discussed in Section V. E. below, the FCC works with the SBA to develop specific small business size standards for the communications industry. A listing and description of the nine primary telecommunications size standards are available at <https://www.fcc.gov/reports-research/guides/size-standards-small-business-administration#block-menu-block-4>.

jobs over the past two decades.²⁴ A subgroup of young, entrepreneurial small businesses is responsible for a disproportionate amount of the innovation and growth that has benefitted the U.S. economy in recent years.²⁵ Small firms in the United States, for example, produce 16 times more patents per employee than larger firms.²⁶

26. Modern communications technology, especially high-speed broadband, is one of the key tools U.S. small businesses use to innovate and grow in the 21st century economy. Broadband can significantly lower the entry barriers of cost, scale, and product differentiation discussed in Section III of this Report. As Chairman Wheeler testified in the U.S. House Small Business Committee, “In the 21st century information economy, starting and operating a small business requires access to 21st century communications.”²⁷ Recognizing the powerful benefits broadband can bring to their operations, U.S. small businesses adopted this new technology more quickly than the rest of the U.S. population and are actively using it to boost their productivity.²⁸ According to one study, small firms that intensively use broadband-enabled applications grow twice as quickly, export twice as much, and create more than twice as many jobs as firms that do not.²⁹

27. The Commission has recognized in a number of different proceedings over the past few years that broadband access lowers barriers for small businesses by giving them new ways to produce their goods and services, market their products, and compete against larger competitors. As the 2010 *National Broadband Plan* explained, broadband gives small firms “access to new markets and opportunities by lowering the barriers of physical scale and allowing them to compete for customers who previously exclusively turned to larger suppliers.”³⁰ A 2011 McKinsey report described the Internet as “a great leveler” for small businesses, “making it possible for a small firm to be a global company from day one, with the reach and capabilities that once only large companies could possess.”³¹ Because the Internet gives small businesses global access to customers, suppliers, workers, and “significant marketing and brand muscle,” small firms today can compete like big ones.³²

28. High-speed broadband doesn’t just help level the playing field between smaller and larger firms; it also eliminates geographic barriers for businesses operating in small towns and rural areas. As Commissioner Pai noted in a recent speech, thanks to high-speed Internet, entrepreneurs in small towns and rural areas no longer have to move to larger cities to pursue their ideas; they can build their

²⁴ *Id.*

²⁵ *The Decline in Business Formation: Implications for Entrepreneurship and the Economy: Hearing Before the U.S. House Committee on Small Business, Subcommittee on Contracting and Workforce*, 113th Congress (Sept. 11, 2014) (statement of Jonathan Ortman, Senior Fellow, Ewing Marion Kauffman Foundation).

²⁶ SBA, Office of Advocacy, *Frequently Asked Questions* (March 2014).

²⁷ *Is the FCC Responding to the Needs of Small Business and Rural America?: Hearing Before the U.S. House Committee on Small Business*, 113th Congress (Sept. 17, 2014) (statement of Thomas Wheeler, Chairman, Federal Communications Commission).

²⁸ SBA, Office of Advocacy, *The Impact of Broadband Speed and Price on Small Businesses at 32* (Nov. 2010), www.sba.gov/sites/default/files/rs373tot_0.pdf. (“A key finding of the survey is that U.S. small businesses have embraced broadband and Internet access as a central and essential part of their business operations and strategies. Indeed, broadband is central to U.S. small businesses in ways that it is not to individuals.”)

²⁹ McKinsey Global Institute, *Internet Matters: The Net’s Sweeping Impact on Growth, Jobs, and Prosperity at 18* (2011), http://www.mckinsey.com/insights/high_tech_telecoms_internet/internet_matters.

³⁰ FCC, *Connecting America: the National Broadband Plan at 266 (National Broadband Plan)* (2010), <https://www.fcc.gov/general/national-broadband-plan>

³¹ McKinsey Global Institute, *The Great Transformer: the Impact of the Internet on Economic Growth and Prosperity at 4* (2011), http://www.mckinsey.com/insights/high_tech_telecoms_internet/the_great_transformer.

³² *Id.* at 5.

businesses in their hometowns. Because of broadband, he explained, “the barriers to turning inspiration into reality are disappearing. It’s easier than ever for businesses in the heartland to grow.”³³ He cited the example of C&C Processing, a small Nebraska meat processing company that has used the Internet to market its products nationally and get the attention of national grocery chains such as Whole Foods. In an earlier communication with the Commission, C&C’s owner explained that the company’s website had “allowed them to work with larger distributors in other states (Colorado, Maryland) and focus on the wholesale distribution and services rather than just retail.”³⁴

29. Broadband gives small businesses access to billions of potential customers all over the world at extremely low costs. But just as importantly, it gives them access to “back-end” cloud-based computing tools that allow them to scale their businesses quickly without large upfront capital investments when demand for their products increases. This broadband-enabled scalability “gives companies of any size access to capabilities and services that previously were available only to the largest enterprises.”³⁵ For example, this back-end capability allowed a small Chicago-based energy bar company, Element Bars, to successfully manage a sharp increase in web site visits and orders after its product appeared on a television reality show.³⁶

30. A case study in how developing broadband technology has created huge opportunities for entrepreneurs and small business is the so-called “app economy,” a \$100 billion-plus industry that did not exist ten years ago. Enabled by advances in wireless technology like 4G and Wi Fi, and by the introduction of the iPhone and other mobile devices, small innovative businesses have found the mobile app marketplaces to be a particularly good place to do business. A 2015 report on “the Mobile Revolution” by the Boston Consulting Group observed that, “apps developed by solo entrepreneurs or small businesses can stand toe-to-toe with apps created by technology giants like Apple and Google.”³⁷ A 2014 app industry survey found that three-quarters of the highest-grossing apps in the Google Play and Apple App stores were produced by startups and small companies.³⁸ While some of these leading app makers were located in Silicon Valley, successful companies were located in every region of the United States. The authors of the survey attributed this geographic diversity to “the minimal barriers to entry for the app industry.” They explained, “needing only an internet connection and coding skills, entrepreneurs with innovative ideas can succeed anywhere.”³⁹

31. In addition to producing apps, small businesses can effectively use apps and the mobile platform to level the playing field with their larger competitors. Crowd-sourced referral apps like Yelp, for example, give small businesses a low-cost way to build a customer base and quickly react to customer

³³ Remarks of Commissioner Ajit Pai at the Bill of Rights Institute’s Kansas Public Lecture, “A Free Market, if You Can Keep It: the Need for Online Innovation, not Regulation” (Nov. 12, 2015), <https://www.fcc.gov/document/pai-remarks-bill-rights-institutes-kansas-public-lecture>.

³⁴ Letter from Dave Vorhaus, Expert Advisor, National Broadband Taskforce, FCC, to Marlene H. Dortch, Secretary, GN Docket No. 09-51 (filed Jan. 13, 2010).

³⁵ Boston Consulting Group, *Ahead of the Curve: Lessons on Technology and Growth from Small-Business Leaders* (2013), at 5, https://www.bcgperspectives.com/content/articles/technology_software_globalization_ahead_curve_lessons_technology_growth_small_business_leaders/.

³⁶ *Id.* at 10.

³⁷ Boston Consulting Group, *The Mobile Revolution: How Mobile Technologies Drive a Trillion-Dollar Impact* (2015) at 19-20, https://www.bcgperspectives.com/content/articles/telecommunications_technology_business_transformation_mobile_revolution/.

³⁸ ACT/The App Association, *State of the App Economy 2014* at 3 (2014), <http://actonline.org/2014/10/27/report-state-of-the-app-economy-2014>.

³⁹ *Id.* at 9.

feedback. Mobile payment systems like Square make it easy and inexpensive for small businesses to complete sales.⁴⁰

32. The Internet that small businesses and entrepreneurs can today use to enter markets and grow quickly is the result of both large private-sector investments in technology and infrastructure, and government policies that have encouraged access, openness, competition, and innovation. This section reviews the role the FCC has played in making sure that the broadband ecosystem continues to develop in a way that maximizes opportunities and minimizes entry barriers for entrepreneurs and small businesses.

A. Bringing Fast Broadband to Communities and Businesses that Do Not Have It

33. As the FCC noted in the 2010 *National Broadband Plan*, broadband service is “an essential element of local and regional development in the 21st century.”⁴¹ Businesses located in communities without access to high-quality broadband operate at a competitive disadvantage to those that do. Given the FCC’s consistent finding that rural and Tribal areas have significantly less access to high-speed broadband than urban areas, building out broadband networks is a key competitive issue for entrepreneurs and small businesses operating in non-urban areas.⁴² In its most recent *Broadband Progress Report*, the Commission observed that the rural-urban disparity in the deployment of advanced telecommunications capability impacts “the ability of small businesses operating in rural areas to successfully compete in the 21st century economy.”⁴³

34. As part of its statutory responsibility to “encourage the deployment on a reasonable and timely basis of advanced telecommunications capability to all Americans,”⁴⁴ the Commission continuously monitors advanced telecommunications capability deployment and has taken a number of steps to promote the extension of advanced telecommunications infrastructure, both fixed and mobile, to communities that do not yet have access to it.

35. On January 28, 2016, the Commission adopted the *2016 Broadband Progress Report*, which found that advanced telecommunications capability is not being deployed to all Americans in a reasonable and timely fashion. In its 2016 *Report*, the Commission continued to set the speed benchmark for “advanced telecommunications capability” at 25 megabits per second (Mbps) download and 3 Mbps upload for fixed broadband services, a benchmark it had established in the *2015 Broadband Progress Report* to reflect current market offerings, household demand, and the speed requirements of typically used, high-quality applications. The 2016 *Report* also included mobile broadband services in its assessment, finding that mobile broadband is an advanced telecommunications service distinct from fixed terrestrial broadband, and that the two are not functional substitutes. The *Report* noted significant increases in the availability of broadband to Americans between 2012 and 2014, but it also found that: (1) at the end of 2014, 10 percent of all Americans (about 34 million people) still did not have access to 25 Mbps/3 Mbps fixed broadband service; (2) this rate is much higher in rural areas, where 39 percent (23

⁴⁰ Boston Consulting Group, *The Mobile Revolution: How Mobile Technologies Drive a Trillion-Dollar Impact* (2015) at 19-20

⁴¹ *National Broadband Plan* at 273.

⁴² SBA, Office of Advocacy, *The Impact of Broadband Speed and Price on Small Businesses* at 32 (Nov. 2010), www.sba.gov/sites/default/files/rs373tot_0.pdf. (“Although there is not a significant difference between metro and rural markets in terms of businesses’ need for broadband, there are significant differences between metro and rural areas with respect to the availability, performance, and price of high-speed broadband options.”)

⁴³ *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, as Amended by the Broadband Data Improvement Act*, 2016 Broadband Progress Report, 31 FCC Rcd 699, 701, para. 4 (2016) (*2016 Broadband Progress Report*).

⁴⁴ 47 U.S.C. §§ 1302, 1303.

million) lack service at the 25 Mbps/3 Mbps level,⁴⁵ and (3) the rates of unavailability are even higher in Tribal lands and U.S. Territories.

36. *Measuring Broadband America*. Under the direction of the Office of Engineering and Technology (OET), the Commission conducts an ongoing nationwide performance study of broadband service in the United States. This initiative developed out of a recommendation in the *National Broadband Plan* to improve the availability of information for consumers about their broadband service. The program was expanded in 2013 to include wireless broadband measurements based on a crowdsourcing approach. The Commission publishes annual reports which document the performance measurements for each Internet Service Provider (ISP), helping to spur a competitive environment among them. Reports of fixed broadband service offer results of rigorous broadband performance testing for 13 of the largest wireline broadband providers that serve well over 80 percent of the U.S. residential market. The Commission released its 5th Measuring Broadband Report on December 30, 2015.⁴⁶ This Report found that ISPs using cable technology have been offering higher fixed broadband speeds to consumers and that the actual speeds consumers are experiencing are consistent with the advertised speeds; but it also found that DSL service speeds have been stagnant for the past several years.

37. *The Connect America Fund – Price Cap Carriers*. As part of a significant reform to the high-cost program within the Universal Service Fund, in its 2011 *USF/ICC Transformation Order*, the Commission created the Connect America Fund (CAF) to extend broadband-capable infrastructure to the millions of Americans in rural and high-cost areas who lack access to high-speed Internet.⁴⁷ The explicit goal of this reform was to realize the principle stated in Section 254(b) of the Act, that “access to advanced telecommunications and information services should be provided in all Regions of the Nation.”⁴⁸ Connect America Phase I provided \$438 million in funds for price cap carriers to extend broadband-capable infrastructure to 1.2 million homes and businesses in high-cost areas.⁴⁹ In the *USF/ICC Transformation Order*, the Commission concluded that Connect America Phase II would provide support in price cap areas through a combination of “a new forward-looking model of the cost of constructing modern multipurpose networks” and a competitive bidding process.⁵⁰ In 2015, 10 price cap carriers accepted an offer of Phase II support calculated by a cost model in exchange for a state-level commitment to deploy and maintain voice and broadband service in the high-cost areas in their respective states.⁵¹

38. *The Mobility Fund*. The 2011 *USF/ICC Transformation Order* also established a universal support mechanism dedicated exclusively to mobile services in two phases. The Commission

⁴⁵ 2016 *Broadband Progress Report*, 31 FCC Rcd at 750, para. 121. (“In other words, Americans who live in rural areas are ten times more likely to be unserved than their urban counterparts.”)

⁴⁶ FCC Office of Engineering and Technology and Consumer and Governmental Affairs Bureau, 2015 *Measuring Broadband America Fixed Broadband Report* (Dec. 2010), <https://www.fcc.gov/reports-research/reports/measuring-broadband-america/measuring-broadband-america-2015>.

⁴⁷ *Connect America Fund; A National Broadband Plan for Our Future: Establishing Just and Reasonable Rates for Local Exchange Carriers; High-Cost Universal Service Support; Developing a Unified Intercarrier Compensation Regime; Federal-State Board on Universal Service; Lifeline and Link-Up; Universal Service Reform – Mobility Fund*; Report and Order and Further Notice of Proposed Rulemaking, 26 FCC Rcd 17663 (2011) (*USF/ICC Transformation Order*) *aff’d In re: FCC 11-161*, 753 F.3d 1015 (10th Cir. 2014).

⁴⁸ 47 U.S.C. § 254(b).

⁴⁹ Federal and State Staff for the Federal-State Joint Board on Universal Service, *Universal Service Monitoring Report*, CC Docket No. 96-45, WC Docket Nos. 02-6, 02-60, 06-122, 10-90, 11-42, 13-184, 14-58 at A-5 (2015 *Universal Service Monitoring Report*) (rel. Dec. 22, 2015).

⁵⁰ *USF/ICC Transformation Order*, 26 FCC Rcd at 17725, para. 156.

⁵¹ 2015 *Universal Service Monitoring Report* at A-10.

adopted a budget of \$300 million of Universal Service Fund reserves for Mobility Fund Phase I, plus up to \$50 million for Tribal Lands, to provide one-time support payments for the deployment of 3G or better mobile network technologies that provide mobile voice and Internet services. In reverse auctions conducted in September 2012, and February 2014, service providers submitted winning bids that exhausted the budgets established for Mobility Fund Phase I and Tribal Mobility Fund Phase I, respectively. Since then, support has been authorized and disbursed to those winners that have satisfied the post-auction application and reporting requirements of the Commission's rules.⁵² The Commission is currently considering implementation issues relating to the provision of ongoing support under Mobility Fund Phase II.⁵³

39. *Rural Broadband Experiments.* In its 2014 *Tech Transitions Order*, the Commission noted its interest in collecting data on “the impact of technology transitions in rural areas, including Tribal lands, where residential customers, small businesses and anchor institutions . . . may not have access to advanced broadband services.”⁵⁴ In July 2014, the Commission adopted a \$100 million budget for rural broadband experiments and established an objective methodology for selecting projects among applications from carriers that would deploy new, robust broadband to consumers in price cap areas.⁵⁵ The Commission intended to use these rural broadband experiments to explore how to structure the CAF Phase II competitive bidding process and to gather information about interest in deploying next generation networks in high-cost areas. The Commission received bids from 181 entities. In December 2014, the Wireline Competition Bureau (WCB) announced the 37 bidders that were provisionally selected to receive rural broadband experiments support. In March 2015, the Bureau announced provisional selection of 10 additional bidders. As of January 2016, the Commission had authorized approximately \$34.5 million in support to 11 companies to provide broadband in 12 states.⁵⁶

40. *Municipal Provision of Broadband Service.* In February 2015, the Commission adopted an order preempting certain provisions of law in Tennessee and North Carolina which restricted two municipal broadband providers from offering high-speed broadband service to neighboring communities.⁵⁷ The Commission found that the state laws preventing the Electric Power Board (EPB) of Chattanooga, Tennessee and the other petitioner from building their networks out into surrounding areas

⁵² 2015 *Universal Service Monitoring Report* at A-14-15

⁵³ See *USF/ICC Transformation Order*; see also *Connect America Fund*; *Universal Service Reform – Mobility Fund*; *ETC Annual Reports and Certifications*; *Establishing Just and Reasonable Rates for Local Exchange Carriers*; *Developing an Unified Inter-carrier Compensation Regime*, Report and Order, Declaratory Ruling, Memorandum Opinion and Order, Seventh Order on Reconsideration, and Further Notice of Proposed Rulemaking, 29 FCC Rcd 7051 (2014).

