

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

In the Matter of)	
)	
Wireless Telecommunications Bureau Seeks)	WT Docket No. 18-203
Comments on the State of Mobile Wireless)	
Competition)	
)	

COMMENTS OF COMPETITIVE CARRIERS ASSOCIATION

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Competitive Carriers Association (“CCA”)¹ hereby submits the following comments in response to the Federal Communications Commission’s (“FCC” or “Commission”) Public Notice seeking comment on the state of mobile wireless competition.²

I. INTRODUCTION AND SUMMARY.

As the mobile industry finds itself in the midst of a major technological transition to 5G, the fact remains that much of the country still lacks access to reliable mobile wireless service including 3G and 4G.³ Under FCC Chairman Pai’s leadership, the Commission has taken

¹ CCA is the nation’s leading association for competitive wireless providers and stakeholders across the United States. CCA’s membership includes nearly 100 competitive wireless providers ranging from small, rural carriers serving fewer than 5,000 customers to regional and national providers serving millions of customers. CCA also represents associate members including vendors and suppliers that provide products and services throughout the mobile communications supply chain.

² *Wireless Telecommunications Bureau Seeks Comment on the State of Mobile Wireless Competition*, Public Notice, DA 18-663, WT Docket No. 18-203 (rel. June 26, 2018) (“*Public Notice*”).

³ See, e.g., *Connect America Fund; Universal Service Reform – Mobility Fund*, Report and Order and Further Notice of Proposed Rulemaking, 32 FCC Rcd. 2152, Statement of Chairman Pai at 2282 (2017) (“*Mobility Fund II Order*”) (“While urban and suburban America continue to see improvements in mobile service, many rural areas continue to be dead zones. We cannot leave these areas behind.”).

numerous steps to bridge the digital divide and to remove regulatory barriers to mobile communications deployment. While much work has been done, more remains to ensure that all Americans have access to ubiquitous mobile wireless service. To advance next-generation technology and services throughout the country, the Commission must focus on existing barriers to mobile wireless competition and deployment. The *Communications Marketplace Report* provides the Commission with an opportunity to address mobile-specific challenges head-on.

The Consolidated Appropriations Act of 2018, which includes the Repack Airwaves Yielding Better Access for Users of Modern Services Act of 2018 (“RAY BAUM’S Act of 2018”),⁴ requires the FCC to assess the state of competition of the wireless market.⁵ As the Commission has indicated, the new *Communications Marketplace Report* replaces the Mobile Wireless Competition Reports that the FCC previously submitted to Congress. The statute also identifies new issues to focus on, including the “state of deployment of communications capabilities” and “whether laws, regulations, regulatory practices . . . or demonstrated marketplace practices pose a barrier to competitive entry into the communications marketplace or to the competitive expansion of existing providers of communications services.”⁶ In other words, the new *Communications Marketplace Report* gives the Commission the opportunity to perform an analysis of the state of competition *and* deployment in the mobile wireless marketplace and allows the Commission to focus on barriers to competition and to propose an agenda to address those challenges.

⁴ Consolidated Appropriations Act, 2018, Pub. L. No. 115-141, Div. P—RAY BAUM’S Act of 2018, §§ 401-404, 132 Stat. 348, 1087-90 (2018) (“RAY BAUM’S Act of 2018”).

⁵ Div. P—RAY BAUM’S Act of 2018, Title IV: FCC Consolidated Reporting, Section 13.

⁶ *Id.*

The Commission’s Twentieth Annual Report on the State of Competition in Mobile Wireless (“*Twentieth Mobile Wireless Competition Report*”) sent to Congress just last year concluded that the mobile wireless market is effectively competitive.⁷ This conclusion missed the mark. Because the previous statute required the Commission to reach an overall finding of whether or not there was effective competition, the Commission did not have the latitude to analyze the state of mobile wireless competition—and particularly the larger wireless ecosystem—in the broader context of deployment and barriers to competition. As a result, the finding overlooked the fact that much of the country does not have access to competitive mobile wireless service.

In reality, the increasing concentration of the wireless market between the two largest providers—AT&T and Verizon—combined with existing regulatory barriers to wireless market expansion negatively impact competitive entry and competitive expansion, particularly in rural and remote areas. CCA represents nearly 100 mobile carriers, yet by the end of 2017, AT&T and Verizon represented 70 percent of the market share of wireless subscriptions.⁸ The increasing market power of the duopoly poses substantial challenges to the viability of smaller carriers and the competitiveness of the mobile ecosystem. Yet these rural and regional carriers are key players in the expansion of mobile wireless service to underserved or unserved areas of the country.

Competition for mobile wireless service is not ubiquitous. Recent actions by the

⁷ See, *Implementation of Section 6002(B) of the Omnibus Budget Reconciliation Act of 1993: Annual Report and Analysis of Competitive Market Conditions with Respect to Mobile Wireless, Including Commercial Mobile Services*, Twentieth Report, 32 FCC Rcd. 8968, 8969 ¶ 2 (2017) (“*Twentieth Mobile Wireless Competition Report*”).

⁸ See, *Twentieth Mobile Wireless Competition Report*, 32 FCC Rcd. at 8988 ¶ tbl. II.C.1 (2017).

Commission, Administration,⁹ and other federal agencies¹⁰ validate that there are parts of the country that do not receive, much less have a competitive choice for, mobile wireless service. Moreover, the experience of CCA members and the on-the-ground experience of consumers—including statistics obtained just by driving through many parts of the country—make clear that mobile wireless service is not yet available everywhere, much less on a competitive basis.

Members of Congress have likewise recognized the lack of reliable mobile wireless service in rural America.¹¹ To ameliorate this digital divide, the Commission must recognize regulatory barriers to competitive entry and expansion in the mobile wireless market and address

⁹ See, e.g., Exec. Order No. 13821, 83 Fed. Reg. 1507, *Streamlining and Expediting Requests to Locate Broadband Facilities in Rural America* (Jan. 8, 2018) (“Americans need access to reliable, affordable broadband internet service to succeed in today’s information-driven, global economy. Currently, too many American citizens and businesses still lack access to this basic tool of modern economic connectivity. This problem is particularly acute in rural America, and it hinders the ability of rural American communities to increase economic prosperity; attract new businesses; enhance job growth; extend the reach of affordable, high-quality healthcare; enrich student learning with digital tools; and facilitate access to the digital marketplace.”).

¹⁰ See, e.g., United States Department of Agriculture, *Telecommunications Infrastructure Loans & Loan Guarantees*, <https://www.rd.usda.gov/files/fact-sheet/RD-FactSheet-RUSTelecommunicationsLoan.pdf> (last updated March 2018) (loan program offering financial assistance to eligible service providers that will construct, improve, or expand telecommunication and broadband networks in rural areas); NTIA, *BroadbandUSA*, (Apr. 24, 2017) <https://broadbandusa.ntia.doc.gov/ntia-resources/broadband-interagency-working-group> (initiative led by NTIA to advise communities on expanding broadband capacity and promoting digital inclusion throughout the United States).

¹¹ See, e.g., Petition of United States Senator Joe Manchin III for Waiver to Participate in Challenge Process at 2, WT Docket No. 10-208 (filed May 15, 2018) (“*Petition of Joe Manchin*”) (“I have driven nearly every mile of road in [West Virginia] and experienced first-hand the loss of broadband coverage along the way”); Letter from Senators Wicker, Hassan, et al., to Ajit Pai, Chairman, FCC (May 30, 2018), <https://docs.fcc.gov/public/attachments/DOC-351493A2.pdf> (“*Wicker/Hassan Letter*”) (The Mobility Fund II “map is intended to reflect areas that lack unsubsidized mobile 4G LTE service, but it unfortunately falls short of an accurate depiction of areas in need of universal service support. Communities in our states that are not initially eligible or successfully challenged will be ineligible for up to \$4.53 billion in support over the next 10 years, exacerbating the digital divide and denying fundamental economic and safety opportunities to rural communities.”)

limitations affecting the mobile wireless ecosystem. Just this week, members of the Committee on Energy and Commerce emphasized this point at a congressional FCC oversight hearing.¹² Specifically, Chairman Greg Walden (R-OR) noted that, “[a]s you’ve heard from many members on both sides of the aisle on this issue, we need to do more as a country to connect each other with high speed and broadband data connections.” Subcommittee on Communications and Technology Ranking Member Congressman Mike Doyle (D-PA) stated, “[w]e live in a divided nation when it comes to broadband access. All too often people living in urban areas are the digital ‘haves,’ whereas those living in rural areas are being left behind with few or no choices, higher prices, and lower speeds. As I and many of my colleagues have said in the past, if we are going to bring more broadband to rural America, our government needs to make a sustained investment in building out more infrastructure.” These statements evidence a bipartisan recognition that more needs to be done to bridge the digital divide.

Further, at that same hearing, FCC Commissioners and members of Congress discussed the important services rural broadband connectivity brings to communities, including telehealth, precision agriculture, public safety improvements, and greater economic opportunities. Members on both sides of the aisle demonstrated a commitment to addressing the most fundamental building blocks required to expand and densify mobile networks.

Notwithstanding the Commission’s conclusion in last year’s report, the FCC smartly recognizes that it still has much work ahead to bridge the digital divide across the country and “to ensure that rural service offerings are improved and, most importantly, that service gets to the

¹² House Energy and Commerce Subcommittee on Communications and Technology Hearing “Oversight of the Federal Communications Commission,” 7/25/2018.

unserved.”¹³ Fortunately, the Commission’s first *Communications Marketplace Report* is an ideal opportunity to perform a thorough and accurate analysis of the actual state of the mobile wireless ecosystem. The Commission should seize this opportunity provided by the new statutory requirement to assess the state of market competition, the state of communications deployment, and barriers to competitive entry and expansion. This also provides the FCC a platform to identify and to move swiftly on items that will reduce barriers to competition and deployment: spectrum access, infrastructure deployment, Universal Service Fund support, spectrum aggregation, new technologies, access to devices and content, and public safety advancements. These pro-competitive policies, if adopted, will encourage ubiquitous service while meeting the statutory requirement to spur robust competition.

¹³ See, e.g., *Twentieth Mobile Wireless Competition Report*, Statement of Commissioner O’Rielly, 32 FCC Rcd. at 9059 (“We will leave this meeting and continue our mission to create an environment that promotes innovation and investment, so that consumers will benefit not only from network improvements, next-generation technologies and new service offerings, but hopefully future new entrants. We will return to the Spectrum Frontiers and infrastructure proceedings, and we will continue our efforts to ensure that rural service offerings are improved and, most importantly, that service gets to the unserved.”); see also *id.*, Statement of Commissioner Clyburn at 9057 (“The reality, however, is that far too many in this country do not have reliable and affordable 3G service. In fact, our recent Mobility Fund Phase II proceeding is designed to bring ubiquitous mobile wireless service to millions: yes, I said *millions* of Americans who are still waiting for mobile wireless service with the download speeds others enjoy.”).

II. THE FIRST *COMMUNICATIONS MARKETPLACE REPORT* REQUIRES THE COMMISSION TO EVALUATE THE STATE OF COMPETITION IN THE MOBILE WIRELESS ECOSYSTEM AND THE STATE OF DEPLOYMENT OF COMMUNICATIONS CAPABILITIES.