⁵⁴ *Technology Transitions*; *AT&T Petition to Launch a Proceeding Concerning the TDM-to-IP Transition*; *Connect America Fund*; *Structure and Practices of the Video Relay Services Program*; *Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities*; *Numbering Policies for Modern Communications*, 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, 29 FCC Rcd 1433, at 1464, para. 87 (2014).

⁵⁵ *Connect America Fund*, *ETC Annual Reports and Certifications*, Report and Order and Further Notice of Proposed Rulemaking, 29 FCC Rcd 8769 (2014).

⁵⁶ See 2015 *Universal Service Monitoring Report* at A-13; *Rural Broadband Experiment Support Authorized For Winning Bid Submitted By Skybeam, LLC*, WC Docket Nos. 10-90 and 14-259, Public Notice, DA 16-30 (WCB Jan. 12, 2016).

⁵⁷ *City of Wilson, North Carolina, Petition for Preemption of North Carolina General Statute Sections 160A-340 et seq.*; *The Electric Power Board of Chattanooga, Tennessee, Petition for Preemption of a Portion of Tennessee Code Annotated Section 7-52-601*, Memorandum Opinion and Order, 30 FCC Rcd 2048 (2015), *appeal pending sub nom.. Tennessee v. FCC, North Carolina v. FCC*, Case Nos. 15-3291, 15-3555 (6th Cir.).

were “barriers to infrastructure investment” and thwarted competition. Accordingly, the Commission preempted these laws under Section 706 of the Telecommunications Act of 1996. The Sixth Circuit subsequently overruled the Commission, holding that Section 706 did not give the Commission authority to preempt the state laws at issue.⁵⁸ But the Commission remains committed to finding alternative means to address barriers to broadband deployment.

B. Protecting the Open Internet as an Engine of Innovation and Economic Growth

41. From its earliest policy statements on broadband, the FCC has recognized the crucial connection between an open Internet and innovation. In his 2004 speech laying out his four principles of “Internet Freedom,” Chairman Powell explained, “Internet Freedom also promotes innovation by giving developers and service providers confidence that they can develop broadband applications that reach consumers and run as designed.”⁵⁹

42. The Commission elaborated on the strong relationship between an open Internet and entrepreneurial activity in its 2010 *Open Internet Order*. The Order explained that the Internet’s open architecture “enables innovators to create and offer new applications and services without needing approval from any controlling entity, be it a network provider, equipment manufacturer, industry body, or government agency.”⁶⁰ This “permissionless innovation” was one of the key components of the “virtuous circle” of Internet development, in which end-user demand for innovative “edge” applications and services drives network investment, which in turn leads to further innovative applications and services.⁶¹

43. The 2010 *Order* observed that, “in the rapidly innovating edge sector . . . many new entrants are new or small ‘garage entrepreneurs,’ not large and established firms.”⁶² The Internet’s open architecture particularly benefited these smaller firms because it allowed them to develop and distribute their products to large numbers of end users at low costs. It “enables anyone connected to the network to reach and do business with anyone else, allowing even the smallest and most remotely located businesses to access national and global markets, and contribute to the economy through e-commerce and online advertising.”⁶³ One of the explicit purposes of the 2010 *Order* was to preserve the Internet as a “level playing field” for these small firms.⁶⁴

44. An important finding of the 2010 *Order* was that broadband providers posed a potential threat to small edge providers. Because edge providers were developing services—especially voice and video services—that often competed with the broadband providers’ offerings, the Commission was concerned that broadband providers would restrict or degrade edge providers’ access to end users. The Commission was also concerned that broadband providers would boost their revenues by charging edge providers for access or prioritized access to end users.⁶⁵ In the Commission’s assessment, “[i]f broadband providers had historically favored their own affiliated businesses or those incumbent firms that paid for

⁵⁸ *Tennessee v. FCC, North Carolina v. FCC*, 2016 WL 4205905 (6th Cir. 2016).

⁵⁹ Michael K. Powell, Chairman, FCC, Remarks at Silicon Flatirons Symposium Preserving Internet Freedom: Guiding Principles for the Industry, (Feb. 8, 2004), https://apps.fcc.gov/edocs_public/attachmatch/DOC-243556A1.pdf.

⁶⁰ *Protecting Internet Openness, Broadband Industry Practices*, Report and Order, 25 FCC Rcd 17905, 17910, at para. 13 (2010) (*2010 Open Internet Order*), *aff’d in part, vacated and remanded in part sub nom. Verizon v. FCC*, 740 F.3d. 623 (D.C. Cir. 2014).

⁶¹ *Id.* at 17911, para. 14.

⁶² *Id.* at 17920, para. 26.

⁶³ *Id.* at 17910, para. 13.

⁶⁴ *Id.* at 17907, paras. 3-4.

⁶⁵ *Id.* at 17919, para. 24.

advantageous access to end users, some innovative edge providers that have today become major Internet businesses might not have been able to survive.”⁶⁶

45. While the D.C. Circuit’s January 2014 *Verizon* decision struck down part of the Commission’s 2010 rules, it supported the Commission’s basic finding that a free and open Internet fuels the virtuous circle of innovation and investment.⁶⁷ The Court also affirmed the Commission’s conclusions that an open Internet encourages edge-provider innovation and that broadband providers “may be motivated to discriminate against and among edge providers.”⁶⁸

46. The rulemaking that began in response to the remand issued in the January 2014 *Verizon* decision provided additional support for the FCC’s decade-old policy of promoting and protecting Internet openness. As a commenter representing a group of startup technology companies explained to the Commission: “Entrepreneurs rely on an open internet to build their companies. Investors rely on the certainty of an open internet to invest billions of dollars in edge providers to power the innovation ecosystem. And the FCC’s open internet, or network neutrality, actions and orders have been essential to ensuring such entrepreneurship and investment.”⁶⁹ In a letter to Chairman Wheeler, the National Venture Capital Association (NVCA) noted that in 2013, venture firms had invested \$19 billion in Internet-related companies. In order to continue attracting such large investments in early-stage companies, “entrepreneurs must maintain their ability to develop products and services and reach the global markets through equitable access to the Internet.”⁷⁰

47. A number of other commenters in the 2014 rulemaking explained how allowing broadband providers to prioritize Internet traffic, charge access fees, or operate paid “fast lanes” for edge providers would create potentially insurmountable barriers for entrepreneurs and small businesses. CodeCombat, an online educational game company started in 2013 with no funding, explained that it was able to launch and grow quickly because of a free and open Internet. At this early stage, the company explained, “we would have been unable to pay Verizon, Comcast or other ISPs for fast delivery of our content, seriously jeopardizing our growth at that time.”⁷¹

48. The entertainment and news website reddit explained that its founders launched the now-global company in 2005 with an investment of \$12,000. The company commented: “One of the reasons the open Internet is so great is that it makes \$12,000 *sufficient* to get a major company off the ground. But \$12,000 would not have been enough to cover ordinary operating expenses *and* put us in a fast lane.”⁷² As the NVCA explained to the Commission, early-stage companies “often struggle to have enough capital to build products and services, let alone the financial resources to pay for priority access to the Internet. If they can’t afford to compete against those with deep pockets and established businesses, we as a nation will surely suffer from the lost opportunity of innovation.”⁷³

49. *The Special Importance of the Open Internet for Minority, Women and Rural Businesses.* The Open Internet has also given minority and women business owners new opportunities to create and distribute goods and services, especially media content. A series of commenters described how the open

⁶⁶ *Id.* at 17918-19, para. 23.

⁶⁷ *Verizon v. FCC*, 740 F.3d at 645 (D.C. Cir. 2014).

⁶⁸ *Id.*

⁶⁹ Comments of Engine Advocacy, GN Docket No. 14-28, at 3 (filed April 24, 2014).

⁷⁰ Letter from Bobby Franklin, President & CEO, National Venture Capital Association, to Tom Wheeler, Chairman, FCC, GN Docket No. 14-28 (July 15, 2014).

⁷¹ Comments of CodeCombat, GN Docket 14-28, GN Docket 10-127 (filed June 23, 2014).

⁷² Comments of reddit, Inc., GN Docket No. 14-28 (filed July 15, 2014).

⁷³ NVCA July 15, 2014 Letter.

Internet platform has lowered the barriers to entry that traditionally challenged minority and women-owned firms. Instead of finding their audiences through traditional media and advertising networks, the open Internet has given these businesses an alternative, low-cost way to market their products and find customers. As Commissioner Clyburn explained in 2011, “the Internet is the great equalizer for minorities and women who have struggled for a foothold in traditional media and other businesses.”⁷⁴

50. In comments submitted to the Commission in 2010, the advocacy group ColorOfChange explained the equalizing power of the open Internet: “Websites that serve a Black audience can establish themselves cheaply, and their growth and viewership is based largely on the value of what they provide, rather than the amount of money they can spend on advertisements, or the relationships they have with established media outlets.”⁷⁵ Due to this open, gatekeeper-free structure, the group explained, “the Internet is friendlier than any other communications medium for businesses and organizations that provide content and services aimed at minority audiences.”⁷⁶ The writer and producer of a successful online video series whose protagonist is a young Latina woman, told the Commission that “there was no way I could have gotten my show done in traditional media.”⁷⁷ For minority content creators, she explained, “the low barriers to entry on the Internet have allowed us to take the initiative, create, produce and distribute our stories and develop a financially viable business.”⁷⁸

51. Commenters also discussed the “level playing field” that an open Internet creates for entrepreneurs and small businesses located in rural areas. Because an open Internet gives rural businesses the same access to the global marketplace as larger businesses located in more urban areas, it “has given rural people an opportunity to launch businesses from our hometowns, revitalize our regional economies, share rural culture with global audiences, and amplify rural voices in debates shaping our society.”⁷⁹ One rural organization expressed concern, however, that if larger competitors were able to pay for Internet fast lanes that smaller, rural businesses could not afford, “we will return to the competitive disadvantage that the Open Internet had helped us overcome.”⁸⁰

52. *The February 2015 Open Internet Order.* On February 26, 2015, the Commission approved new open Internet rules to make sure that entrepreneurs and small businesses continue to have unfettered access to the Internet.⁸¹ The carefully-tailored rules prohibit several specific practices—blocking, throttling, and paid prioritization—that the Commission found were harmful to Internet openness; they also create a strong standard of conduct designed to prevent the deployment of new practices that would harm Internet openness. Given the enormous growth of wireless broadband over the past several years, the Commission applied the rules to both fixed and mobile networks. The rules also

⁷⁴ 2011 Section 257 Report, 26 FCC Rcd at 2970.

⁷⁵ Comments of ColorOfchange.org, GN Docket No. 09-191, WC Docket No. 07-52 (filed Jan. 14, 2010). *See, e.g.*, Gerald May Comments, GN Docket No. 14-28 (filed Sep. 16, 2014) (“Net neutrality has made the Internet a level playing field for all voices, allowing Black bloggers, activists, and entrepreneurs to flourish online despite being blocked out of ownership and participation in traditional media. Black communities benefit greatly from a free and open Internet, and it is imperative that it stays that way.”)

⁷⁶ Comments of ColorOfchange.org, GN Docket No. 09-191, WC Docket No. 07-52 (filed Jan. 14, 2010).

⁷⁷ FCC Workshop on Speech, Democratic Engagement and the Open Internet (Dec. 15, 2009) (remarks of Ruth Livier), https://transition.fcc.gov/live/2009_12_15-workshop.html (quote starts at approximately 53:00 of video).

⁷⁸ *Id.*

⁷⁹ Letter from Edyael Casaperalta, Rural Broadband Policy Group Coordinator, National Rural Assembly, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 14-28, GN Docket No. 10-127 (filed Oct. 20, 2014).

⁸⁰ *Id.*

⁸¹ *Protecting and Promoting the Open Internet*, Report and Order on Remand, Declaratory Ruling, and Order, 30 FCC Rcd 5601 (2015) (2015 Open Internet Order), appeal pending sub nom. *U.S. Telecom Ass’n v. FCC*, Case No. 15-1063 (D.C. Cir.).

enhanced transparency requirements for broadband providers, so consumers and edge providers can evaluate the quality of the broadband service they are receiving.

C. Enabling Innovators' Access to Spectrum

53. Spectrum is an essential input for any business—large or small—that uses wireless technology to produce, market, or deliver its products. Over the past several decades, the FCC has taken a number of actions to create and broaden access to spectrum for both licensed and unlicensed uses. These actions include: (1) auctioning flexible-use spectrum to commercial wireless carriers; (2) opening up portions of the spectrum for non-exclusive, unlicensed use; and (3) issuing experimental licenses to encourage innovative new technologies and services. This section discusses how the Commission's unlicensed and experimental licensing policies have promoted innovation and lowered the barriers to spectrum for entrepreneurs and other small businesses. Section V.A. of this Report discusses the policies the Commission has pursued to improve small businesses' access to licensed spectrum, including data roaming, designated entity rules, mobile spectrum holding limits, and geographic license sizes.

54. *Unlicensed Spectrum.* Unlicensed spectrum has played a key role in the explosion of wireless broadband connectivity over the past decade. Although wireless carriers have invested billions of dollars in improving the speed and capacity of their licensed networks since the iPhone was introduced in 2007, technologies developed to operate in unlicensed spectrum have been essential to meet the demand created by the introduction of smart mobile devices in the marketplace. According to Cisco, in 2015, 51 percent of all mobile global data activity was “offloaded” from wireless networks to fixed networks via WiFi networks.⁸² Cisco projects that the percentage of WiFi offloading will continue to increase, even as the wireless carriers acquire more licensed spectrum and continue to upgrade to 4G and other technologies that will allow their networks to carry more data at faster speeds.

55. In addition to helping meet the exploding demand for wireless connectivity, unlicensed spectrum is an “enabling resource” for innovators. Because businesses do not have to pay licensing fees or gain regulatory approval to set up and deploy wireless systems that use unlicensed spectrum, the barriers to entry for small businesses are very low.⁸³ As Congresswoman Anna Eshoo and Commissioner Pai recently wrote, unlicensed spectrum “is a key platform for innovation, letting entrepreneurs experiment with disruptive new technologies.”⁸⁴ A study published in 2014 by the Consumer Electronics Association (CEA) explained that, “Unlicensed spectrum complements licensed spectrum by making spectrum accessible to users who have access to fewer resources, which facilitates innovation.”⁸⁵ CEA's report estimated that devices using unlicensed spectrum—including wireless microphones, fitness monitors, medical implants, and remote keyless entry fobs—contribute \$62 billion in value per year to the American economy.⁸⁶

56. The importance of unlicensed spectrum will continue to grow as billions of new wireless devices are connected to the “Internet of Things” over the next decade. According to one estimate, over

⁸² Cisco Visual Network Index: Global Mobile Data Traffic Forecast Update, 2015-2020 White Paper at 2 (Feb. 3, 2016), <http://www.cisco.com/c/en/us/solutions/collateral/service-provider/visual-networking-index-vni/mobile-white-paper-c11-520862.html>

⁸³ Paul Milgrom, Jonathan Levin, and Assaf Eilat, *The Case for Unlicensed Spectrum* (2014) at 15, web.stanford.edu/~jdlevin/Papers/UnlicensedSpectrum.pdf.

⁸⁴ Anna Eshoo and Ajit Pai, *The Feds Have Got to Get America Faster Wi-Fi*, *Wired* (Feb. 7, 2016), <http://www.wired.com/2016/02/the-feds-have-to-act-to-get-america-faster-wi-fi/>.

⁸⁵ Consumer Electronics Association, *Unlicensed Spectrum and the U.S. Economy: Quantifying the Market Size and Diversity of Unlicensed Devices* at 3 (2014) (*CEA Unlicensed Spectrum Report*), www.cta.tech/CorporateSite/media/gla/CEAUnlicensedSpectrumWhitePaper-FINAL-052814.pdf.

⁸⁶ *CEA Unlicensed Spectrum Report* at 2.

95% of the 50 billion wireless devices connected to the Internet of Things in 2020 will likely use unlicensed technologies.⁸⁷

57. Since the 1980s, the FCC has been promoting the use of unlicensed spectrum to develop innovative new devices, services, and technologies. The Commission's experimental and unlicensed spectrum policies, developed in OET, have enabled much of the commercial research and development related to new wireless technologies, and the widespread deployment of technologies such as Wi-Fi, Bluetooth, RFID, ZigBee and others. Ever since the FCC allowed operations in unlicensed bands, the *National Broadband Plan* explained, "developers have found ways to provide for a wide variety of devices that perform an assortment of applications that serve consumers."⁸⁸ In recent years the FCC have taken concrete action to strengthen and expand these policies, as discussed below.

58. *Unlicensed Operations at 5 GHz.* The Commission's Part 15 rules allow for unlicensed devices to transmit at various power levels in different bands, including the 2.4 GHz and 5 GHz frequency range widely used by Wi-Fi. In 1997, the Commission made 300 megahertz of spectrum available for Unlicensed National Information Infrastructure (U-NII) devices at 5.15-5.25 GHz (U-NII-1), 5.25-5.35 GHz (U-NII-2A), and 5.725-5.825 GHz (U-NII-3). In 2003, the Commission made an additional 255 megahertz of spectrum available at 5.470-5.725 GHz (U-NII-2C) for U-NII devices. In 2013, the Commission issued a Notice of Proposed Rulemaking (NPRM) proposing to make available an additional 195 megahertz of spectrum in the 5350-5470 GHz (U-NII-2B) and 5850-5925 GHz (U-NII-4) bands for U-NII use.⁸⁹ This would increase the spectrum available to unlicensed devices in the 5 GHz region of spectrum by approximately 35 percent, and represents a significant increase in the spectrum available for unlicensed devices across the overall radio spectrum.