The new statutory requirement of RAY BAUM’s Act of 2018 directs the Commission to look at both the state of competition in the wireless marketplace, as well as the state of deployment of communications capabilities.¹⁴ To assess the state of competition, CCA urges the Commission to utilize robust economic analyses based on market data, including market shares, subscriber count and connected devices, financial indicators, and market concentration to analyze competition in specific locations across the country. The Commission also could utilize the Herfindahl-Hirschman Index (“HHI”) to assess market concentration at the local level, rather than solely on a nationwide basis. To assess the state of deployment, the Commission must continue its efforts from the Mobility Fund Phase II challenge process and the Accelerating Wireless Broadband Deployment proceeding and incorporate on-the-ground experience to determine the areas in the country where mobile wireless service is lacking.

A. The Commission Should Use this Opportunity to Develop Accurate Criteria and Metrics to Evaluate the State of Mobile Wireless Competition.

The Commission requests comment on “the criteria or metrics that could be used to evaluate the state of mobile wireless competition.”¹⁵ To perform an accurate assessment of competition, the Commission should undertake a rigorous economic analysis, consistent with Chairman Pai’s emphasis on the use of economics and accurate data in the Commission’s proceedings. As Chairman Pai has recognized, “[h]istorically, the FCC had been a model for the use of economic analysis in federal policymaking. . . . But despite this rich legacy, staff

¹⁴ Div. P—RAY BAUM’S Act of 2018, Title IV: FCC Consolidated Reporting, Section 13.

¹⁵ *Public Notice*.

economists are not guaranteed a seat at the policy-making table. Increasingly during FCC proceedings, their views have become an afterthought. Now is the time to restore the place of economic analysis at the FCC.”¹⁶ CCA could not agree more.

The need for accurate data and analysis is an uncontroverted, bipartisan principle under current leadership at the FCC. Chairman Pai has recognized the flawed data that the FCC too often relies on in its proceedings: “The FCC has often used data poorly. There’s a real opportunity to do better, both in how the data are collected, and how data are applied to make the best, most informed decisions possible.”¹⁷ Additionally, Commissioner O’Rielly has urged that it is the Commission’s obligation to “use data to inform and evaluate programs and policies to make them more effective.”¹⁸ And Commissioner Rosenworcel recently noted that in an effort to close the digital divide, policymakers must “tailor our solutions for the problem, [and] we need granular data. We need facts that will inform both local and national policy [...]”¹⁹ Yet despite this recognition of the need for careful data analysis, the Commission’s past reports have failed to characterize the state of competition in the mobile wireless ecosystem adequately, including the most recent *Twentieth Mobile Wireless Competition Report*, which concluded that the market is effectively competitive.²⁰ The new statutory requirement for the *Communications*

¹⁶ Ajit Pai, Chairman, FCC, Remarks at the Hudson Institute: The Importance of Economic Analysis at the FCC at 1-2 (Apr. 5, 2017) (emphasis added) (“*Hudson Institute Remarks*”).

¹⁷ *Hudson Institute Remarks* at 4.

¹⁸ Michael O’Rielly, Commissioner, FCC, Remarks at TPRC 44: Research Conference on Communications, Information and Internet Policy at 2 (Sept. 30, 2016).

¹⁹ Jessica Rosenworcel, “Education Department must do more to understand – and close – the homework gap” (rel. July 20, 2018), *available at* <https://edscoop.com/jessica-rosenworcel-fcc-homework-gap-education-department>.

²⁰ *Twentieth Mobile Wireless Competition Report*, 32 FCC Rcd. at 8969-70.

Marketplace Report gives the Commission wider latitude, however, to assess the latest wireless market data carefully and to perform a nuanced analysis of competition across the country by looking at competition at the local level.

To properly assess the state of mobile wireless competition, the Commission must look to metrics that illustrate the relative size of the different players in the market.²¹ Such metrics include data about each mobile carrier's market share by service revenues, subscriber count and share of connected devices, general financial indicators, and overall measures of market concentration. Much of the data is announced in quarterly and annual earnings reports as indicators of the health of the business, and is therefore highly relevant, particularly when analyzed comparatively, to an assessment of market competition. Applying this data within an objective economic analysis makes clear that the mobile wireless market is not sufficiently competitive.

1. Market Share

Assessing market share by comparing carriers' service revenues illustrates that AT&T and Verizon continue to dominate the market and inhibit competition. According to the Commission's *Twentieth Mobile Wireless Competition Report*, these two providers comprise nearly 70 percent of service provider market share as measured by service revenue.²² This percentage has remained fairly consistent over the last few years,²³ undoubtedly reflecting the lofty barriers to entry in the mobile wireless market. Indeed, the market share for regional

²¹ See, *Public Notice* at 1.

²² See, *Twentieth Mobile Wireless Competition Report*, 32 FCC Rcd. at 8988 ¶ tbl. II.C.1 (2017).

²³ See, *id.* 8988 ¶ 33.

providers is less than 2 percent, which has continued to fall from nearly 5 percent in 2013.²⁴

2. Subscriber Count and Connected Devices

AT&T and Verizon's market dominance also is apparent through a comparison of each carriers' subscriber count and total number of connected devices.²⁵ By the end of Fourth Quarter 2017, the subscriber counts for each of AT&T (141.6 billion) and Verizon (150.5 billion) outnumbered all other competitors combined (estimated 133.5 billion).²⁶ Likewise, AT&T and Verizon jointly laid claim to nearly 286 million mobile connections, nearly four times that of their nearest competitor, which accounted for 72.6 million connections.²⁷

3. Financial Indicators

Other financial figures²⁸ for 2017 paint the picture in even greater detail. In Fourth Quarter 2017, service revenues for AT&T and Verizon were \$14.3 billion and \$15.9 billion, respectively.²⁹ Similarly, in comparing earnings per subscription, AT&T and Verizon once

²⁴ See, *id.* 8988 n.97.

²⁵ See, *Public Notice* at 2 (seeking data and information on the “number of mobile wireless subscribers/connections”).

²⁶ Mike Dano, *How Verizon, AT&T, T-Mobile, Sprint and More Stacked Up in Q4 2017: The Top 7 Carriers*, Fierce Wireless (Mar. 6, 2018 4:38 PM), <https://www.fiercewireless.com/wireless/how-verizon-at-t-t-mobile-sprint-and-more-stacked-up-q4-2017-top-7-carriers>. C Spire, a privately-held company that does not disclose its metrics, is estimated to have 1 million subscribers. See *id.* The combined figure for all providers other than Verizon and AT&T includes that estimate.

²⁷ Stephanie Atkinson, *Analyst Angle: Q4 2017 and End of Year Assessment of the “Top 4 Mobile Carriers”*, RCR Wireless News at chart 4Q17 Carrier Snapshot (Mar. 20, 2018), <https://www.rcrwireless.com/20180319/wireless/analyst-angle-q4-2017-and-end-of-year-assessment-of-the-top-4-mobile-carriers-Tag9>.

²⁸ See, *Public Notice* at 2 (seeking data and information on “revenue metrics”).

²⁹ These figures nearly double those of T-Mobile (\$7.8 billion); and in Verizon's case, nearly triple those of Sprint (\$5.6 billion). See, Atkinson, *supra*, at chart 4Q17 Carrier Snapshot.

again “took the bulk of the profits.”³⁰ This should come as no surprise as, in 2017, AT&T and Verizon also topped the Forbes Global 200 list as the world’s two largest telecom companies.³¹ In AT&T’s case, its ascendance is traceable in part to its acquisition of DirecTV and several small wireless companies³²—a market concentration issue that is discussed in more detail below. The vast financial delta reflected in these core financial indicators bespeaks failing competition and thus must be incorporated into the Commission’s market analysis.

4. Market Concentration

Many of the figures referenced above elucidate the long-standing trek towards market concentration, the substantial bulk of which is driven by AT&T and Verizon. As the Commission has recognized, market concentration is reflected in “the size of a company relative to the total size of the industry,” which has an obvious bearing on the competitiveness of the given market.³³ For example, the market share of regional providers, as measured by the percentage of overall mobile connections, dwindled from approximately 34 percent in 2003 to 1.2 percent at the end of 2016.³⁴ And as discussed above, AT&T and Verizon account for nearly

³⁰ Chetan Sharma Consulting, *U.S. Mobile Market Update 2017*, <http://www.chetanisharma.com/publications/us-mobile-market-update-2017/> (last visited July 23, 2018).

³¹ Antoine Gara, *The World’s Largest Telecom Companies: AT&T and Verizon Top China Mobile*, FORBES (May 24, 2017, 7:00 AM), <https://www.forbes.com/sites/antoinegara/2017/05/24/the-worlds-largest-telecom-companies-att-and-verizon-top-china-mobile/#476772aca452>.

³² *Id.*

³³ *Twentieth Mobile Wireless Competition Report*, 32 FCC Rcd. at 8987 ¶ 31; *see also Implementation of Section 6002(B) of the Omnibus Budget Reconciliation Act of 1993*, Nineteenth Report, 31 FCC Rcd. 10,534, 10,547 ¶ 19 (2016) (“*Nineteenth Mobile Wireless Report*”).

³⁴ *Nineteenth Mobile Wireless Competition Report*, 31 FCC Rcd. at 10,548, chart II.C.1 (showing percentage of total connections from 2003-2015); *Twentieth Mobile Wireless Competition Report*, 32 FCC Rcd. at 8982, tbl. II.B.1 (showing percentage of total connections for end-of-

70 percent of wireless service revenue and thus constitute the bulk of the concentration.

Despite this reality, the Commission continues to approve secondary market transactions proposed by AT&T³⁵ and Verizon.³⁶ These transactions increasingly concentrate the market and

year 2016).

³⁵ See, e.g., *Application of AT&T Mobility Spectrum LLC and FiberTower Corporation*, Memorandum Opinion & Order, DA 18-125, ULS File Nos. 0007652635 & 0007652637 (rel. Feb. 8, 2018) (consenting to transfer of control of FiberTower Spectrum’s licenses to AT&T Mobility); *FiberTower Spectrum Holdings LLC, et al.*, Order on Remand and Memorandum Opinion and Order, 33 FCC Rcd. 253 (2018) (implementing settlement agreement between FiberTower and the Commission); see also *Wireless Telecommunications Bureau Assignment of License Authorization Applications, Transfer of Control of Licensee Applications, De Facto Transfer Lease Application and Spectrum Manager Lease Notifications, Designated Entity Reportable Eligibility Event Applications, and Designated Entity Annual Reports Action*, Public Notice, Report No. 13311 (rel. June 27, 2018) (accepting AT&T and Polar Communications Mutual Aid Corporation *de facto* transfer leasing arrangement of spectrum to AT&T); *Wireless Telecommunications Bureau Assignment of License Authorization Applications, Transfer of Control of Licensee Applications, De Facto Transfer Lease Application and Spectrum Manager Lease Notifications, Designated Entity Reportable Eligibility Event Applications, and Designated Entity Annual Reports Action*, Public Notice, Report No. 12830 (Dec. 27, 2017) (consenting to assignment from iSmart Mobile, LLC to AT&T and leasing arrangement between West River Telecommunications Cooperative and AT&T); *Wireless Telecommunications Bureau Assignment of License Authorization Applications, Transfer of Control of Licensee Applications, De Facto Transfer Lease Application and Spectrum Manager Lease Notifications, Designated Entity Reportable Eligibility Event Applications, and Designated Entity Annual Reports Action*, Public Notice, Report No. 12769 (rel. Nov. 29, 2017) (accepting leasing arrangement between Nex-Tech Wireless, LLC and AT&T); *Wireless Telecommunications Bureau Assignment of License Authorization Applications, Transfer of Control of Licensee Applications, De Facto Transfer Lease Application and Spectrum Manager Lease Notifications, Designated Entity Reportable Eligibility Event Applications, and Designated Entity Annual Reports Action*, Public Notice, Report No. 12554 (rel. Aug. 30, 2017) (consenting to assignment of from Halstad Telephone Company to AT&T); *Wireless Telecommunications Bureau Assignment of License Authorization Applications, Transfer of Control of Licensee Applications, De Facto Transfer Lease Applications and Spectrum Manager Lease Notifications, Designated Entity Reportable Eligibility Event Applications, and Designated Entity Annual Reports Action*, Public Notice, Report No. 12246 (rel. May 3, 2017) (consenting to AT&T’s application to enter into a spectrum transaction with Lackawaxen Long Distance Company); *Wireless Telecommunications Bureau Assignment of License Authorization Applications, Transfer of Control of Licensee Applications, De Facto Transfer Lease Applications and Spectrum Manager Lease Notifications, Designated Entity Reportable Eligibility*, Public Notice, Report No. 12192 (rel. Apr. 5, 2017) (accepting AT&T and Gigsby Mobile’s request to enter into a long-term spectrum lease).