59. In 2014, the Commission adopted the *5GHz First Report and Order*, which permits increased power and outdoor operation in the U-NII-1 band (5.15-5.250 GHz), allowing greater flexibility for the next generation of Wi-Fi devices that will use the new 802.11ac standard.⁹⁰ This will provide faster data rates and corresponding decreased congestion in public areas with high densities of users, such as airports, coffee shops, etc. The Commission also extended the upper edge of the 5.725-5.825 GHz (U-NII-3) band to 5.85 GHz and required all digitally-modulated devices operating across this 125 megahertz of spectrum to comply with U-NII requirements intended to protect authorized users from harmful interference; required all U-NII device software be secured to prevent its modification to ensure that the devices will operate as authorized by the Commission, thus reducing the potential for harmful interference to authorized users; and, to protect radar systems operating in the 5.250-5.350 GHz (U-NII-2A) and 5.470-5.725 GHz (U-NII-2C) bands from harmful interference, modified certain technical rules and compliance measurement procedures for U-NII devices operating in these bands.

60. *White Space Devices.* In 2008 the Commission adopted rules to allow unlicensed radio transmitters to operate in the broadcast television spectrum at locations where that spectrum is not being used to transmit TV signals. The primary method of preventing interference to TV and other authorized services is a combination of the white space devices' geo-location capability and the devices' ability to access a database to identify vacant TV channels at specific locations. In 2013, OET authorized approved white space database systems (database systems) to provide service to white space devices on a

⁸⁷ Richard Thanki, *The Case for Permissive Rule-Based Dynamic Spectrum Access* at 3 (Aug. 2013), research.microsoft.com/en-us/projects/spectrum/case-for-permissive-rule-based-dynamic-spectrum-access_thanki.pdf

⁸⁸ *National Broadband Plan* at 95.

⁸⁹ *Revision of the Commission's Rules to Permit Unlicensed National Information Infrastructure (U-NII) Devices in the 5 GHz Band*, Notice of Proposed Rulemaking, 28 FCC Rcd 1769 (2013).

⁹⁰ *Revision of Part 15 of the Commission's Rules to Permit Unlicensed National Information Infrastructure (U-NII) Devices in the 5 GHz Band*, First Report and Order, 29 FCC Rcd 4127 (2014).

nationwide basis. To date, OET has given approval to operate to five white space database administrators.⁹¹

61. In August 2015, the Commission adopted a *Report and Order* that modified certain Part 15 rules for unlicensed operations—both fixed and personal/portable white space devices and unlicensed wireless microphones—in the frequency bands that are now and will continue to be allocated and assigned to broadcast television services (TV bands). The *Part 15 Report and Order* made a number of changes to provide greater flexibility for white space devices that operate in the remaining TV spectrum. In addition, the order addressed issues affecting unlicensed operations that will arise from the Incentive Auction proceeding and its repurposing of a portion of the broadcast spectrum for new wireless services. The 600 MHz Band Plan adopted in that proceeding provides new opportunities for white space devices and wireless microphones. The *Part 15 Report and Order* adopted rules for operation of these devices that will protect licensed services as spectrum is repurposed to introduce new wireless services. These changes will allow for more robust unlicensed operations and efficient spectral use without increasing the risk of harmful interference to authorized users.⁹²

62. *3.5 GHz Band.* In April 2015, building on some of the concepts underlying the TV White Space proceeding, the FCC adopted rules for the Citizens Broadband Radio Service, creating a new spectrum band and taking a major step forward in spectrum policy by authorizing advanced spectrum sharing among commercial and federal operators.⁹³ The *3.5 GHz Report and Order* created a new 150 megahertz band, from 3550-3700 MHz, suitable for mobile broadband small cell and other commercial uses. The Report and Order reflects extensive cooperative work between the FCC, the National Telecommunications and Information Administration, and the Department of Defense. A Second Further Notice of Proposed Rulemaking also sought comment on several focused topics related to implementation of the rules adopted in the Report and Order.

63. The *3.5GHz Report and Order* embraces innovative spectrum sharing techniques to create a new three-tiered commercial radio service. One or more Spectrum Access Systems (SAS), operated by private commercial entities, will facilitate coexistence among the different user tiers. An incumbent tier, consisting of military radars and other incumbent systems, will receive interference protection from commercial mobile users. The General Authorized Access tier, which allows any user with a certified device to operate without seeking any further Commission approval, will permit low-cost entry into the band, similar to unlicensed uses. A Priority Access tier will make highly granular licenses in a portion of the band available through future spectrum auctions. As discussed above, Priority Access licenses will enable new kinds of business models and facilitate highly-localized access to licensed spectrum by small entities. The combination of newly available spectrum, a new sharing architecture, and multiple spectrum access options should present a range of new opportunities to entrepreneurs, small business, and other wireless innovators.

64. *Experimental Licensing.* The Commission's rules for the Experimental Radio Service (ERS) have a history of fostering innovative ideas that have led to new services and new devices. The ERS has been an essential tool for small businesses and entrepreneurs looking to develop the "next big

⁹¹ The approved white space database administrators are Google, Inc.; iconectiv; Key Bridge Global, LLC; Radio Soft, Inc.; and Spectrum Bridge, Inc. See FCC, White Space Database Administrators Guide, <https://www.fcc.gov/general/white-space-database-administrators-guide>.

⁹² *Amendment of Part 15 of the Commission's Rules for Unlicensed Operations in the Television Bands, Repurposed 600 MHz Band, 600 MHz Guard Bands and Duplex Gap, and Channel 37, and Amendment of Part 74 of the Commission's Rules for Low Power Auxiliary Stations in the Repurposed 600 MHz Band and 600 MHz Duplex Gap; Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auctions*, Report and Order, 30 FCC Rcd 9551 (2015) (*Part 15 Report and Order*).

⁹³ *Amendment to the Commission's Rules with Regard to Commercial Operations in the 3550-3650 MHz Band*, Report and Order and Second Further Notice of Proposed Rulemaking, 30 FCC Rcd 3959 (2015).

thing” in wireless. However, the rules were somewhat cumbersome for entities that wished to undertake a series of related experiments, and also were confusing in some respects. In January 2013, the Commission took steps to promote innovation and efficiency in spectrum use by expanding the types of available experimental authorizations, revising the rules for market studies, and consolidating and streamlining all Commission experimental and developmental licensing rules into a unified rule part.⁹⁴ The *Experimental Licensing Report and Order* established three new types of ERS licenses—the program license, the medical testing license, and the compliance testing license—to benefit the development of new technologies, expedite their introduction to the marketplace, and unleash the full power of innovators to keep the United States at the forefront of the communications industry. Unlike a traditional Part 5 license which will continue to be issued for single or closely related experiments, the program and medical testing licenses will provide eligible entities broad authority over a longer period of time to conduct a wide variety of unrelated projects subject to public disclosure prior to commencing each individual experiment. The revised rules also provide for a new web-based registration system to track and manage experiments undertaken by program and medical testing licensees. The *Report and Order* authorized more comprehensive market and product development trials of radio frequency (RF) equipment and clarified when operation or marketing of RF devices is permitted prior to equipment certification.

V. OTHER FCC ACTIVITIES TO REDUCE OR ELIMINATE MARKET ENTRY BARRIERS FOR ENTREPRENEURS AND OTHER SMALL BUSINESSES, INCLUDING MINORITY AND WOMEN-OWNED BUSINESSES

A. Recent Actions to Promote Competition and Opportunities for Entrepreneurs and Small Businesses in the Communications Marketplace

65. Consistent with the policy goals enumerated in section 257, over the past few years, the Commission and its Bureaus have taken a number of regulatory actions to improve small firms’ access to licensed spectrum, broaden the diversity of voices among broadcast licensees, and promote vigorous economic competition in the communications sector.

66. *Designated Entity Reform.* Section 309(j) of the Act declares that one of the objectives of spectrum auctions is the promotion of economic opportunity and competition, “by disseminating licenses among a wide variety of applicants, including small businesses, rural telephone companies, and businesses owned by minority groups and women.”⁹⁵ In order to achieve this objective, section 309(j) permits the Commission to employ tax certificates, bidding preferences, and other financial incentives.⁹⁶

67. The FCC adopted an order in July 2015 that modernized and reformed policies designed to facilitate small business’ ability to participate in spectrum auctions and the licensed wireless marketplace.⁹⁷ These policies are commonly known as the Designated Entity (DE) Rules. The *DE*

⁹⁴ *Promoting Expanded Opportunities for Radio Experimentation and Market Trials under Part 5 of the Commission’s Rules and Streamlining Other Related Rules; 2006 Biennial Review of Telecommunications Regulations – Part 2 Administered by the Office of Engineering and Technology (OET)*, Report and Order, 28 FCC Rcd 758 (2013).

⁹⁵ 47 U.S.C. § 309(j)(3)(B).

⁹⁶ *Id.* at § 309(j)(4)(D).

⁹⁷ *Updating Part I Competitive Bidding Rules; Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auctions; Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auctions; Petition of DIRECTV Group, Inc. and EchoStar LLC for Expedited Rulemaking to Amend Section 1.2105(a)(2)(xi) and 1.2106(a) of the Commission’s Rules and/or for Interim Conditional Waiver; Implementation of the Commercial Spectrum Enhancement Act and Modernization of the Commission’s Competitive Bidding Rules and Procedures*, Report and Order; Order on Reconsideration of the First Report and Order; Third Order on Reconsideration of the Second Report and Order; Third Report and Order, 30 FCC Rcd 7493 (2015).

Report and Order adopted common sense reforms to ensure that eligible small businesses and rural service providers are the true recipients of bidding credits. In addition, the order provided greater flexibility to smaller companies and rural service providers to build wireless businesses that can spur additional investment in, and bring greater choice to, consumers and businesses across the country. Among other things, these reforms facilitate greater leasing of spectrum by DEs, increase the revenues threshold by which entities can qualify for small business bidding credits to reflect inflation, extend a 15 percent credit to rural service providers (for the first time ever), and restrict joint bidding to promote a competitive auction environment for smaller entities and others. The rural bidding credit also helps spur deployment and investment in persistent poverty counties because more than 90 of such counties are in rural areas.

68. *Mobile Spectrum Holdings.* In June 2014, the Commission adopted an order that modified policies for Commission review of mobile spectrum holdings to facilitate access to spectrum by competitive providers, including small entities.⁹⁸ For example, the *Mobile Spectrum Holdings Report and Order* established a market-based spectrum reserve of up to 30 MHz in the Incentive Auction in each license area that is designed to facilitate opportunities for non-nationwide providers and providers that lack significant low band spectrum. Given that spectrum is a necessary input in the provision of mobile wireless services, these actions help to ensure that small businesses have an opportunity to acquire licenses to compete with larger incumbent service providers. Additionally, the mobile spectrum holdings policy will help ensure that all Americans, including small businesses, can enjoy the benefits of a more competitive wireless marketplace.

69. *Geographic License Sizes.* In recent years, the Commission has taken steps to reduce barriers to entry in new wireless services by ensuring that a mix of license sizes are available through competitive bidding, including small license areas especially suitable for small business applicants. Specifically:

- AWS-3. The Commission made one block available as Cellular Market Area (CMA) licenses (734 licenses).⁹⁹
- 600 MHz (Incentive Auction). The Commission created an all-new Partial Economic Area (PEA) geographical scheme (416 licenses).¹⁰⁰ Unlike the older CMAs, PEAs “nest” into the other widely used licensing hierarchy, which should provide a “future-proofed” option for other auctions going forward.
- 3.5 GHz. The Commission authorized Priority Access Licenses (PALs) with an unprecedented level of geographic and temporal granularity, to support small cell use and the unique aspects of a multi-tiered shared access regime. Geographically, PALs are licensed at the census tract level (over 74,000 licenses). Temporally, PALs have a three year term without a renewal expectation. These innovations should dramatically reduce “artificial scarcity” in PAL bidding and reduce spectrum acquisition costs for a wide range of users, including small businesses.¹⁰¹

⁹⁸ *Policies Regarding Mobile Spectrum Holdings; Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auctions*, Report and Order, 29 FCC Rcd 6133 (2014).

⁹⁹ *Amendment of the Commission’s Rules with Regard to Commercial Operations in the 1695-1710 MHz, 1755-1780 MHz, and 2155-2180 MHz Bands*, Report and Order, 29 FCC Rcd 4610 (2014).

¹⁰⁰ *Expanding the Economic and Innovation Opportunities of Spectrum through Incentive Auctions*, Report and Order, 29 FCC Rcd 6567, 6595-6604, paras. 68-80 (2014).

¹⁰¹ *Amendment to the Commission’s Rules with Regard to Commercial Operations in the 3550-3650 MHz Band*, Report and Order and Second Further Notice of Proposed Rulemaking, 30 FCC Rcd 3959 (2015).

- Additionally, in the recently issued “Spectrum Frontiers” Notice of Proposed Rulemaking, the Commission proposed a range of geographic schemes for licensing the upper microwave and millimeter bands for mobile use, including geographically-granular licenses that would be especially suitable for small businesses.¹⁰²

70. *Device Interoperability.* For the past few years, device interoperability in the lower 700 MHz band has been a significant issue affecting the ability of entrepreneurs and small businesses in the mobile wireless marketplace. For instance, in October 2013, the FCC adopted a *Report and Order and Order of Proposed Modification* to move forward with implementing a voluntary industry agreement that established interoperable LTE service in that band.¹⁰³ This action increased the availability of wireless devices capable of using the Lower 700 MHz A Block, in which many smaller wireless providers held licenses. Greater interoperability between mobile devices will assist consumers and the economies in rural areas, as well as small and regional businesses that operate there. Small or regional providers serving rural areas drive economic growth in these rural areas, directly, by investing in their networks and creating jobs, and indirectly, by enabling the growth of other small businesses. Actions to facilitate 700 MHz interoperability promote competition—and enable small business customers of 700 MHz band licensees to operate successfully in the 21st century—by enabling these licensees to offer competitive service choices. Subsequently, the Commission adopted, basic device interoperability requirements in the AWS-3 and the 600 MHz service rules, in response to parties citing the Commission’s 700 MHz decisions.¹⁰⁴

71. *Data Roaming.* Data roaming rules promote consumer access to seamless mobile data coverage nationwide, including small business consumers. In addition, the rules appropriately balance the incentives for new entrants and incumbent providers to invest in and deploy advanced networks across the country, as well as foster competition among multiple service providers in the mobile wireless marketplace, including small providers. In December, 2014, the Wireless Telecommunications Bureau issued a declaratory ruling providing additional guidance on how to evaluate data roaming agreements under the standard set forth in the Commission’s rules that obligate facilities-based providers to offer data roaming arrangements to other such providers on “commercially reasonable terms and conditions.”¹⁰⁵ The Lifeline effect of the new ruling is to increase the predictability for wireless providers, especially including smaller providers, in negotiating commercially reasonable roaming agreements with other industry participants.

¹⁰² *Use of Spectrum Bands Above 24 GHz for Mobile Radio Services; Establishing a More Flexible Framework to Facilitate Satellite Operations in the 27.5-28.35 GHz and 37.5-40 GHz Bands; Petition for Rulemaking of the Fixed Wireless Communications Coalition to Create Service Rules for the 42-43.5 GHz Band; Amendment of Parts 1, 22, 24, 27, 74, 80, 90, 95 and 101 to Establish Uniform License Renewal, Discontinuance of Operation, and Geographic Partitioning and Spectrum Disaggregation Rules and Policies for Certain Wireless Radio Services; Allocation and Designation of Spectrum for Fixed-Satellite Services in the 37.5-38.5 GHz, 40.5-41.5 GHz and 48.2-50.2 GHz Frequency Bands; Allocation of Spectrum in the 46.9-47.0 GHz Frequency Band for Wireless Services, and Allocation of Spectrum in the 37.0-38.0 GHz and 40.0-40.5 GHz for Government Operations*, Notice of Proposed Rulemaking, 30 FCC Rcd 11878 (2015).

¹⁰³ *Promoting Interoperability in the 700MHz Commercial Spectrum: Requests for Waiver and Extension of Lower 700 MHz Band Interim Construction Benchmark Deadlines*, Report and Order and Order of Proposed Modification, 28 FCC Rcd 15122 (2013).

¹⁰⁴ *Amendment of the Commission's Rules with Regard to Commercial Operations in the 1695-1710 MHz, 1755-1780 MHz, and 2155-2180 MHz Bands*, Report and Order, 29 FCC Rcd 4610, 4694-4700 paras. 225-31 (2014); *Expanding the Economic and Innovation Opportunities of Spectrum through Incentive Auctions*, Report and Order, 29 FCC Rcd. 6567, 6866-69, paras. 731-37 (2014).

¹⁰⁵ *Reexamination of Roaming Obligations of Commercial Mobile Radio Service Providers and Other Providers of Mobile Data Services*, Declaratory Ruling, 29 FCC Rcd 15483 (WTB 2014).

72. *Signal boosters.* On February 20, 2013, the Commission released the *Signal Boosters Report and Order*,¹⁰⁶ whereby it adopted new technical, operational, and registration requirements for signal boosters so consumers can realize the benefits of using signal boosters while preventing, controlling, and, if necessary, resolving interference to wireless networks. The *Signal Boosters Report and Order* eliminated regulatory uncertainty faced by small manufacturers of signal boosters and provided clear rules so that these businesses more easily can build and sell signal boosters in the U.S. It also provided an industry standard that protects the networks of small service providers and reduces the need for these small carriers to expend resources on locating interfering boosters.