³⁶ See, e.g., *Application of Verizon Communications Inc. and Straight Path Communications*,

dilute competition—at the expense of not only the far smaller regional players but also other smaller nationwide providers. The Commission should refrain from further undermining competition and instead, account for smart competitively-neutral policies and decisions when assessing mobile wireless market competition.

5. Herfindahl-Hirschman Index

A common measure of market concentration, and therefore of competitiveness, is HHI, which is calculated by summing the squared market share of each firm competing in a given market, thereby giving proportionately greater weight to larger market shares.³⁷ Although the Commission regularly computes an overall HHI value for the mobile wireless market, CCA urges the Commission to analyze HHI differently and to do so alongside an analysis of the other metrics described above and herein, including ways to further adopt tailored policies aimed at

Inc., Memorandum Opinion and Order, 33 FCC Rcd. 188 (2018) (consenting to transfer of control of Straight Path Spectrum LLC licenses to Verizon); *Wireless Telecommunications Bureau Assignment of License Authorization Applications, Transfer of Control of Licensee Applications, De Facto Transfer Lease Application and Spectrum Manager Lease Notifications, Designated Entity Reportable Eligibility Event Applications, and Designated Entity Annual Reports Action*, Public Notice, Report No. 12554 (Aug. 30, 2017) (consenting to assignment from Century Tel Investments of Texas, Inc. to Verizon and subleasing arrangement between Sprint Spectrum, L.P. and Verizon); *Wireless Telecommunications Bureau Assignment of License Authorization Applications, Transfer of Control of Licensee Applications, De Facto Transfer Lease Applications and Spectrum Manager Lease Notifications, Designated Entity Reportable Eligibility*, Public Notice, Report No. 12204 (Apr. 12, 2017) (consenting to assignment from SprintCom, Inc. to Cellco Partnership and assignment from Sprint Spectrum L.P. to Verizon); *Wireless Telecommunications Bureau Assignment of License Authorization Applications, Transfer of Control of Licensee Applications, De Facto Transfer Lease Applications and Spectrum Manager Lease Notifications, Designated Entity Reportable Eligibility*, Public Notice, Report No. 12058 (Feb. 8, 2017) (consummating transfer of AT&T Mobility Spectrum, LLC to Cellco Partnership and consenting to assignments from WWC Texas RSA Limited Partnership and Arctic Slope Telephone Association Cooperative, Inc. to AT&T).

³⁷ See, *Twentieth Mobile Wireless Competition Report*, 32 FCC Rcd. at 8988 ¶ 33; U.S. Dep’t of Justice & Fed. Trade Comm’n, *Horizontal Merger Guidelines*, § 5.3 (2010), <https://www.justice.gov/sites/default/files/atr/legacy/2010/08/19/hmg-2010.pdf> (“*Merger Guidelines*”).

creating a balanced mobile ecosystem.

The HHI provides a numerical indication of the amount of competition in a given market. The higher the number, the more concentrated and less competitive the market is. Although the HHI for a market should be interpreted in a somewhat individualistic way, the purpose of the index is to provide a quantitative assessment; as such, an analysis should not lose sight of the objective HHI value.³⁸ Under the Department of Justice’s (“DOJ”) and Federal Trade Commission’s (“FTC”) guidelines for determining whether to approve proposed mergers, markets are highly concentrated—posing concern about sufficient competition—when the HHI is above 2500.³⁹ Similarly, the Commission flags for case-by-case analysis any merger resulting in an HHI above 2800 and an HHI increase of 100 or greater.⁴⁰ Despite consistently reporting nationwide HHI values that are well above these guidelines (e.g., 3103 at the end of 2016), however, the Commission continues to conclude that effective competition exists in the mobile wireless market.⁴¹ And despite noting that factors other than concentration levels must be considered in evaluating market competition—prices, trends in pricing, non-price rivalry, investment, innovation, and barriers to entry—the Commission does not appear to expressly

³⁸ *Contra Twentieth Mobile Wireless Competition Report*, 32 FCC Rcd. at 8988 ¶ 33, n.101.

³⁹ *Merger Guidelines* at § 5.3.