73. *Joint Sales Agreements.* The Commission took action in March 2014 to address the growing practice of joint sales agreements (JSAs), an action that helped ensure opportunities for new entry into television markets, potentially by small businesses and entrepreneurs, including women- and minority-owned businesses. JSAs allow one television station to sell (or broker) advertising for another station. In its decision, the Commission found that a “brokering” station’s control of a “brokered” station’s advertising gave it the incentive and ability to exert undue influence over the brokered station’s operations and programming decisions.¹⁰⁷ The Commission stated that JSAs should not be used to circumvent the Commission’s local television ownership rules, which are designed to promote competition.¹⁰⁸ To stop this practice, the Commission adopted JSA “attribution” rules for television stations similar to those it had adopted to limit JSAs between radio stations in a local market. Under this new rule, a station that sells more than 15 percent of another same-market station’s advertising is treated as having an attributable interest in the brokered station for the purposes of the Commission’s local ownership rules.¹⁰⁹ The Commission provided a two-year period for parties to existing, same-market television JSAs whose attribution resulted in a violation of the local ownership rules, to come into compliance with the rules.¹¹⁰ Congress subsequently extended the compliance deadline with respect to existing same-market JSAs to September 30, 2025.¹¹¹

74. *Low-Power FM Radio.* The low power FM (LPFM) radio service was created to establish a class of noncommercial, educational radio stations to serve very localized communities or underrepresented groups within communities.¹¹² LPFM stations are often easier to launch by new entrants than full power stations. The Local Community Radio Act (LCRA),¹¹³ enacted on January 4, 2011, contained provisions to significantly expand LPFM licensing opportunities. In 2012, the Commission

¹⁰⁶ *Amendment of Parts 1, 2, 22, 24, 27, 90 and 95 of the Commission’s Rules to Improve Wireless Coverage Through the Use of Signal Boosters*, Report and Order, 28 FCC Rcd 1663 (2013).

¹⁰⁷ *2014 Quadrennial Regulatory Review – Review of the Commission’s Broadcast Ownership Rules and Other Rules Adopted Pursuant to Section 202 of the Telecommunications Act of 1996*; Further Notice of Proposed Rulemaking and Report and Order, 29 FCC Rcd 4371, 4527-41, paras. 340-65 (2014) (*2014 Quadrennial Order*). On May 25, 2016, the Third Circuit vacated the television JSA attribution rule, finding that the Commission was required to complete the quadrennial review of its broadcast ownership rules required by the Telecommunications Act of 1996 before it could expand its attribution policies. *Prometheus Radio Project v. FCC*, No. 15-3866, 2016 WL 3003675 (3d Cir. May 25, 2016). Upon completion of the 2014 quadrennial review, the Commission readopted the television JSA attribution rule. *2014 Quadrennial Regulatory Review – Review of the Commission’s Broadcast Ownership Rules and Other Rules Adopted Pursuant to Section 202 of the Telecommunications Act of 1996*; MB Docket No. 14-50, Second Report and Order, FCC 16-107 (Aug. 25, 2016).

¹⁰⁸ *2014 Quadrennial Order* at 4538, para. 359.

¹⁰⁹ *Id.* at 4538-39, para. 360.

¹¹⁰ *Id.* at 4542, para. 367.

¹¹¹ Consolidated Appropriations Act, 2016, Pub. L. No. 114-113, § 628 (2015).

¹¹² *Creation of a Low Power Radio Service*, Report and Order, 20 FCC Rcd 6763 (2005).

¹¹³ Pub. L. No. 111-371, 124 Stat. 4072 (2011).

issued a series of orders to implement the LCRA, increase opportunities for new entrants in radio and advance the Commission's goal of fostering localism and diversity in the radio landscape.¹¹⁴ In connection with the opening of a filing window for new LPFM applicants in the fall of 2013, the Media Bureau engaged in extensive outreach to stakeholders and potential applicants throughout 2013, with staff participating in several conferences sponsored by community radio advocacy groups. Specifically, the Bureau held two webinars, established a dedicated email box for inquiries, created an LPFM web page explaining service and licensing issues, and developed technical tools to help interested parties identify available spectrum in their local communities. These outreach efforts successfully promoted broad participation by applicants with limited technical and legal expertise.¹¹⁵

75. The LPFM filing window opened on October 15, 2013, and closed on November 15, 2013. Over 2,800 applications were filed. Since the end of 2013, the Media Bureau has substantially completed the processing of these applications, granting approximately 1,900 construction permits for new LPFM stations. Nearly 700 licenses have been issued from the 2013 LPFM window, nearly doubling the number of on-air LPFM stations nationally. The Media Bureau anticipates that over 2,000 LPFM stations will be licensed and operating by the end of 2016, thereby achieving an unprecedented expansion in the diversity of new radio voices and locally produced programming.

76. *AM Radio Revitalization.* In October 2015, the Commission released its *First Report and Order* in its ongoing proceeding to revitalize the AM radio service. A key component of the revitalization effort is a series of modification and auction windows for AM broadcasters to obtain FM translators that would improve their service. Shortly after the release of the *First Report and Order*, the Commission announced that the first modification window, limited to lower-powered local Class C and D AM stations, would open on January 29, 2016 and would remain open for six months. A second window, open to all AM stations that did not participate in the first window, was scheduled to open on July 29, 2016 and remain open for three additional months. In preparation for these windows, the Media Bureau engaged in extensive outreach to ensure that AM licensees are able to communicate to the Commission any questions they have regarding the windows. Specifically, the Bureau released two Public Notices providing information about the windows, including eligibility, application processing, and construction and operational requirements. The Bureau also created a dedicated webpage (<https://www.fcc.gov/encyclopedia/am-revitalization>) that provides pertinent information about the modification windows and sent emails to the licensees of all Class C and D AM stations (which are the smallest AM stations), informing them of the upcoming opportunity to modify FM translators for use in improving their service.¹¹⁶ Finally, the Bureau held a WebEx seminar for interested minority broadcasters in the week prior to the opening of the window. The first and second modification windows, which opened on schedule, have been a major success, with over 980 applications filed and over 870 granted to date.¹¹⁷

¹¹⁴ *Creation of a Low Power Radio Service*, Fourth Report and Order and Third Order on Reconsideration, 27 FCC Red 3364 (2012); *Creation of a Low Power Radio Service*, Fifth Report and Order, Fourth Further Notice of Proposed Rule Making and Fourth Order on Reconsideration, 27 FCC Rcd 3315 (2012); *Creation of a Low Power Radio Service*, Fifth Order on Reconsideration and Sixth Report and Order, 27 FCC Rcd 15402 (2012).

¹¹⁵ See Press Release, FCC, *FCC Announces Webinars on Low Power FM Radio* (Aug. 8, 2013); Press Release, FCC, *FCC Announces October 3 Webinar on Low Power FM Radio* (Sept. 19, 2013); *Media Bureau Announces Release of Low Power FM Spectrum Availability Program and Data Files*, Public Notice, 27 FCC Rcd 4812 (MB 2012).

¹¹⁶ *Revitalization of the AM Radio Service*, First Report and Order, Further Notice of Proposed Rule Making, and Notice of Inquiry, 30 FCC Rcd 12145, 12153, para. 16 (2015); *Media Bureau Initiates AM Revitalization Outreach Efforts; Modification Window Procedures and Requirements Announced*, Public Notice, 30 FCC Rcd 11601 (MB 2015).

¹¹⁷ The Commission has also directed the Media Bureau to open two FM translator auction windows in 2017 for AM stations that did not participate in either of the modification windows. The first auction window also would be (continued....)

77. *FM Radio Auctions.* In furtherance of the Commission's goal of fostering new entry into the broadcast industry, including by small and potentially minority- and women-owned businesses, the Media Bureau successfully completed three broadcast auctions between January 2013 and November 2015 awarding licenses in the FM radio service. These auctions allowed applicants to use the Commission's "new entrant bidding credit" for entities with no, or very few, other media interests. This new entrant bidding credit is intended to encourage new and smaller entities to apply for broadcast construction permits.¹¹⁸ Summarized below are the results of the three broadcast auctions conducted between January 2013 and November 2015, including the number and percentage of applicants that employed the new entrant bidding credit.¹¹⁹

- In FM Auction 94 (May 2013), 93 FM allotments were successfully awarded; 36 winning bids (39 percent) benefited from the 35 percent bidding credit; 17 winning bids (18 percent) benefited from the 25 percent bidding credit.
- In AM Auction 84 (May 2014), 10 AM assignments were successfully awarded; three winning bids (30 percent) benefited from the 35 percent bidding credit; two winning bids (20 percent) benefited from the 25 percent bidding credit.
- In FM Auction 98 (August 2015), 102 FM allotments were successfully awarded; 37 winning bids (36 percent) benefited from the 35 percent bidding credit; 14 winning bids (14 percent) benefited from the 25 percent bidding credit.

78. *Foreign Ownership in Broadcast Licenses.* In the *2013 Broadcast Clarification Order*, the Commission clarified its policies and procedures for evaluating potential foreign investment in broadcast licensees under section 310(b)(4) of the Act, in order to remove apparent uncertainty as expressed by both broadcasters and public sector interests.¹²⁰ As part of that proceeding, a number of diverse interested parties asked the Commission to review its policies and procedures regarding the assessment of applications or proposed transactions that would exceed the 25 percent benchmark in section 310(b)(4) in the broadcast context. The Commission clarified that it would continue to conduct fact-specific, individual case-by-case review of applications involving broadcast stations. Additionally, the Commission acknowledged that "changes have occurred in the media landscape and marketplace since the foreign ownership restriction was enacted and that limited access to capital is a concern in the broadcast industry, especially for small business entities and new entrants, including minorities and women."¹²¹ With this order, the Commission hoped to encourage new and increased opportunities for capitalization for broadcasters, particularly minority, female, small business entities, and new entrants. The Commission concluded that "greater capitalization may in turn yield greater innovation, particularly in programming directed at niche or minority audiences."

79. *Broadcaster Ownership Information.* In January 2016, the Commission adopted an order relating to the collection of broadcast ownership information. The order adopted measures to improve and expand the data available regarding minority and female ownership of broadcast entities by refining

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restricted to Class C and D AM stations. *Revitalization of the AM Radio Service*, First Report and Order, Further Notice of Proposed Rule Making, and Notice of Inquiry, 30 FCC Rcd at 12153, para. 16.

¹¹⁸ *Implementation of Section 309(j) of the Communications Act – Competitive Bidding for Commercial Broadcast and Instructional Television Fixed Service Licenses*, First Report and Order, 13 FCC Rcd 15920 (1998).

¹¹⁹ The Commission's two-tiered new entrant bidding credit provides either a 35 percent reduction of the final auction price for an applicant with no other media interests, or a 25 percent reduction for an entity with three or fewer media interests.

¹²⁰ *Commission Policies and Procedures Under Section 310(b)(4) of the Communications Act, Foreign Investment in Broadcast Licensees*, Declaratory Ruling, 28 FCC Rcd 16244 (2013).

¹²¹ *Id.* at 16249, para. 10.

the collection of data reported on FCC Form 323 (Ownership Report for Commercial Broadcast Stations) and FCC Form 323-E (Ownership Report for Noncommercial Broadcast Stations). The Order also reduced the burdens on filers by streamlining the reporting process, which will reduce compliance costs for small businesses.¹²²

80. *Rural Call Completion.* On October 28, 2013, the Commission adopted rules to address rural call completion problems and sought comment on potential additional measures that the Commission could take to address such problems.¹²³ This effort was in response to an increase in complaints from rural consumers, including small business owners, that long distance calls and faxes were not reaching them or that call quality was poor, and reports of significant problems when attempting to place calls to rural areas. The Commission noted that these problems have significant public interest ramifications, “causing rural businesses to lose customers, cutting families off from their relatives in rural areas, and creating potential for dangerous delays in public safety communications in rural areas.”¹²⁴ The rules require originating long-distance voice service providers that determine the call path to collect and report data on call completion rates. The rules also prohibit both originating and intermediate long-distance service providers from causing audible ringing to be sent to the caller before the terminating provider has signaled that the called party is being alerted. Covered long-distance providers were required to begin recording and retaining call completion data as of April 1, 2015, and to file quarterly reports with the Commission beginning on August 3, 2015.¹²⁵

81. *Protecting Small Businesses through Enforcement of the Commission’s Laws and Regulations.* The *1997 Section 257 Report* noted that “effective enforcement of the Communications Act and existing Commission rules and policies is imperative if small businesses are to participate fully in the telecommunications marketplace.”¹²⁶ The Commission’s enforcement activities focusing on market conduct help maintain a level playing field for small businesses and deter anti-competitive conduct by larger market players. The Commission’s consumer protection enforcement actions protect small businesses from fraudulent practices that cost them time and money.¹²⁷ Some recent examples of enforcement actions that benefited small businesses are the following:

- In November 2015, the Commission imposed a \$1.44 million fine against Preferred Long Distance, a long-distance carrier that was switching consumers’ and small businesses’ long-distance service without proper authorization (a practice known as “slamming”). The Commission took this action after receiving numerous complaints from consumers and small businesses about the company’s misleading practices.¹²⁸

¹²² *Promoting Diversification of Ownership in the Broadcasting Services; Review of Media Bureau Data Practices; Amendment of Part 1 of the Commission’s Rules, Concerning Practice and Procedure, Amendment of CORES Registration System*, Report and Order, Second Report and Order, and Order on Reconsideration, 31 FCC Rcd 398 (2016).

¹²³ *Rural Call Completion*, Report and Order and Further Notice of Proposed Rulemaking, 28 FCC Rcd 16154 (2013).

¹²⁴ *Id.* at 16155, para. 1.

¹²⁵ *Rural Call Completion*, Public Notice, 30 FCC Rcd 2058 (WCB 2015).

¹²⁶ *1997 Section 257 Report*, 12 FCC Rcd at 16850, para. 88.

¹²⁷ Small businesses, for example, suffered extensive financial harm due to the millions of fraudulent third-party charges that were “crammed” on to their wireline telephone bills. *See e.g.*, U.S. Senate Committee on Commerce, Science, and Transportation Majority Staff Report, *Unauthorized Charges on Telephone Bills* (July 12, 2011), 11-21, App. A 5-9, <http://www.commerce.senate.gov/public/index.cfm/reports?ID=EA101F28-4DF5-4A3F-A63C-0ECA043789BE>.

¹²⁸ *Preferred Long Distance, Inc.*, File No. EB-TCD-12-00003409, Forfeiture Order, 30 FCC Rcd 13711 (2015).

- In a series of recent actions against hotel owners and convention center telecommunications providers, the Commission has cracked down on companies that were apparently violating the Commission's Part 15 rules against interfering with Wi-Fi transmissions. In a Notice of Apparent Liability (NAL) recently issued against the telecommunications provider M.C. Dean, the Commission described how M.C. Dean intentionally deployed "deauthentication" equipment at the Baltimore Convention Center that blocked convention exhibitors' ability to establish their own Wi-Fi access. The exhibitors were instead required to pay between \$795 and \$1,095 for M.C. Dean-provided Wi-Fi access.¹²⁹ In another case, the Enforcement Bureau reached a \$750,000 settlement with Smart City, a company that was blocking convention exhibitors' ability to establish their own Wi-Fi networks.¹³⁰
- In response to many complaints from consumers and small businesses about poor telecommunications service in rural areas, and following up on the Commission's 2013 reforms (*see* paragraph 80 above), the Enforcement Bureau entered into multi-million dollar settlement agreements with Windstream,¹³¹ Matrix Telecom,¹³² and Verizon,¹³³ in which the companies agreed to comply with the Commission's rural call completion rules.

82. *Protecting Competitive Opportunities for Small Businesses in Merger Proceedings.*

When it reviews license transfer applications related to mergers and acquisitions, the FCC must determine whether the proposed transfers will serve the public interest, convenience, and necessity.¹³⁴ When balancing the harms and benefits of any proposed transaction, the FCC considers a number of factors, including preserving and enhancing competition and promoting a diversity of information sources and services to the public. As described below, in a number of recent merger reviews, the Commission has imposed transaction-related conditions that address the effect of the proposed merger or acquisition on smaller market competitors and new entrants.

83. *Comcast/NBCU (2011).* In its review of this transaction, the Commission recognized that small and medium-sized multichannel video programming distributors (MVPDs), due to lack of financial resources, may be unable to take advantage of the commercial arbitration remedy imposed to address the potential competitive harm resulting from Comcast's increased ability and incentive to raise the price or exclude MVPD rivals from Comcast/NBCU programming.¹³⁵ To reduce barriers and enable the small and medium-sized MVPDs to take advantage of the remedy, the Commission allowed MVPDs with 1.5 million or fewer subscribers to appoint an independent agent to bargain and arbitrate on their behalf for Comcast/NBCU affiliated programming.¹³⁶ And, MVPDs with 600,000 or fewer subscribers that were successful in an arbitration, would be allowed to recover their legal fees and costs of the arbitration. If the qualifying MVPD loses, the MVPD would not be required to reimburse Comcast/NBCU for its costs.¹³⁷

¹²⁹ *M.C. Dean, Inc.*, Notice of Apparent Liability for Forfeiture, 30 FCC Rcd 13010 (2015).

¹³⁰ *Smart City Holdings*, Order, 30 FCC Rcd 8382 (EB 2015).

¹³¹ *Windstream Corporation*, Order, 29 FCC Rcd 1646 (EB 2014).

¹³² *Matrix Telecom, Inc.*, Order, 29 FCC Rcd 5709 (EB 2014).

¹³³ *Verizon*, Adopting Order, 30 FCC Rcd 245 (EB 2015).

¹³⁴ 47 U.S.C. § 310(d).

¹³⁵ *Applications of Comcast Corporation, General Electric Company and NBC Universal, Inc.; For Consent to Assign Licenses and Transfer Control of Licenses*, Memorandum Opinion and Order, 26 FCC Rcd 4238, 4257-8, para. 44 and 4262, para. 58 (2011).

¹³⁶ *Id.* at 4262, para. 58 and at 4368-9, App. A, Section VII.D.

¹³⁷ *Id.*

84. Also, the Commission imposed conditions to protect Online Video Distributors (OVDs), whose “services [had] just begun” at the time the Comcast/NBCU Order was released.¹³⁸ There was evidence that Comcast considered OVDs to be a potential competitive threat, and that Comcast made investments in response to this threat.¹³⁹ The Commission found that the applicants would have an incentive to take action that hindered the development of OVDs, such as withholding of online rights to programming, thus making OVDs less competitive.¹⁴⁰ Targeted conditions were adopted ensuring that OVDs would have non-discriminatory access to Comcast/NBCU video programming, which would permit the continued evolution of the developing online video marketplace.¹⁴¹ Another condition prohibits a Comcast/NBCU programmer from entering into or enforcing any agreement or arrangement for carriage on Comcast that limits a broadcast network or a cable programmer’s provision of video programming to OVDs, except as otherwise provided in the condition.¹⁴²

85. *Verizon/SpectrumCo (2012)*. Verizon sought to acquire AWS-1 spectrum from Comcast, Time Warner Cable and Bright House Networks (SpectrumCo) and Cox.¹⁴³ Concerns were raised that the proposed acquisition of AWS-1 spectrum by Verizon would adversely affect the market for data roaming by reducing the number of potential roaming partners, reducing Verizon Wireless’ incentives to enter into data roaming agreements with competitors with less than a national footprint, and increasing Verizon’s bargaining power when negotiating the terms and conditions of roaming, particularly with small wireless providers.¹⁴⁴ The Commission noted that the transfer of AWS-1 spectrum to Verizon Wireless would place it in the hands of a nationwide provider that has little incentive to provide the roaming capability necessary for competitors with less than national footprints.¹⁴⁵ The Commission then found that the transfer of the AWS-1 spectrum to Verizon Wireless as originally proposed would constitute a concrete potential harm to future competition, given the difficulties providers have had obtaining broadband data roaming arrangements.¹⁴⁶ To address this harm, the Commission conditioned its approval of this AWS-1 spectrum acquisition by requiring Verizon Wireless to offer, for five years, data roaming, on commercially reasonable terms, on any of the spectrum licenses it holds in the geographic areas where it is acquiring AWS-1 spectrum as a result of this transaction.¹⁴⁷ This requirement was imposed on 671 Cellular Market Areas (CMAs) out of the 716 CMAs in which Verizon held spectrum (there are a total of 734 CMAs nationwide). This condition is particularly important for the small wireless providers, who, to attract subscribers, need to be able to offer data roaming services to subscribers outside of the geographic areas where they operate wireless networks, and would lack leverage in data roaming negotiations with Verizon.

86. *AT&T/Qualcomm (2012)*. The Commission found that AT&T’s proposed acquisition of Qualcomm’s Lower 700 MHz D and E Block licenses raised some competitive concerns, because post-transaction, AT&T would hold a significant proportion of the available spectrum suitable for the provision of

¹³⁸ *Id.* at 4269-79, para. 80.

¹³⁹ *Id.* at 4272, para. 85.

¹⁴⁰ *Id.* at 4272-3, para. 86.

¹⁴¹ *Id.* at 4273, para. 87 and at 4359-60, App. A, Section IV.A.2.

¹⁴² *Id.* at 4361, App. A, Section IV.B.3.

¹⁴³ *Applications of Cellco Partnership d/b/a Verizon Wireless and SpectrumCo LLC and Cox TMI, LLC for Consent to Assign AWS-1 Licenses; Applications of Verizon Wireless and Leap for Consent to Exchange Lower 700 MHz, AWS-1, and PCS Licenses; Applications of T-Mobile License LLC and CellCo Partnership d/b/a Verizon Wireless for Consent to Assign Licenses*, Memorandum Opinion and Declaratory Ruling, 27 FCC Rcd 10698 (2012).

¹⁴⁴ *Id.* at 10729-30, paras. 81-82.

¹⁴⁵ *Id.* at 10730, para. 84.

¹⁴⁶ *Id.*

¹⁴⁷ *Id.* at 10742-3, paras. 120-121.

mobile voice or broadband services, particularly spectrum below 1 GHz.¹⁴⁸ The Commission specifically noted that the acquired spectrum had technical attributes important for new entrants to have a potentially significant impact on competition, and for other competitors to meaningfully expand their provision of mobile broadband services.¹⁴⁹ The Commission mitigated this potential harm with certain targeted conditions to help prevent anticompetitive harm. The conditions that were adopted were to help ensure that AT&T's use of the newly acquired spectrum did not impede the use of neighboring 700 MHz spectrum by potential competitors in the provision of broadband services, and to limit AT&T's ability to use the Qualcomm spectrum in a way that deprives other carriers of the benefits of the Commission's roaming rules.¹⁵⁰

87. *Cumulus Media/Citadel Broadcasting (2011)*. On March 10, 2011, Cumulus Media announced that it would acquire Citadel Broadcasting, owner and operator of 228 radio stations. As a condition of approval, the Media Bureau required Cumulus Media to divest 14 radio stations to a trustee, who was responsible for the ultimate sale of the stations.¹⁵¹ The Bureau encouraged the trustee to take reasonable steps to market the stations to businesses owned by women and minorities.¹⁵²

B. Recent Actions to Provide Regulatory Relief to Small Businesses

88. In addition to section 257, the Communications Act and other federal statutes require the Commission to consider the effects of its regulations and other actions on small businesses and to grant relief in appropriate circumstance. The paragraphs below discuss some cases in which the Commission has granted such relief.

89. *Open Internet Reporting Requirements*. In appropriate circumstances, the Commission has used the “regulatory flexibility analysis” process established in the Regulatory Flexibility Act to grant relief to small businesses during rulemaking proceedings.¹⁵³ For example, in the *2015 Open Internet Report and Order*, the Commission granted a temporary exemption from the order’s enhanced transparency requirements to broadband providers serving 100,000 or fewer subscribers. The Commission took this action after a number of commenters expressed concern about the burden these requirements could impose on small providers.¹⁵⁴ In December 2015, the Consumer and Governmental Affairs Bureau (CGB) extended this temporary extension through December 15, 2016.¹⁵⁵

90. *Relief from Device Accessibility Requirements*. The Commission has granted temporary regulatory relief to small businesses under other legal authorities as well. In an order implementing sections 716 and 717 of the Act, which were added by the 2010 Twenty-First Century Communications and Video Accessibility Act (CVAA), the Commission used authority Congress included in the CVAA to

¹⁴⁸ *Application of AT&T Inc. and Qualcomm Incorporated; For Consent to Assign Licenses and Authorizations*, Order, 26 FCC Rcd 17589 (2011).

¹⁴⁹ *Id.* at 1761, para. 51.

¹⁵⁰ *Id.*

¹⁵¹ *Existing Shareholders of Cumulus Media, Inc. (Transferors) and Existing Shareholders of Citadel Broadcasting Corporation (Transferors) and New Shareholders of Cumulus Media, Inc. (Transferees) For Consent of Transfers of Control; Existing Shareholders of Cumulus Media, Inc. (Assignors) and Existing Shareholders of Citadel Broadcasting Corporation (Assignors) and Volt Radio, as Trustee (Assignee) for Consent to Assignment of Licensees*, Memorandum Opinion and Order, 26 FCC Rcd 12956 (2011)

¹⁵² *Id.* at 12966, para. 18.

¹⁵³ 5 U.S.C. § 604.

¹⁵⁴ *2015 Open Internet Order*, 30 FCC Rcd at 5677-9, paras. 172-75 (2015).

¹⁵⁵ *Protecting and Promoting the Open Internet*, GN Docket No. 14-28, Report and Order, DA 15-1425 (CGB, rel. Dec. 15, 2015).

temporarily exempt small businesses from rules requiring equipment manufacturers to make their devices accessible to people with disabilities.¹⁵⁶ This exemption expired on October 8, 2013.

91. *Acceleration of Broadband Deployment.* The Commission has taken action to facilitate wireless infrastructure deployment by eliminating unnecessary reviews and reducing the costs and delays associated with facility siting and construction.¹⁵⁷ In particular, the Commission updated its process for evaluating the impact of proposed deployments on the environment and historic properties, pursuant to federal statutes adopted an exemption from its environmental public notification process for towers that will be in place for only a short period of time, and implemented statutory requirements relating to State and local government review of infrastructure siting applications. These actions, taken together, further facilitate the delivery of more wireless capacity in more locations to consumers throughout the country. The rules will enable the timely implementation of smaller wireless technologies that are being deployed to meet the growing demand for high mobile data speeds and ubiquitous coverage. By streamlining the review process, the Commission's actions accommodate new wireless technologies that use smaller antennas and compact radio equipment to provide mobile voice and broadband service. Updating the environmental and historic preservation rules, as well as providing guidance on the scope of State and local government review, enables these innovations to flourish, delivering more broadband service to more communities, while reducing the need for potentially intrusive new construction and safeguarding the values the rules are designed to protect.

92. *Forbearance Relief for Small Incumbent Local Exchange Carriers (ILECs).* In December 2015, the Commission adopted a *Memorandum Opinion and Order* that granted much of the relief that USTelecom sought when it asked the Commission to forbear from enforcing "various outdated regulatory requirements applicable to incumbent local exchange carriers."¹⁵⁸ Applying the forbearance analysis established by section 10 of the Act,¹⁵⁹ the Commission voted to eliminate certain regulatory burdens that can stifle investment, but also maintained core protections necessary to protect consumers and competition. Of the regulations the Commission granted forbearance from, several will help to remove regulatory burdens from small LECs. Specifically, the Commission voted to eliminate a costly, rarely used rule requiring ILECs to provide a voice-grade channel (64 kbps) when building all-fiber networks for use by other providers.¹⁶⁰ The Commission also voted to eliminate rules requiring equal access for new customers.¹⁶¹ Further, the Commission forbore from a requirement that facilities-based carriers, no matter their size, provide network access to "enhanced services" competitors for outdated

¹⁵⁶ *Implementation of Sections 716 and 717 of the Communications Act, as Enacted by the Twenty-First Century Communications and Video Accessibility Act of 2010, Amendments to the Commission's Rules Implementing Sections 255 and 251(a)(2) of the Communications Act of 1934, as Enacted by the Telecommunications Act of 1996, In the Matter of Accessible Mobile Phone Options for People who are Blind, Deaf-Blind or Have Low Vision, Report and Order and Further Notice of Proposed Rulemaking*, 26 FCC Rcd 14557, 14642-46, paras. 201-09 (2011).

¹⁵⁷ *Acceleration of Broadband Deployment by Improving Wireless Facilities Siting Policies, Acceleration of Broadband Deployment: Expanding the Reach and Reducing the Cost of Broadband Deployment by Improving Policies Regarding Public Rights of Way and Wireless Facilities Siting*, WT Docket No. 13-238, WC Docket No. 11-59, WT Docket No. 13-32, FCC 14-153, 29 FCC Rcd 12865 (Oct. 17, 2014), amended by 30 FCC Rcd 31 (Jan. 5, 2015), *aff'd*, *Montgomery County v. FCC*, 811 F.3d 121 (4th Cir. 2015).

¹⁵⁸ *Petition of USTelecom for Forbearance Pursuant to 47 U.S.C. § 160(c) from Enforcement of Obsolete ILEC Legacy Regulations That Inhibit Deployment of Next Generation Networks et al.*, WC Docket Nos. 14-192, 11-42, and 10-90, *Memorandum Opinion and Order*, FCC 15-166 (rel. Dec. 28, 2015) (*2015 USTelecom Forbearance Order*).

¹⁵⁹ 47 U.S.C. § 160(c).

¹⁶⁰ *2015 USTelecom Forbearance Order*, paras. 55-66.

¹⁶¹ *Id.* at paras. 46-54.

narrowband or other services.¹⁶² It also reduced small ILEC obligations to provide access to their entrance conduit in new build situations in which incumbents and their competitors face similar conditions associated with attracting new business.¹⁶³ Taken together, these actions will remove burdens on additional fiber deployment and benefit consumers by relieving small carriers from having to focus resources on complying with outdated legacy regulations instead of allowing them to concentrate on new investments.

93. *Emerging Wireline Networks.* In August 2015, the Commission updated rules for copper retirement and laid the groundwork for providing clear guidance to carriers on the standards they must meet when proposing the discontinuance, impairment, or reduction of legacy service.¹⁶⁴ This action builds on the Commission's earlier efforts to accelerate technology transitions through eliminating barriers for entrepreneurs and small businesses while preserving the core values of consumer protection and competition. Specifically, the *2015 Emerging Wireline Networks and Services Order* benefits small competitive LECs and the small businesses that competitive carriers serve by ensuring that interconnecting carriers are able to accommodate incumbent LECs' planned copper retirements without disruption of service to their customers.¹⁶⁵ Further, the order helped ensure that small businesses and other small entities that depend on business data services and voice competition will continue to receive replacement services offered by competitive providers at rates, terms and conditions that are reasonably comparable to those of the legacy services as an interim measure.¹⁶⁶

94. *Small Cable Operators.* Over the past several years, the Commission has undertaken a number of actions that have benefited small cable systems or small multichannel video programming distributors (MVPDs). These actions, both individually and collectively, have reduced burdens, costs, and/or regulatory requirements for smaller cable systems or MVPDs, effectively lowering market barriers and allowing them to better compete with larger industry players. Such actions include the following:

- In January 2016, the Commission adopted and released an order exempting small cable systems temporarily from the requirement to commence uploading new political file material to the online public file, and exempting very small cable systems from all requirements to upload documents to the Commission's online database.¹⁶⁷
- In June 2015, the Commission continued regulatory relief to operators of small cable systems that 1) serve 1,500 or fewer subscribers and are not affiliated with a cable operator serving more than two percent of all MVPD subscribers; or 2) have an activated channel capacity of 552 MHz or less by delaying, and in some cases exempting, small cable operators' compliance with the Commission's HD carriage requirements.¹⁶⁸

¹⁶² *Id.* at paras. 71-74.

¹⁶³ *Id.* at paras. 79-80.

¹⁶⁴ *Technology Transitions; Policies and Rules Governing Retirement of Copper Loops by Incumbent Local Exchange Carriers; Special Access for Price Cap Local Exchange Carriers; AT&T Corporation Petition for Rulemaking to Reform Regulation of Incumbent Local Exchange Carrier Rates for Interstate Special Access Services*, Report and Order, Order on Reconsideration, and Further Notice of Proposed, 30 FCC Rcd 9372 (2015) (*2015 Emerging Wireline Networks and Services Order*).

¹⁶⁵ *Id.* at 9381-9427, paras. 12-100.

¹⁶⁶ *Id.* at 9443-61, paras. 131-158.

¹⁶⁷ *Expansion of Online Public File Obligations to Cable and Satellite TV Operators and Broadcast and Satellite Licensees*, MB Docket No. 14-127, Report and Order, FCC 16-4, paras. 41-3 (Rel. Jan. 29, 2016)

¹⁶⁸ *Carriage of Digital Television Broadcast Signals: Amendment to Part 76 of the Commission's Rules*, Report and Order, 30 FCC Rcd 6653 (2015).

- In June 2015, the Commission implemented section 111 of the STELA Reauthorization Act of 2014, which directs the Commission to adopt a streamlined Effective Competition process for small cable operators.¹⁶⁹
- In May 2015, the Commission granted, with conditions, the request of the American Cable Association (ACA) for waiver of the emergency information rule for certain small hybrid (digital/analog) cable systems to comply with the Audible Crawl Rule by providing free equipment to analog customers who are blind or visually impaired to enable access to the digital secondary audio stream. The order also grants, with conditions, ACA's request to give certain analog-only cable systems a waiver of the rule's compliance deadline until June 12, 2018.¹⁷⁰
- In response to the industry's request, in October 2013 the Commission adopted a two-year delay in compliance with the requirements of section 205 for certain mid-sized and smaller MVPD operators and small MVPD systems. Specifically, the later deadline will apply to: (1) MVPD operators with 400,000 or fewer subscribers; and (2) MVPD systems with 20,000 or fewer subscribers that are not affiliated with an operator serving more than 10 percent of all MVPD subscribers. The delayed compliance deadline (which will be 5 years from the date the order is published in the Federal Register) for such smaller entities helps minimize the economic impact of Section 205's requirements.¹⁷¹

95. *Public Safety Obligations for Small Businesses.* In considering regulatory obligations that protect the public interest in a robust and reliable emergency communications infrastructure, the Commission and the Public Safety and Homeland Security Bureau (PSHSB) have carefully considered potential adverse impact on smaller providers and adjusted the requirements accordingly. For example, in its August 2015 *Report and Order on Ensuring Continuity of 911 Communications*, the Commission provided small and medium businesses an additional 180 days to comply with new rules pertaining to backup batteries for home telephone equipment.¹⁷² In its location accuracy proceeding, the Commission similarly sought to minimize barriers to market entry by small and minority owned businesses by making test-bed data broadly available upon request, providing flexibility in meeting location accuracy requirements, and not requiring regional providers to operate a national emergency address database.¹⁷³

96. *Cybersecurity Recommendations for Small Business.* PSHSB administers the Commission's Communications Security, Reliability, and Interoperability Council (CSRIC),¹⁷⁴ which, among other things, was charged in its 2013-2015 Charter with recommending to the Commission how the National Institute of Standards & Technology Cybersecurity Framework (Framework) should be

¹⁶⁹ *Amendment to the Commission's Rules Concerning Effective Competition, Implementation of Section 111 of the STELA Reauthorization Act*, Report and Order, 30 FCC Rcd 6574 (2015).