⁴⁰ See, e.g., *Applications of Cricket License Company, LLC, et al., Leap Wireless International, Inc., and AT&T Inc. for Consent to Transfer Control of Authorizations*, Memorandum Opinion & Order, 29 FCC Rcd. 2735, 2753 ¶ 41 n.140 (2014). The Commission also flags mergers that would produce an HHI increase of 250 or greater, regardless of the resulting HHI level. *Id.*

⁴¹ See, *Twentieth Mobile Wireless Competition Report*, 32 FCC Rcd. at 8988 ¶ 33, 9037 ¶ 93; see also *id.* at 8988 ¶ 33 (noting an HHI for 2013 of 3027); *Nineteenth Mobile Wireless Competition Report*, 31 FCC Rcd. at 10,550 ¶ 22 (noting HHIs of 3111 and 3138 for years 2015 and 2014, respectively).

balance these factors with the high HHI values.⁴²

As CCA has asserted in the past, an additional problem with the Commission's analysis is that it utilizes an HHI at the national level, viewing the country through the lens of the Economic Areas ("EAs") used by the Number Resource Utilization Forecast and weighting the EAs using population.⁴³ As the *Twentieth Mobile Wireless Competition Report* makes clear, however, HHI values vary widely between EAs, and this variation is highly correlated with population density. The HHI values for EAs with populations nearing 600 people per square mile or greater stabilize around 2500 to 2800; but particularly as population densities fall below 200 people per square mile, HHIs can range anywhere from roughly 2500 to nearly 7000.⁴⁴ As the Commission notes, the fact that "HHI values tend to decline as the population density increases . . . likely reflects greater demand and greater cost efficiencies . . . in more densely-populated areas."⁴⁵

Rather than using a nationwide weighted average, then, the Commission should assess competition in the mobile wireless market with an eye to local population centers, and it should internalize the reality that such competition is sorely lacking, at least in rural and other less-populated areas of the country. Indeed, particularly given the wide variance at more local levels, the fact that even the weighted nationwide HHI is well outside of a healthy competitive range indicates problems in the competitiveness of the nationwide market.

These market characteristics make clear that the mobile wireless market is not effectively

⁴² See, *Twentieth Mobile Wireless Competition Report*, 32 FCC Rcd. at 8988 ¶ 33.

⁴³ *Id.*

⁴⁴ *Id.* at 8990, chart II.C.1; see also *Nineteenth Mobile Wireless Competition Report*, 31 FCC Rcd. at 10,551, chart II.C.3.

⁴⁵ *Twentieth Mobile Wireless Competition Report*, 32 FCC Rcd. at 8988 ¶ 33.

competitive and smart Commission intervention is appropriate to enact tailored policies to ameliorate the digital divide. In past reports, the Commission has relied almost exclusively on this type of information, but a complete review of the market should include an assessment of real-world experience and data related to deployment, as discussed below.

B. Recent Commission Proceedings Recognize That There is Not Nationwide Deployment – Much Less Competition – of Mobile Wireless Service.

The new statute also requires the Commission to assess the state of deployment of communications capabilities.⁴⁶ Through numerous proceedings, the Commission has acknowledged the lack of deployment throughout the entirety of the mobile wireless ecosystem. Further, Chairman Pai has raised concerns that much of the country lacks reliable wireless service⁴⁷ and that this lack of deployment threatens the safety of Americans.⁴⁸ In its first *Communications Marketplace Report*, the Commission should incorporate its findings from existing proceedings, as well as information about consumers’ and CCA members’ experience to provide an accurate assessment of the state of deployment. An accurate assessment will help

⁴⁶ Div. P—RAY BAUM’S Act of 2018, Title IV: FCC Consolidated Reporting, Section 1.

⁴⁷ Ajit Pai, *Bridging the Digital Divide*, FCC BLOG (July 13, 2017, 2:25 PM), <https://www.fcc.gov/news-events/blog/2017/07/13/bridging-digital-divide> (“*Bridging the Digital Divide*”) (“Last month, I logged a five-state, 18-stop, 1,672-mile road trip from Wisconsin to Wyoming to learn firsthand about the connectivity challenges in that part of the country. And this week, I took a three-state, 8-stop, 800-mile drive through rural West Virginia, Virginia, and Maryland that highlights how the digital divide is hardly confined to the middle of our nation but is a real and pressing challenge just a short drive from our nation’s capital.”); *id.* (“you can’t even get 4G LTE wireless service on more than 7,700 road miles in rural parts” of Virginia. “And this is unfortunately common nationwide.”)

⁴⁸ Ajit Pai, Chairman, FCC, Remarks at the Stockholm, Sweden “Broadband for All” Seminar, (June 26, 2017) (“I drove over 1,600 miles, making 18 stops across five states to learn first-hand about the connectivity challenges facing many rural communities. On a visit to the Rosebud Sioux Indian Reservation, I learned about a woman who was found dead in her home, clutching her cellphone. She had dialed for help 38 times—but never got a response because there was no wireless coverage.”).

drive Commission policies that will bridge the digital divide.

Providing the clearest example of challenges to deployment, the Commission’s Mobility Fund Phase II (“Mobility Fund II”) proceeding is premised on an inherent lack of ubiquitous wireless service throughout the United States. Indeed, the *Mobility Fund II Order* was adopted to address the “rural and high-cost areas of our country [that] have been left behind.”⁴⁹ As this proceeding demonstrates, many parts of the country still do not have access to any mobile wireless service. The Commission recognized this in March of 2017 and directed \$4.53 billion over the next decade to close “coverage gaps.” Notably, the Commission decided to fund only one provider per service area based on the premise that many areas “are challenging for even one to serve.”⁵⁰ As Chairman Pai has aptly explained, “many rural areas continue to be dead zones” for mobile wireless service.⁵¹ Likewise, Commissioner Brendan Carr has expressed concern that “there are still too many communities that lack access to high-speed wireless service. This is particularly so in rural America, where sparse populations and challenging terrain drive up the cost of deployment.”⁵² Indeed, numerous members of Congress have echoed the Commissioners’ concerns about insufficient and inaccessible wireless coverage throughout the United States in the context of advocating for a robust Mobility Fund II challenge process.⁵³ As

⁴⁹ *Mobility Fund II Order*, 32 FCC Rcd. at 2153 ¶ 1.