¹⁷⁰ *Accessible Emergency Information, and Apparatus Requirements for Emergency Information and Video Description: Implementation of the Twenty-First Century Communications and Video Accessibility Act of 2010, and Video Description: Implementation of the Twenty-First Century Communications and Video Accessibility Act of 2010: Petitions for Waiver*, Report and Order, 30 FCC Rcd 5012 (2015).

¹⁷¹ *Accessibility of User Interfaces, and Video Programming Guides and Menus*, Report and Order, 28 FCC Rcd 17330 (2013).

¹⁷² *Ensuring Continuity of 911 Communications*, Report and Order, 30 FCC Rcd 8677, 8716-7, paras. 97-9.

¹⁷³ See generally *Wireless E911 Location Accuracy Requirements*, Fourth Report and Order, 30 FCC Rcd 1259 (2015).

¹⁷⁴ CSRIC is authorized pursuant to the Federal Advisory Committee Act (FACA) to recommend ways the FCC can improve security and reliability of communications systems, including telecommunications, media, and public safety.

implemented in the communications sector.¹⁷⁵ In March 2015, CSRIC delivered recommendations and a report that identified cybersecurity long term risk management issues and recommendations targeted to small businesses. The Cybersecurity and Risk Management and Best Practices Working Group included a Small and Midsize Business Feeder Group that produced a study of barriers faced by small and medium businesses in implementing the Framework and developed practical, actionable guidance for small businesses as they provide a baseline for protection of critical infrastructure.¹⁷⁶

97. Outside the CSRIC context, PSHSB has taken a number of steps to promote cybersecurity best practices among small businesses. These included:

- The launch of Small Biz Cyber Planner 2.0, an online resource to help small businesses create customized cybersecurity plans;¹⁷⁷
- The release of a Cybersecurity Tip Sheet for Small Businesses providing guidance on practices such as securing WiFi networks, limiting employee access to data and information, and controlling authority to install software;¹⁷⁸
- The creation of a website for Cybersecurity Resources for Small Business, where businesses have access to helpful links from both the public and private sector;¹⁷⁹ and
- The convening of a cybersecurity roundtable for small businesses with leading industry executives and government experts in cybersecurity and information technology.¹⁸⁰

C. Recent Actions to Reduce Paperwork Burdens and Improve the FCC's Responsiveness to Small Businesses

98. In the Commission's initial section 257 proceeding in 1997, a number of commenters discussed the difficulties small firms faced in gaining access to the Commission and participating in Commission proceedings. Unlike larger companies with sufficient resources to "walk the halls" of the Commission and closely monitor the Commission's rulemaking activities, small businesses complained that they did not have adequate access to FCC decision makers and were "frequently viewed as outsiders in the telecommunications industry."¹⁸¹

99. While the Commission has taken a number of steps to make the FCC more accessible to small businesses over the two decades, some of which will be discussed below, the Commission still hears similar complaints from small firms that operate within the FCC's jurisdiction. In a response to a 2014 request for comments on FCC process, for example, the Competitive Carriers Association remarked that its smaller members "cannot compete with the veritable army of lobbyists and lawyers of the nation's

¹⁷⁵ FCC, Communications, Security, Reliability, and Interoperability Council (CSRIC) IV, Working Group Description (2014), <https://www.fcc.gov/about-fcc/advisory-committees/communications-security-reliability-and-interoperability-0>.

¹⁷⁶ FCC, CSRIC IV, Cybersecurity Risk Management and Best Practices Working Group 4: Final Report at 370 (2015) (report of the Small and Medium Business Cybersecurity Risk Management and Best Practices Working Group 4).

¹⁷⁷ Small Biz Cyberplanner (2012), <https://www.fcc.gov/cyberplanner>.

¹⁷⁸ *Ten Cybersecurity Tips for Small Businesses*, https://apps.fcc.gov/edocs_public/attachmatch/DOC-306595A1.pdf.

¹⁷⁹ Cybersecurity for Small Business, <https://www.fcc.gov/general/cybersecurity-small-business>.

¹⁸⁰ FCC, Cybersecurity Roundtable: Protecting Small Businesses (2011), <https://www.fcc.gov/events/cybersecurity-roundtable-protecting-small-businesses>.

¹⁸¹ *1997 Section 257 Report*, 12 FCC Rcd at 16833-4, paras. 53-54.

two largest carriers” as the Commission prepares notices of proposed rulemaking.¹⁸² In addition to feeling peripheral to the FCC’s rulemaking, small firms continue to complain that they are particularly disadvantaged by numerous reporting requirements and by the Commission’s sometimes lengthy delays in processing complaints and other administrative proceedings.¹⁸³

100. Over the past few years, with the assistance and encouragement of Congress, the Commission has focused on reforming the processes that make it difficult for small businesses to comply with the FCC’s rules and to participate meaningfully in the FCC’s proceedings. In his first week as Chairman in November 2013, Chairman Wheeler established a Staff Working Group to study the FCC’s operations and recommend reforms. On February 14, 2014, the Staff Working Group released a report recommending more than 150 changes that would help the FCC operate “in the most effective, efficient, and transparent way possible.”¹⁸⁴ Many of the recommendations in the *Process Reform Report* addressed the concerns small firms have expressed about access and compliance costs. Among other steps, the report recommended changes to reduce backlogs, expedite license applications, end unnecessary data collections, and make more information available and easily searchable through the FCC’s website.

101. While the following paragraphs will discuss in greater detail how the FCC has already implemented some of the reforms proposed in the February 2014 *Process Reform Report*, it is worth generally noting that the FCC has made substantial progress in achieving the report’s stated goal of “improving the overall functioning of the agency and its service to the public.”¹⁸⁵ The FCC has made it easier for consumers and stakeholders to engage electronically with the FCC; it has reduced or eliminated backlogs and accelerated the processing of many Commission matters; and it has eliminated or streamlined a number of regulatory requirements.¹⁸⁶

102. *Improving Transparency and Access Through Information Technology Upgrades.* The Commission has undertaken several major information technology (IT) projects over the past several years to make the agency more accessible and transparent to consumers, small businesses, and other stakeholders who lack the resources to “walk the halls” of the Commission. The goal of these projects is not just to make more Commission information available to the public; it is also to make this information more easily accessible and searchable. Another benefit of these IT projects is that they are making it easier and cheaper for interested citizens and stakeholders to interact with the Commission and provide feedback that can help shape the Commission’s policies.

103. *FCC.gov.* One of the major IT projects was the long-anticipated upgrade of the Commission’s main website, FCC.gov. Adopting the methods commercial developers employ to optimize the usability of their websites, IT staff in the Office of Managing Director (OMD) conducted a 6-month market research effort to study how different FCC.gov visitors used and interacted with the website. They used data analytics to determine the most-commonly searched pages. They also conducted “card-sorting” exercises and interviews with focus groups to determine how to best structure the website’s information architecture. This research showed that visitors to the website had two very distinct needs. Practitioners who use the website on a daily basis wanted a simple, efficient way to access specific

¹⁸² Comments of Competitive Carriers Association, GN Docket No. 14-25 (filed March 31, 2014) at 9.

¹⁸³ See, e.g., Comments of the Minority Media Telecommunications Council, GN Docket No. 14-25 (filed March 31, 2014); Comments of the Small Company Coalition, GN Docket No. 14-25 (filed March 31, 2014).

¹⁸⁴ *Report on FCC Process Reform*, GN Docket No. 14-25 at 3 (Staff Working Group, Feb. 14, 2014) (*Process Reform Report*), transition.fcc.gov/Daily_Releases/Daily_Business/2014/db0214/DA-14-199A2.pdf.

¹⁸⁵ *Id.*

¹⁸⁶ See Diane Cornell, Update on Process Reform at the FCC, FCC Blog (July 13, 2015), <https://www.fcc.gov/blog/update-process-reform-efforts-reduce-backlog>

Commission information sources, while visiting consumers wanted a way to get general information or file a complaint.¹⁸⁷

104. The new FCC.gov webpage, which the FCC tested in Beta for a number of months, went live on December 9, 2015. In response to market research and feedback, the information architecture of the new site prioritizes the content that practitioners regularly reference, such as the Commission's electronic documents (EDOCS) and comments (ECFS) databases, but also dedicates a section of the front page to consumer issues. The new website includes improved search capabilities for users, and because the new site is built using the content-management framework, Drupal, the site works well on tablets and mobile phones. Another way the FCC is making its information more available to external users is by publicly releasing application programming interfaces (APIs) that will allow outside developers to reformat, repurpose, interpret, or present the FCC's information in new and novel ways.¹⁸⁸ To make its website even more transparent to the user community, the FCC publicly posts the source code for its mission applications on the software repository Github.

105. *Consumer Help Center.* In December 2014, the Commission launched a new online Consumer Help Center (CHC). The CHC website (Consumercomplaints.fcc.gov) replaced the Commission's previous complaint system with an easier-to-use, more consumer-friendly portal for filing and monitoring complaints. The CHC replaced 16 different complaint forms with one web portal that educates consumers about "Common Issues" and helps them select the most appropriate complaint option. This electronic intake also makes it easier to share the complaints with the service providers, who can act more quickly to resolve the complaints.¹⁸⁹ Commission staff has been assisting carriers that are small businesses with making the transition to the new, more efficient system.

106. In addition to being easier to use for consumers, the CHC has allowed the FCC to smoothly integrate complaint data into its policymaking and enforcement processes. Real-time access to the complaint data allows the agency to track complaint trends, resulting in better results for consumers and better information for the Commission. The insights gained from this process help identify trends in consumer issues and enable the Commission to focus its time, money, and resources on the issues that matter most. With the launch of the CHC, the Commission began releasing aggregate complaint data to the public. This data is updated weekly.

107. *Eliminating Regulatory Fees for Small Businesses.* In its *Report and Order* setting regulatory fees for Fiscal Year 2015, the Commission raised the *de minimis* payment threshold from \$10 to \$500. Under this new policy, any small entity that owes the FCC less than \$500 per year is exempted from paying any fees. The Commission took this action after recognizing that "smaller entities are at greater risk of missing regulatory fee deadlines because of their limited budgets and resources" and that in some cases, the FCC's costs to collect small fees were greater than the value of the fees themselves. Raising the threshold to \$500 provides relief to small businesses and reduces administrative burdens on the FCC.¹⁹⁰

¹⁸⁷ See David Bray, *Modernizing the FCC.gov Website*, FCC Blog (Apr. 20, 2015), <https://www.fcc.gov/blog/modernizing-fccgov-website>.

¹⁸⁸ See David Bray, *Your Feedback is Building a Better FCC.gov*, FCC Blog (Oct. 9, 2015), <https://www.fcc.gov/blog/your-feedback-building-better-fccgov>.

¹⁸⁹ See Kris Monteith, Gigi B. Sohn, and Diane Cornell, *New Consumer Help Center Is Designed to Empower Consumers, Streamline Complaint System*, FCC Blog (Jan. 5, 2015), <https://www.fcc.gov/blog/new-consumer-help-center-designed-empower-consumers-streamline-complaint-system>.

¹⁹⁰ *Assessment and Collection of Regulatory Fees for Fiscal Year 2014; Assessment and Collection of Regulatory Fees for Fiscal Year 2013; Procedures for Assessment and Collection of Regulatory Fees*, Report and Order and Further Notice of Proposed Rulemaking, 29 FCC Rcd 10767, 10774-6, paras. 18-21 (2014).

108. *Streamlining Radio Frequency (RF) Equipment Authorization.* One of the Commission's core spectrum management responsibilities is the authorization of all equipment producing radiofrequency (RF) emissions marketed in the United States for non-federal uses. Millions of devices of all kinds and for all kinds of uses have been authorized and the number increases at an accelerating rate, including antennas, GPS equipment, radio and broadcasting equipment, and cellphones. Equipment authorization is a critical element of the regulatory structure to maintain the integrity and usability of spectrum, and, at the same time, the process must move as swiftly as possible to keep up with rapid changes in technology and the demands of the marketplace. Most devices incorporating a radio transmitter are subject to certification by a Commission-authorized Telecommunications Certification Body (TCB). The Commission recently took action to modernize its rules to retain their essential purposes and effectiveness while improving clarity, certainty, and efficiency of required test procedures.¹⁹¹ For example, the new rules allow TCBs to perform all required equipment approvals, eliminating the need for direct FCC certification of certain equipment. These and other improvements should increase the efficiency, certainty, and speed of authorization of new equipment, to the benefit of the many small businesses that produce and market equipment subject to FCC authorization.

109. *FCC Procurement.* The FCC directly supports many small businesses through its purchasing policies. Consistent with the Small Business Act's goal that small businesses receive a "fair proportion" of government purchases and contracts,¹⁹² the Commission has set ambitious goals for purchasing goods and services from small businesses, including firms located in Historically Underutilized Business (HUB) Zones, or owned by women, socially and economically disadvantaged individuals (SDBs), and service-disabled veterans (SDVOs). In recent years, the Commission has been increasing the portion of goods and services it purchases from such small firms. In Fiscal Year 2015, for example, more than 60% of the Commission's procurement dollars (\$66.5 million) went to small businesses, a proportion that greatly exceeds the Federal Government-wide small business procurement goal of 23%. Of this total 2015 small-business spending, at least a third went to SDBs and SDVOs.¹⁹³

110. *Open Internet Ombudsperson.* The Commission's 2014 *Open Internet NPRM* expressed concern about whether small businesses using broadband services could effectively challenge the practices of large broadband providers. It asked how the Open Internet dispute resolution system could be structured to "account for individuals and businesses that may not have the same legal resources and effective access to the Commission as broadband providers." Part of the Commission's response to this challenge was to create an Open Internet Ombudsperson, "to act as a watchdog to protect and promote the interests of edge providers, especially smaller entities."¹⁹⁴ Housed in the Consumer and Governmental Affairs Bureau (CGB), the Ombudsperson serves as the point of contact for consumers, small businesses, and other unrepresented groups with questions or complaints about their broadband service.¹⁹⁵

111. *Reducing Paperwork, Speeding Up Processing, and Closing Dormant Dockets.* While the Commission must issue licenses, review applications, collect information, and perform other activities pursuant to its statutory responsibilities, it has taken a number of steps in the past several years to make these activities less burdensome for regulated entities. Even before the February 2014 *Process Reform Report* highlighted the goal of "streamlining agency processes and data collection," as well as since then,

¹⁹¹ *Amendment of Parts 0, 1, 2, and 15 of the Commission's Rules regarding Authorizations of Radiofrequency Equipment; Amendment of part 68 regarding Approval of Terminal Equipment by Telecommunications Certification Bodies*, Report and Order, 29 FCC Rcd 16335 (2014).

¹⁹² 15 U.S.C. § 631.

¹⁹³ U.S. Govt., Small Business Dashboard, <http://smallbusiness.data.gov/>.

¹⁹⁴ *Protecting and Promoting the Open Internet*, Notice of Proposed Rulemaking, 29 FCC Rcd 5561, 5621, paras. 170-1.

¹⁹⁵ *2015 Open Internet Order*, 30 FCC Rcd at 5714-5, paras. 254-6.

the Commission and its Bureaus had been focused on reducing the time and money regulatees spend complying with the Commission's regulations. Streamlining these regulatory processes is particularly beneficial for small entities with limited resources for compliance. For example, the Commission has instituted a routine process to review and terminate dormant dockets, which eases the burden on smaller entities of having to monitor open dockets for activity. The Enforcement Bureau has played an important role in this process by coordinating with the licensing bureaus to greatly reduce the number of "enforcement holds" placed on licensing applications (such holds suspend the processing of licensing applications until the enforcement issue is resolved). This reform has reduced both the burden imposed by lengthy investigations and the regulatory uncertainty imposed by enforcement-related application holds.

112. *Form 477 Data Collection.* On June 27, 2013, the Commission adopted a *Report and Order* that revised and updated the Form 477 data collection.¹⁹⁶ Form 477 is the Commission's primary tool for collecting data about both fixed and mobile broadband and local telephone networks and services, including mobile voice coverage. The Order eliminated the use of speed tiers in Form 477, which in turn eliminated the effort associated with assigning the broadband speeds offered in an area and assigned to customers into predetermined speed tiers. Also as a result of the 2013 order, Form 477 filers that operate in multiple states can now submit their Form 477 broadband subscription data in a single, nationwide filing rather than in separate filings for each state and companies can submit both their broadband deployment and subscription data in a single filing. In March of 2014, the Wireline Competition Bureau (WCB) introduced its redesigned *Form 477 Resources for Filers* page and improved its ability to track and resolve Form 477 filer inquiries by adding Remedy, a contact service management suite of tools, to its Form 477 filer system.¹⁹⁷ WCB conducted two outreach sessions in 2014 to help educate filers on how to use the revised Form 477 filer interface.

113. *International Regulatory Streamlining.* On December 17, 2015, the Commission adopted comprehensive streamlining changes to Part 25 of the Commission's rules, which governs the licensing and operation of space stations and earth stations for the provision of satellite communication services.¹⁹⁸ Many of the changes are designed to give applicants and licensees—including some smaller entities—more flexibility and reduce the costs associated with obtaining and maintaining authority to operate. For example, the Order increases the number of earth station applications eligible for routine and streamlined processing. It also clarifies antenna pattern measurement requirements that will simplify the application process for some earth station operators.