⁵⁰ *Id.* 2187 ¶ 82.

⁵¹ *Id.* Statement of Chairman Pai at 2282.

⁵² *Connect America Fund; Universal Service Reform – Mobility Fund*, Second Order on Reconsideration, 33 FCC Rcd. 2540, Statement of Commissioner Carr, 2569 (2018); *see also Twentieth Mobile Wireless Competition Report*, 32 FCC Rcd. Statement of Commissioner Clyburn at 9057 (“Far too many in this country do not have reliable and affordable 3G service. In fact, our recent Mobility Fund Phase II proceeding is designed to bring ubiquitous mobile wireless service to millions: yes, I said *millions* of Americans who are still waiting for mobile wireless service with the download speeds others enjoy.”).

⁵³ *See, e.g., Petition of Joe Manchin* at 2 (“I have driven nearly every mile of road in [West

noted above, there is bipartisan support to close the digital divide with accurate data to assess the state of deployment across the country.⁵⁴

Similarly, the Commission’s proceeding to address barriers to wireless infrastructure siting⁵⁵ recognizes that small cell deployment remains lacking across the United States. As Commissioner Carr has noted, “[g]oing forward, upwards of 80% of new deployments are expected to be small cells. But while technology is advancing, our infrastructure deployment rules have been stuck in the analog era. [...] This threatens to hold us back in the race to 5G or limit the business case to densely populated or affluent areas. That is not success. But with [FCC action] we can flip the business case for thousands of communities.”⁵⁶ Commissioner O’Rielly has similarly recognized that “wireless services only become a reality if the infrastructure is in place to deliver them to the American consumer.”⁵⁷ And Commissioner Rosenworcel has explained that “[i]f we want to lead in 5G, we need to modernize our approach to wireless infrastructure. We need to streamline the process for the deployment of small cells because over the next eight years we will require as many as 800,000 of them.”⁵⁸ Chairman Pai

Virginia] and experienced first-hand the loss of broadband coverage along the way”).

⁵⁴ See, *Wicker/Hassan Letter* (The Mobility Fund II “map is intended to reflect areas that lack unsubsidized mobile 4G LTE service, but it unfortunately falls short of an accurate depiction of areas in need of universal service support. Therefore, the FCC’s challenge process will play an outsized role in determining appropriate eligible areas for MFII support.”).

⁵⁵ See, *Accelerating Wireless Broadband Deployment by Removing Barriers to Infrastructure Deployment*, Notice of Proposed Rulemaking and Notice of Inquiry, 32 FCC Rcd. 3330 (2017) (“*Wireless Infrastructure NPRM*”).

⁵⁶ Statement of Commissioner Brendan Carr, *Accelerating Wireless Broadband Deployment by Removing Barriers to Infrastructure Investment*, Second Report and Order, WT Docket No. 17-79 at 1-2 (rel. Mar. 30, 2018).

⁵⁷ See, *Wireless Infrastructure NPRM*; Statement of Commissioner O’Rielly at 3388.

⁵⁸ Statement of Commissioner Jessica Rosenworcel, *Accelerating Wireless Broadband Deployment by Removing Barriers to Infrastructure Investment*, Second Report and Order, WT

has further acknowledged the connection between wireless infrastructure deployment and closing the country's digital divide, explaining that "if we can make the deployment of wireless infrastructure easier, consistent with the public interest—then we can help close the digital divide in our country. This is especially true for low-income and minority communities, which disproportionately rely on wireless service as their primary or sole on-ramp to the Internet."⁵⁹

Further, CCA's members and their customers have experienced firsthand the lack of deployment in rural and remote areas of the country. The reforms that CCA recommends below and in other FCC proceedings are critical to deploying competitive services. As the Commission knows, it is often competitive providers that are willing to deploy services in the most remote parts of the country. Therefore, the policies below are necessary to ensure all Americans have access within a competitive mobile ecosystem.

Docket No. 17-79 at 1 (rel. Mar. 30, 2018).

⁵⁹ *Id.* Statement of Chairman Pai at 3385.

III. THE COMMISSION MUST ASSESS REGULATORY AND MARKETPLACE BARRIERS TO COMPETITION AND FOSTER POLICIES TO ADDRESS CHALLENGES TO COMPETITION AND DEPLOYMENT.

Numerous regulatory barriers and marketplace practices exist that thwart competition in the mobile wireless ecosystem. An objective analysis of these practices will provide a sound basis for future Commission policy decisions. As the *Public Notice* acknowledges, the new statute directs the Commission to assess “whether laws, regulations, regulatory practices or demonstrated marketplace practices pose a barrier to competitive entry into the mobile wireless marketplace, or to the competitive expansion of existing providers.”⁶⁰ The statute then directs the Commission to identify its agenda for addressing existing challenges to competition and deployment.⁶¹ While the Commission has taken several important steps to ensure that every American has access to mobile wireless services and to bridge the digital divide, it must continue to pursue an agenda that will ensure these goals are achieved, as directed by the statute.

The next few years will be a time of significant technological change in the mobile wireless market. Many carriers are moving toward next-generation deployments and 5G, and IoT technologies are rapidly evolving. What’s more, the market has evolved such that marketplace practices of cable operators can now pose additional barriers to competitive entry and competitive expansion for rural and regional service providers.⁶² In light of these changes, the time is ripe for the Commission to address potential barriers to a competitive mobile wireless market.

Further, given the changes the Commission has recently enacted, it should continue to

⁶⁰ *Public Notice* at 1.