114. In addition, in 2015, the International Bureau developed a modern and user-friendly online system for filing the annual international traffic and revenue and circuit capacity reports required by section 43.62 of the Commission's rules.¹⁹⁹ The online system replaced paper filing and streamlined the submission of the reports for carriers, including smaller entities. Additionally, the new reporting requirements streamlined the filings that small carriers need to make by allowing carriers with \$5 million or less in resale revenue to file a simple form notifying the Commission that they provided service the previous year and that their revenue was \$5 million or less.²⁰⁰

¹⁹⁶ *Modernizing the Form 477 Data Program*, Report and Order, 28 FCC Rcd 9887 (2013).

¹⁹⁷ FCC, Form 477 Resources, <https://www.fcc.gov/general/form-477-resources-filers>.

¹⁹⁸ *Comprehensive Review of Licensing and Operating Rules for Satellite Services*, Second Report and Order, 30 FCC Rcd 14713 (2015).

¹⁹⁹ FCC, Section 43.62 Data Collection, <https://apps2.fcc.gov/section4362/login.xhtml>.

²⁰⁰ *Reporting Requirements for U.S. Providers of International Telecommunications Services; Amendment of Part 43 of the Commission's Rules*, Second Report and Order, 28 FCC Rcd 575, 591-92, paras. 60-62 (2013); *Filing Manual for Section 43.62 Annual Reports* at 9, para. 41, 14-15, para. 66, Appendix D (Traffic and Revenue Report Services Checklist) (IB March 2015), https://apps.fcc.gov/edocs_public/attachmatch/DOC-332732A1.pdf.

115. *Section 214 Domestic Filings.* In response to another recommendation in the *Process Reform Report*,²⁰¹ on November 26, 2014, the Commission released an order implementing new filing procedures for domestic section 214 filings and network change notices, allowing common carriers to use the Commission's Electronic Comment Filing System (ECFS) for their submissions.²⁰² Prior to this order, domestic carriers were required to file these notices and applications by paper copies with the Secretary's Office and the Commission's lockbox bank in St. Louis, Missouri, a time-consuming process that made it difficult for the public to track developments. This change modernizes the Commission's section 214 processes and improves efficiency and effectiveness for all stakeholders.

116. *Streamlining Section 310(b) Foreign Ownership Approval.* In 2013, the Commission adopted the *Foreign Ownership Second Report and Order* that modified the policies and procedures applicable to foreign ownership of common carrier and aeronautical licensees pursuant to section 310(b), creating a streamlined foreign ownership approval process.²⁰³ The Commission took these actions to reduce the regulatory costs and burdens imposed on common carrier and aeronautical radio applicants, licensees, and spectrum lessees; provide greater transparency and more predictability with respect to the Commission's foreign ownership filing requirements and review process; and facilitate investment from new sources of capital, while continuing to protect important interests related to national security, law enforcement, foreign policy and trade policy.

117. In October 2015, the Commission adopted the *2015 Foreign Ownership NPRM* that proposed to extend to broadcast licensees the same streamlined rules and procedures used to approve foreign ownership in common carrier licensees and reform the methodology a licensee uses to assess its compliance with section 310(b)(4) of the Act.²⁰⁴ The Commission sought comment on adopting a standardized filing and review process for broadcast licensees' requests to exceed the 25 percent foreign ownership benchmark in section 310(b)(4), as it has done for common carrier and aeronautical licensees (*see para. 116 above*).

118. The new rules adopted in the *Foreign Ownership Second Report and Order* and the streamlining proposals and other options on which the Commission seeks comment in the *2015 Foreign Ownership NPRM* are designed to reduce costs and burdens currently imposed on licensees, including those licensees that are small entities, and accelerate the foreign ownership review process, while continuing to ensure that the Commission has the information it needs to carry out its statutory duties.²⁰⁵

119. *Paperless Wireless License Processing.* Licensing of various types of non-federal wireless systems is a core function the Commission performs pursuant to its spectrum management authority. Consistent with a recommendation from the *Process Reform Report* to move from paper to electronic processing, the various licensing Bureaus have undertaken efforts to streamline licensing-related filings (e.g., applications, renewals, compliance notifications) in ways that will reduce the cost of doing business for the thousands of small businesses that hold FCC licenses. For example, On October 10, 2014, the Wireless Telecommunications Bureau (WTB) issued a *Public Notice* announcing that it

²⁰¹ *Process Reform Report*, at 69 (recommendation 5.18).

²⁰² *Amendment of Certain of the Commission's Part I Rules of Practice and Procedure and Part 0 Rules of Commission Organization*, Order, 29 FCC Rcd 14955 (2014).

²⁰³ *Review of Foreign Ownership Policies for Common Carrier and Aeronautical Radio Licensees Under Section 310(b)(4) of the Communications Act of 1934, as Amended*, Second Report and Order, 28 FCC Rcd 5741, 5744-46, paras. 3, 5 (2013) (*Foreign Ownership Second Report and Order*).

²⁰⁴ *Review of Foreign Ownership Policies for Broadcast, Common Carrier and Aeronautical Radio Licensees under Section 310(b)(4) of the Communications Act of 1934, as Amended*, Notice of Proposed Rulemaking, 30 FCC Rcd 11830 (2015) (*2015 Foreign Ownership NPRM*).

²⁰⁵ *Foreign Ownership Second Report and Order*, 28 FCC Rcd at 5815, para. 145; *2015 Foreign Ownership NPRM*, 30 FCC Rcd at 11847, para. 49.

would allow licensees to obtain their official authorizations via the Internet.²⁰⁶ This approach provides businesses and individuals, including small businesses, with 24/7 access to their official license, and eliminates the need to request official duplicates (which in some cases have statutory fees).

D. Advocacy and Education Activities of the Office of Communications Business Opportunities (OCBO)

120. The Commission created the Office of Communications Business Opportunities (OCBO) in 1994 to promote business opportunities for entrepreneurs and other small businesses, including minority- and women-owned businesses (“small and diverse” businesses). OCBO develops, coordinates, evaluates, and recommends to the Commission, policies, programs and practices that promote participation by small and diverse entities in the communications industry.²⁰⁷

121. OCBO oversees the administration and implementation of the Commission’s obligations under the Regulatory Flexibility Act (RFA),²⁰⁸ the Small Business Regulatory Enforcement Fairness Act (SBREFA),²⁰⁹ the Small Business Act,²¹⁰ and certain provisions of the Commission’s *National Broadband Plan* pertaining to small and diverse businesses. OCBO staff participate in conferences and seminars across the country to inform the public about relevant agency proceedings, policies, and initiatives. As part of the Commission’s outreach to entrepreneurs and small businesses, OCBO maintains an extensive database to which it distributes “OCBO Alerts” that contain information regarding Commission rulemakings and orders, as well as new service opportunities. In addition, OCBO hosts a variety of conferences and seminars focused on the specialized needs and interests of small and diverse entities. OCBO staff meet with entrepreneurs, small business leaders, and representatives of trade and civic organizations to discuss particular issues and concerns and to provide relevant information. OCBO also maintains a web site (<https://www.fcc.gov/communications-business-opportunities>) which contains vital information concerning Commission policies, rulemaking proceedings, and rules and regulations regarding ownership opportunities for the small and diverse business communities.

122. *Regulatory Flexibility Act and Small Business Initiatives.* OCBO continued to implement the RFA and assist in the drafting of RFA analyses of all notice and comment rulemakings. OCBO works with Bureaus and Offices to ensure that RFA analyses are precise and helpful to small entities including a focus on the use of plain language. Major goals of the RFA include increasing agency awareness and understanding of the impact of proposed agency regulations on small entities, ensuring agency communication and explanation of any findings concerning such impacts, and encouraging regulatory flexibility and relief to small entities, where appropriate. An RFA analysis (or, alternatively, a certification that no such analysis is warranted) is required for every federal rulemaking that requires public notice and comment. The analyses describe the need for the agency action, discuss alternatives the agency has considered, and describe which entities are considered “small” within the context of the rulemaking. In this last regard, OCBO assists the Bureaus and Offices in determining and describing the appropriate small business size standards for the various services regulated by the Commission. Overall, the Commission’s RFA work assists with educational outreach to small entities and results in greater small entity participation in rulemakings.

²⁰⁶ *Wireless Telecommunications Bureau Announces Enhancements to the Commission’s Universal Licensing System for Providing Access to Official Electronic Authorizations and Seeks Comment on Final Procedures*, 29 FCC Rcd 12019 (WTB 2014).

²⁰⁷ 47 CFR § 0.101.

²⁰⁸ *See generally* 5 U.S.C. §§ 601-612.

²⁰⁹ 5 U.S.C. § 801 *et seq.*

²¹⁰ 15 U.S.C. § 631 *et seq.*

123. *Small Entity Compliance Guides.* OCBO continued to implement section 212 of SBREFA which requires federal agencies to publish Small Entity Compliance Guides (SECGs) when it conducts a Final Regulatory Flexibility Analysis (FRFA).²¹¹ Congress enacted section 212 to benefit small businesses, non-profits, and small governmental jurisdictions (with staffing or populations fewer than 50,000) by giving them concrete, easily understandable guidelines for compliance. Since 2004, OCBO has coordinated the Commission's implementation of a Small Entity Compliance Guide program.²¹² The program is designed to implement section 212 of the SBREFA by publishing documents that explain, in plain language, the actions a small entity must take to comply with a rule or a group of rules. OCBO has drafted a Compliance Guide Manual which establishes internal agency policies and procedures for creating and publishing Compliance Guides in a timely manner. The agency publishes compliance guides on its public website at www.fcc.gov/ocbo. During the most recent reporting period, OCBO drafted the annual Reports to Congress concerning the agency's compliance guide program.²¹³ The annual reports described the agency's SECG program and also other educational outreach efforts such as information that can be found on the website and information that has been translated into various languages. The annual reports list the compliance guides published for the subject year.

124. The SECGs provided concrete and detailed information to small businesses about the actual steps the business must take to establish and maintain agency compliance. In effect, the SECG program removes a barrier that might otherwise make proper compliance with rules inordinately difficult for small businesses to achieve because of limited resources. Thus the SECG program provides a service that is consistent with the goals and objectives of section 257.

125. In addition to publishing the SECGs, OCBO distributes copies of relevant SECGs to trade associations and industry organizations whose expertise makes the contents of a given Guide of interest. In turn, many such organizations and associations publish the SECGs on their websites, thereby substantially increasing the accessibility and availability of an SECG to any small business which might find useful the information contained therein.

126. *Section 610 Ten-Year Review of Rules.* OCBO continued to implement section 610 of the RFA which requires agencies to publish annually in the Federal Register a plan for the periodic review of rules that have a significant economic impact on a substantial number of entrepreneurs and other small businesses.²¹⁴ The Commission's compilation identifies numerous rules that are 10 years old and that might be amended or rescinded, if appropriate, in an effort to better serve the public interest. The Commission continues to achieve an exemplary record of compliance with this program as measured against the compliance records of the sixty or so federal agencies subject to section 610. The public is invited to comment on the published periodic report and comments from the public are directed to the pertinent Bureaus and Offices for initial review. The agency may then choose to initiate a rulemaking or other agency action in response to particular comments.

127. *Special Small Business Size Standards.* To ensure that our initiatives accurately target entrepreneurs and other small business participation in the telecommunications sector, OCBO works closely with the SBA's Office of Size Standards to obtain approval of any necessary new telecommunications small business size standards.²¹⁵ The Commission forwards to the SBA all

²¹¹ Section 212 of the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA) is a part of Title II of the Contract with America Advancement Act of 1996, Pub. L. No. 104-121, 110 Stat. 847, 857 (1996).

²¹² The Commission has long produced Fact Sheets and other informative documents, some of which have served as Compliance Guides.

²¹³ See, e.g., FCC, 2012 Annual Report of the Federal Communications Commission on the Agency's Program to Produce Small Entity Compliance Guides (2012).

²¹⁴ See 5 U.S.C. § 610.

²¹⁵ See 15 U.S.C. § 632.

descriptions and analyses of proposed size standards prior to the Commission's adoption of a Notice of Proposed Rulemaking, and, thereafter, sends the SBA additional comments and documentation at each stage of the rulemaking process. Near the end of the process, prior to final Commission consideration of the new size standard, the Commission sends a formal request for approval to the SBA Administrator.

128. *Unified Agenda of Federal Regulatory and Deregulatory Act.* OCBO submitted reports for publication in the semi-annual Unified Agendas of Federal Regulatory and Deregulatory Actions (Unified Agendas), which provide information to the public regarding federal agency regulations under development, including those of the Commission.²¹⁶ The Unified Agenda has been published twice each year since 1983, previously in the Federal Register but now online at www.reginfo.gov. The Unified Agenda helps governmental agencies comply with their obligations under the RFA, other statutes, and Executive Orders. These descriptions assist the public, including small entities, in becoming involved in the regulatory process and aid the regulated community in complying with existing regulations.

129. *Office of the National Ombudsman.* OCBO continued to coordinate the Commission's responses to small entity-related enforcement matters with the SBA's Office of the National Ombudsman (Ombudsman). One avenue for assistance for small entities is the Ombudsman's written comment (complaint) procedure. Using a two-page Federal Agency Comment Form, a small business may submit to the Ombudsman any complaints, suggestions, or compliments concerning a federal agency's enforcement actions. The Ombudsman then forwards the form, along with any other documentation, to the agency for review. OCBO is certified as the Commission's formal contact for this function. OCBO also annually attends one or more Ombudsman public hearings, during which OCBO describes the Commission's efforts to assist small entities with the Commission's enforcement programs. OCBO, by request of the Ombudsman, attends all inter-agency meetings, where the representatives from all federal agencies meet to discuss any new initiatives. Finally, OCBO, in coordination with the Enforcement Bureau, responds to any inquiries during the year and annually sends a letter to the Ombudsman describing the Commission's enforcement initiatives on behalf of small entities. Annually, the Ombudsman submits a report to Congress in which it describes the efforts of all federal agencies, including the Commission.

130. *National Broadband Plan Workshops.* Pursuant to a directive embodied in the *National Broadband Plan*, OCBO entered into a public/private partnership with SBA and the Service Corps of Retired Executives (SCORE) to design and host a series of workshops to provide broadband training to small and diverse businesses across the country. The workshops focused on increasing digital skill sets and implementing e-commerce strategies as a business plan. OCBO enlisted support from a number of diverse national organizations to participate as education partners in this effort. These organizations include Latinos in Information Sciences and Technology, the National Urban League, the National Association of Latino Community Asset Builders, the National Black Chamber of Commerce, the Asian American Chamber of Commerce, and the National Hispanic Chamber of Commerce, among others.

131. Further, in February 2012, OCBO joined SBA and SCORE to present "Technology Support for Small Businesses," an intensive educational and networking seminar for small businesses. The event was held at the Washington Convention Center and was the last in a series of national training events which had been held in California, New Hampshire, and Philadelphia, Pennsylvania, among other places. The Washington DC event, which attracted over 400 small businesses, was also the launch of SCORE's E Business Now, a new website, www.score.org/ebusiness-now, where small businesses can obtain broadband training, business tips, expert information and technology help whenever needed.

132. *Annual Capitalization Strategies Workshops.* OCBO hosted annual Capitalization Strategies Workshops, which were designed to address the lack of access to capital by small and diverse businesses in the media and telecommunications industries. The workshops educated entrepreneurs and

²¹⁶ See 5 U.S.C. § 602. The Government Services Administration's Regulatory Information Service Center publishes the Unified Agenda in the spring and fall of each year.

owners on the dynamic financing options available from both public and private sources. Further, panelists discussed how small businesses should develop multiple funding streams in order to maintain and expand their businesses. The workshops included representatives from federal agencies such as the Small Business Administration and the Department of Agriculture's Rural Utilities Service, as well as from the Senate Committee on Small Business and Entrepreneurship. Private sector representatives included investment banking firms, equity investment acquisition firms, angel investors and early stage venture capital firms. OCBO also coordinated one-on-one mentoring sessions between the panelists and small businesses which are designed to prepare participants for the type of rigorous examination they will face from lending institutions and investors during the application process.

133. *Supplier Diversity Conference and Workshops.* OCBO hosted a series of supplier diversity conference and workshops for small and diverse businesses during the reporting period. The conferences include representatives from both the public and private sectors who discussed their respective contracting procedures and available business opportunities. Federal agencies represented included the procurement officials from the Department of Defense, the Department of Transportation, Minority Business Development Agency, as well as the FCC. Private sector panelists included supply-chain representatives from Verizon, Sprint, AT&T, Comcast, and Microsoft. OCBO also coordinated individual meetings between the panelists and the small business participants. Participants from the workshops were paired with the panelists to discuss possible contracting opportunities.

134. *Small Business and Emerging Technologies Fairs.* OCBO hosted Small Business and Emerging Technologies Fairs focusing on innovation by fledgling entrepreneurs in information technology and telecommunications. The tech fairs featured panel discussions which examined the challenges that tech start-ups face and issues regarding entity formation, incubation, and early stage investment strategies. As a special feature of these tech fairs, OCBO conducted a "fast pitch" program in which entrepreneurs were able to present their ideas and products and get immediate feedback from experts on capitalization and launching new businesses. OCBO held its most recent tech fair in New York City in conjunction with an annual technology fair organized by Silicon Harlem. Silicon Harlem's mission is to transform Harlem into a technology and innovation hub.

135. *Equal Employment Opportunity Best Practices Summit.* During the reporting period, OCBO partnered with the Commission's Media Bureau to host its first EEO Best Practices Summit to examine best compliance practices by regulated companies for achieving viewpoint diversity through broad outreach and recruitment. Panelists included staffers from the Media Bureau's Policy Division who oversee the Commission's EEO program, practitioners who counsel broadcasters and MVPDs on creating and maintaining FCC compliant EEO programs, and representatives from regulated entities.

136. *Federal Advisory Committee on Diversity in the Digital Age.* In December 2010, the Commission re-chartered the Federal Advisory Committee on Diversity in the Digital Age (Diversity Committee) and the most recent charter expired in October 2014. The mission of the Diversity Committee was to examine certain issues, policies and practices that enhance the ability of small and diverse entities to participate in media industries. OCBO assisted the Chairman in developing membership lists for the Diversity Committee, developing issue agendas, and providing guidance to its designated subcommittees. The Diversity Committee met several times each year throughout the reporting period and its subcommittees met more frequently. The Diversity Committee was tasked with examining a number of issues including identifying market entry barriers in regulated industries and opportunities for small business within the unlicensed devices segment of the telecommunications industry.

137. *OCBO Outreach.* OCBO continued to act as liaison between the Commission and an array of trade and civic organizations representing the interests of small, women- and minority-owned communications businesses. OCBO further acts as the agency's in-house expert for small and diverse business matters. The Director and staff regularly meet with small business owners and entrepreneurs to better understand the market-entry challenges they face. Small businesses are also served by OCBO's role in helping them to navigate regulatory processes within the agency and by facilitating access to

Bureau and Office staffers who provide additional assistance. During the reporting period, OCBO was represented by its Director and staff in national meetings and conferences convened by such groups as: Latinos in Information Science and Technology; National Asian Pacific American Caucus of State Legislators; Asian American Justice Center; Black Women's Roundtable; White House Broadband Briefing; Minority Media Telecommunications Council; Women in Cable and Telecommunications; La Raza; National Black Chamber of Commerce; National Urban League; Hispanic Chamber of Commerce; Rainbow Push Coalition & Citizen Education Fund; International Black Broadcasters Association; Stem4Us; and the National Association of Black Owned Broadcasters.

VI. LEGISLATIVE PROPOSALS

138. As described in Section II of this report, Section 257 requires the FCC to identify statutory barriers for entrepreneurs and other small businesses that the Commission recommends be eliminated, consistent with the public interest, convenience, and necessity.²¹⁷ This section discusses statutory proposals that would, if adopted, reduce or eliminate some of the barriers discussed in this report.

139. *Tax Provisions to Encourage the Participation of Small, Minority, and Women-Owned Businesses.* To encourage participation by new entrants and small businesses, Congress could make changes to the federal tax code that would give sellers of telecommunications businesses a tax deferral 1) if they sell to small businesses, including economically- and socially-disadvantaged businesses, or 2) if they invest the proceeds of their sales in small telecommunications businesses, including economically- and socially-disadvantaged businesses. Originally introduced by Senator McCain in the 107th Congress as S. 1322, this proposal was introduced in both the House and the Senate in multiple Congresses, and enjoyed bipartisan support.

140. *Modernizing the 9-1-1 Emergency Response System.* Like other members of their communities, small businesses depend on a reliable and resilient emergency response system to protect them and their property. Unfortunately, many public safety agencies are struggling to keep up with the changes occurring in commercial communications networks. While the "Next Generation 9-1-1 Advancement Act of 2012" laid a strong foundation to begin the transition from the legacy 9-1-1 emergency response system to the IP-based Next Generation 9-1-1 (NG 911) system, more needs to be done. Most of the 6,500 public safety answering points (PSAPs) in the United States still rely on voice-based TDM technology, and cannot receive 911 calls through text messages, photos, or video. In addition, most States do not yet have the plans or funding in place to comprehensively deploy the new NG911 technology. Congress could act to make NG911 a national priority, offering financial support for States to pay the one-time capital costs of deploying this new technology to their PSAPs in a coordinated and timely manner. Congress could also authorize the FCC to support this effort through auditing 911 fees, establishing a national mapping database, and developing cyber security standards for PSAPs that have deployed the new technology.

141. *"Dig Once."* In order to lower the costs and speed up the deployment of broadband networks, in particular to rural and Tribal areas, Congress could require federally-funded infrastructure projects to coordinate their trenching activities along rights-of-way with private parties or public entities that want to install conduit for fiber-optic cable. In the 114th Congress, for example, bills introduced in both the House (H.R. 3805) and the Senate (S. 2163) would require the Department of Transportation to integrate the installation of fiber conduit into federal highway construction projects.

142. *Pole Attachment Rate Reform.* In order to lower the costs and speed up the deployment of broadband networks, in particular to rural and Tribal areas, Congress could amend Section 224 of the Act to make it easier and cheaper for broadband providers to attach fiber to privately-owned utility poles. While the Commission has taken steps to equalize the rates charged to cable operators versus the rates

²¹⁷ 47 U.S.C. § 257(c)(2).

charged to telecommunications carriers, the statute's formula for calculating fees for telecommunications carriers is needlessly complicated, and often results in disputes and arbitrage. In addition, Section 224 exempts millions of poles owned by railroads, cooperatives and governmental entities from access requirements. Congress could replace this confusing regime with a simple, uniform policy that gives broadband providers access to poles on reasonable, rates, terms, and conditions.

143. *Facilitate Wireless Providers' Access to Federal Lands and Buildings.* As the largest landowner in the country and as the owner or tenant of thousands of buildings across the United States, the Federal Government can encourage the deployment of wireless broadband by giving providers reasonable access to its property and facilities. Although Presidents Clinton, Bush, and Obama have all taken action to make it easier for wireless broadband providers to deploy antennas and towers on federal lands and buildings, there is still not a complete inventory of federal assets on which broadband infrastructure may be deployed, and many agencies are still not using the standard, GSA-developed contract that would make it easier and cheaper to deploy infrastructure on federal property. Congress could take action to make sure these policies are implemented throughout the Federal Government. The "MOBILE NOW Act," legislation that was recently introduced in the Senate (S. 2555), addresses both of these issues. In addition, Congress could require each federal land-holding agency to designate a single point of contact/ombudsman within its headquarters structure. Given the decentralized structure of land management agencies and site-specific resources, results and processes can be inconsistent.

144. *Invest in Science, Technology, Engineering and Mathematics (STEM) Education.* In order to increase the pool of Americans with the experience and training to pursue entrepreneurial activities in the 21st century communications industry, Congress could increase the Federal Government's investment in science, technology, engineering, and mathematics (STEM) education and support private-sector efforts to encourage young Americans to study STEM subjects. As a 2011 Department of Commerce report observed, "[STEM] workers drive our nation's innovation and competitiveness by generating new ideas, new companies and new industries."²¹⁸ Small businesses in STEM fields such as engineering and computer science make a disproportionately large contribution to the United States' competitiveness and economic growth. Special efforts should be made to recruit women and minorities, who have historically been underrepresented in the STEM fields.

145. *Increase the Statute of Limitations for Forfeiture Proceedings.* The Commission's ability to enforce its rules and regulations, including its activities to protect small businesses and promote competition, would be strengthened if it had more time to investigate complaints before deciding to issue a notice of apparent liability (NAL). The current 1-years statute of limitations for issuing NALs in section 503(b)(6)(B) in the Act should be extended to three years.

146. *Amend Section 309(j) to Promote Innovative Spectrum Use.* In order to ensure that entrepreneurs and small businesses that want to put spectrum to its highest and best use are able to do so, Congress could modify 309(j) to allow an auction to occur to resolve mutually exclusive "uses" of the same spectrum. Section 309(j) currently only applies if there are mutually exclusive "applications" to use the same spectrum. In cases where two uses are mutually exclusive, but the users do not have or desire the same license rights and/or one set of users are diffuse, it may be difficult to trigger an auction between the different uses. This proposal would use a market mechanism to establish access rights for different uses of the same spectrum. As small businesses with diverse use cases increasingly attempt to obtain spectrum in an ecosystem that is multi-band, multi-mode, and multi-platform, this market mechanism could play an essential role in ensuring that small firms are able to fairly compete for this scarce resource.

²¹⁸ U.S. Department of Commerce, Economics and Statistics Administration, *STEM: Good Jobs Now and for the Future* (July 2011) at 1.

VII. CONCLUSION

147. With this report, the Commission has detailed the actions we have recently taken to identify and eliminate market entry barriers for entrepreneurs and other small businesses in the communications industry. In so doing, we have sought to meet our mandate under Section 257. We continue to work towards the goal embodied in this statute, to promote policies favoring diversity of media voices, vigorous economic competition, technological advancement, and promotion of the public interest, convenience, and necessity.

148. We hereby submit this report to Congress.

FEDERAL COMMUNICATIONS COMMISSION

Marlene H. Dortch
Secretary

**STATEMENT OF
CHAIRMAN TOM WHEELER**

Re: *Section 257 Report to Congress on Entrepreneurs and Other Small Businesses.*

Without question, small businesses are a big deal for our economy. Small businesses employ about half of all private-sector employees, and account for nearly two-thirds of net new jobs. More small businesses also means more competition, which drives consumer benefits like lower prices and better products and services. My experience as a small businessperson and as an investor helping entrepreneurs start and grow new ventures has reinforced the invaluable role small businesses play in fueling our economy and U.S. competitiveness.

The Telecommunications Act of 1996 wisely directed the FCC to pay more attention to small business. The idea was that opening up the telecommunications networks to new and small players would bring innovation and new choices for consumers. Section 257 of the '96 Act instructs the FCC to report to Congress every three years on the actions the FCC has been taking to eliminate barriers for entrepreneurs and small businesses. I am proud to submit the accompanying report, which fulfills this obligation, and highlights significant progress by the Commission to promote the interests of small businesses and entrepreneurs.

As this report makes clear, one of the most significant ways the Commission has empowered small businesses is our work to promote fast, fair, and open broadband networks. We all know the stories of young entrepreneurs who used the open Internet to start companies in dorm-rooms and garages that would eventually topple incumbents to become world-leading companies. But fast, fair, and open networks don't just offer a platform to build web-based companies, they also help small brick-and-mortar businesses grow. The Internet enables business owners to sell to new customers across the country or even around the world, in addition to improving operations, boosting productivity and lowering costs.

Our *Open Internet Order* protects entrepreneurs and small businesses' free and open access to the Internet, enabling innovation without permission. At the same time, we forbear from sections of Title II like rate regulation and unbundling that might reduce network owners' incentives to continue building out their networks and investing in new technologies like 5G.

In addition to this work to empower small businesses in all areas of the economy, the Commission has taken a number of actions designed specifically to expand opportunities for upstarts in the communications sector.

The 1996 Act did not change the basic economics of building and running large communications networks. Whether they are wireless or fixed, operating these networks is a capital-intensive undertaking. It requires the purchase of expensive inputs like spectrum, optical fiber, and radio antennae, plus the additional administrative and legal expenses of deploying these resources in the cities, towns and rural communities where network users live and work. That's why, for example, the Commission reformed its "designated entity" rules for the first time since 2006 to promote the participation of rural carriers and small businesses, including those run by minorities and women, in spectrum auctions. In its recent auction rules and spectrum policymaking, the FCC has also reduced barriers to entry for new and smaller providers by promoting device interoperability, reserving spectrum for non-nationwide providers, and creating geographically compact license areas that are more suitable for smaller bidders.

Section 257 calls on the Commission to promote diversity of media voices. To that end, we have issued hundreds of new low-power FM licenses to serve local and underrepresented communities and it has used bidding credits to help dozens of new entrants acquire commercial FM and AM licenses.

Finally, section 257 invites the FCC to propose statutory steps Congress could take to remove barriers and create opportunities for entrepreneurs and small businesses. Our report offers a number of proposals for Congress' consideration, including preferential tax treatment for small communications businesses, support for the NG 911 transition, and policies like "dig once" that will speed up the deployment of broadband infrastructure to unserved communities.

**STATEMENT OF
COMMISSIONER AJIT PAI,
APPROVING IN PART AND DISSENTING IN PART**

Re: *Section 257 Triennial Report to Congress, Identifying and Eliminating Market Entry Barriers for Entrepreneurs and Other Small Businesses.*

Section 257 of the Communications Act requires the Commission to report to Congress every three years on the regulations it has prescribed to eliminate “market entry barriers for entrepreneurs and other small businesses in the provision and ownership of telecommunications services and information services, or in the provision of parts or services to providers of telecommunications services and information services”¹ as well as any such statutory barriers that the Commission recommends be eliminated.²

In this report, the Commission touts many actions that I agree have been helpful to small businesses, including AM radio revitalization and accelerating wireless infrastructure deployment. On the other hand, it also discusses many initiatives that I believe have harmed, not helped, small businesses. For example, the Commission’s *Title II Order* disproportionately burdens smaller broadband providers that do not have the same resources as their larger competitors to comply with additional regulation. As such, I fail to see how Title II regulation eliminated a barrier to entry into the broadband marketplace. To the contrary, it erected an additional barrier to entry. As I’ve said before, monopoly rules designed in the monopoly era will inevitably move us in the direction of monopoly, not additional competition.

For these reasons, I am voting to approve in part and dissent in part.

¹ 47 U.S.C. § 257(a).

² See 47 U.S.C. § 257(c).

**STATEMENT OF
COMMISSIONER MICHAEL O'RIELLY
APPROVING IN PART AND DISSENTING IN PART**

Re: Section 257 Triennial Report to Congress: Identifying and Eliminating Market Entry Barriers For Entrepreneurs and other Small Businesses

In reading the text of the report, it is amazing how much of it misses the mark when compared to the intention in the statute. Section 257(c), as enacted as part of the Telecommunications Act of 1996, requires a review and report to Congress every three years on regulations prescribed to eliminate market entry barriers and statutory barriers that can be eliminated, as identified under subsection(a). But the scope of subsection (a) clearly addresses barriers “for entrepreneurs and other small businesses in the provision and ownership of *telecommunications services and information services*, or in the provision of parts or services” to those entities. In other words, this deals with the ability of small businesses to get into and remain in the telecommunications and information services sectors, which are defined terms in the law, as providers or those that serve as a supplier or subcontractor to such industry participants. It is not a general request to talk about random or tangential barriers to entry for small businesses, however important. At best, only a portion of this report can be said to be responsive to the law.

Even if the statute were read to suggest a broader application, Congress certainly did not expect that the report would be considered as just another opportunity to proselytize in favor of the current Commission’s partisan agenda. Now, a certain amount of advocacy for specific (and applicable) policies could be expected, but the Commission and, more specifically, its designated “in-house advocate for small businesses and entrepreneurs,”¹ the Office of Communications Business Opportunities (OCBO), seem to misconstrue its role here.

In considering the report, I asked OCBO for some background information that was not included, though it seemed to me to be an important reference point when analyzing the Commission’s impact on small businesses. In particular, I wanted to know the change in the amount of time that small business regulatees spend in complying with our regulations during the timeframe covered in the report, and also the number of times that the Commission considered but declined to make accommodations for small businesses. I thought that the Commission’s in-house small business advocate would have this information readily available. Surprisingly, I was told that OCBO does not keep track of this type of data, and was further informed that it is not required under the Regulatory Flexibility Act, the Paperwork Reduction Act, or any executive order. This explanation completely misses the point. These data points and lots of other similarly basic data should be available to help us understand the impact of the Commission’s activities concerning this exact subject. Otherwise, any assertions about the Commission’s understanding of or overall commitment to lowering barriers for entrepreneurs and small businesses remain just that – assertions.

As to the specific policies touted in the report, many have proven or will prove to cause more harm than benefit to small businesses. How can the Commission hold up its ban on broadcaster joint sales agreements as a positive for small businesses, when many existing JSAs have allowed small broadcasters to better manage resources or to stay in business at all? And the Commission’s ill-fated decision to preempt local and state laws restricting municipal broadband would be well on its way to skewing some markets, disadvantaging private internet service providers, but for the court decision overturning it. How could this policy be listed as a winner for small business? Certain updates to the

¹ *Id* at para. 9.

Commission's website even get a mention as an unequivocal positive, though the reviews I am hearing are decidedly mixed.

But net neutrality receives top billing on this marquee, to the wonderment of those of us observing the steady stream of new and ever more burdensome requirements it has unleashed on Internet Service Providers, which are, of course, especially burdensome to small providers. The new mountain of paperwork required was the first and most obvious problem, but all the Commission was willing to do was a temporary small business exemption, which it declined to make permanent at the end of last year. Instead, after much cajoling, a twelve-month extension was begrudgingly granted, and another temporary extension has just been proposed. The Commission should take a hint from the House passage of the Small Business Broadband Deployment Act, and a similar Senate version, and make this exemption permanent.

This notwithstanding, the report does highlight some actions that I advocated or supported, and that I believe are helpful in the larger definition of small businesses. The streamlined effective competition process for cable operators, Commission efforts to make new spectrum available to commercial users, and reforms for the high-cost program within the Universal Service Fund are a few examples. In some instances, regulatory relief consisted of delayed compliance timeframes like the net neutrality reporting extension already discussed. While I supported such delays as preferable to no relief at all, I would caution that these temporary measures are just a temporary reprieve from the regulatory avalanche to come.

At the same time, it is alarming that this report is more than two years late. The Commission's last Section 257 report was done in 2011, covering a review of 2007 to 2009.² No reasons are given for why the Commission ignored the deadline in the law and none will be forthcoming. Instead, the Commission will just move along like nothing happened. I cannot support this blatant indifference to Congressional requirements.

Overall, this report is flawed and extremely late. I approve its issuance, as required under the law, approve instances where it actually acknowledges and addresses legitimate and applicable market entry barriers for small businesses, and reject the rest.

² *Section 257 Triennial Report to Congress, Identifying and Eliminating Market Entry Barriers for Entrepreneurs and Other Small Businesses*, Report, 26 FCC Rcd 2909 (2011).