⁶¹ Div. P—RAY BAUM’S Act of 2018, Title IV: FCC Consolidated Reporting, Section 1.

⁶² *See, e.g.*, Section III.G.

seize the momentum to reduce barriers to deployment and adopt policies that promote competition. Failure to do so could hinder (or, potentially, block) the Commission's recent efforts. Without the pro-competitive policies suggested herein, some carriers may have to reduce or discontinue service to the detriment of consumers.

Below, CCA highlights existing barriers to wireless competition and recommends actions to address those challenges.

A. The Commission Should Ensure Carriers Have Access to Spectrum Resources Needed to Deploy Mobile Wireless Services.

Access to spectrum for competitive carriers is imperative for deployment of mobile broadband and, in particular, 5G. The Commission should continue to make low-, mid-, and high-band spectrum available, because all bands are important for mobile networks. Spectrum resources will determine the viability of competitive carriers as networks move into next-generation technologies and the demand for data increases.

1. *Spectrum Frontiers* Proceeding

The Commission should continue to free up more spectrum for licensed mobile wireless use in the *Spectrum Frontiers* proceeding.⁶³ The Commission can achieve this by expeditiously auctioning 28 GHz and 24 GHz spectrum through Auctions 101 and 102,⁶⁴ and by moving forward with its proposal to simultaneously auction the 37 GHz, 39 GHz, and 47 GHz bands.⁶⁵

⁶³ *Use of Spectrum Bands Above 24 GHz For Mobile Radio Services et al.*, Third Report and Order, Memorandum Opinion and Order, and Third Further Notice of Proposed Rulemaking, FCC No. 18-73, GN Docket No. 14-177, WT Docket No. 10-112 (rel. June 8, 2018).

⁶⁴ *See, Auctions of Upper Microwave Flexible Use Licenses for Next-Generation Wireless Services, Comment Sought on Competitive Bidding Procedures for Auctions 101 (28 GHz) and 102 (24 GHz), Bidding in Auction 101 Schedule to Begin November 14, 2018*, Public Notice, FCC No. 18-43, AU Docket No. 18-85 (rel. Apr. 17, 2018).

⁶⁵ *See, Ajit Pai, Coming Home*, FCC BLOG (July 11, 2018, 1:35 PM), <https://www.fcc.gov/news-events/blog/2018/07/11/coming-home> ("I'm excited to announce my plan to move forward with

Auctions for these bands will allow all stakeholders to fairly acquire valuable millimeter wave (“mmW”) spectrum before these bands are foreclosed by the duopoly of AT&T and Verizon.⁶⁶ Offering mmW spectrum to all carriers at auction will provide the industry with a meaningful opportunity to develop a competitive marketplace today and for next-generation 5G services.⁶⁷

As part of its work to advance these spectrum auctions, the FCC should ensure its anti-collusion rules are not overly restrictive.⁶⁸ As currently written, the anti-collusion rules are too restrictive, especially for competitive providers, and make it hard for them to conduct business as usual.⁶⁹ The FCC’s anti-collusion rules should not inadvertently force providers to stall construction for essential communications deployments, and in turn delay advanced communications to many Americans.⁷⁰ To that end, CCA reiterates its position that the 28 GHz and 24 GHz auctions should have clear, separate end dates.⁷¹

2. *Spectrum Horizons* Proceeding

CCA also supports the FCC’s efforts to make more effective use of spectrum at 95 GHz and beyond through the Commission’s *Spectrum Horizons* proceeding.⁷² The Commission’s

a single auction of three more millimeter-wave spectrum bands—the 37 GHz, 39 GHz, and 47 GHz bands—in the second half of 2019.”).

⁶⁶ See, Comments of Competitive Carriers Association at 10, GN Docket No. 14-177 (filed Jan. 23, 2018).

⁶⁷ Letter from Courtney Neville, Policy Counsel, Competitive Carriers Association, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 14-177 (filed Oct 20, 2017).

⁶⁸ See, Comments of Competitive Carriers Association at 6-10, AU Docket No. 18-85 (filed May 9, 2018).

⁶⁹ *Id.*

⁷⁰ *Id.* at 8.

⁷¹ *Id.* at 6-7.

⁷² *Spectrum Horizons*, Notice of Proposed Rulemaking and Order, FCC No. 18-17, ET Docket No. 18-21 (rel. Feb. 28, 2018) (“*Spectrum Horizons NPRM*”).

policies in that proceeding should be sufficiently flexible to allow for innovation and to support terrestrial operations, particularly licensed mobile use, in these bands. Because potential services and devices for 95 GHz spectrum have yet to be developed, the Commission should refrain from implementing rules that would restrict future licensed mobile wireless operations and should be careful not to foreclose innovation with overly restrictive rules.⁷³ Further, while CCA supports the Commission’s efforts to explore utilizing 95 GHz spectrum and beyond, CCA reiterates concerns that the FCC should prioritize access to mid-band and mmW spectrum identified in the *Spectrum Frontiers* proceeding and current legislation, including S. 1682, the AIRWAVES Act,⁷⁴ to allow providers to make use of these bands as soon as possible.⁷⁵

3. 3.7 – 24 GHz Notice of Inquiry

Similarly, CCA applauds the FCC’s 2017 Notice of Inquiry seeking comment on potential opportunities for flexible use of spectrum between 3.7 and 24 GHz.⁷⁶ As noted within, mid-band spectrum provides a unique opportunity to advance the United States’ position in the race to 5G. Indeed, CCA strongly agrees with Chairman Pai that mid-band spectrum will help to “close the mobile digital divide so that American consumers, especially in rural areas, won’t be eternally ‘stuck in the middle’” themselves.⁷⁷ And as Commissioner O’Rielly aptly recognizes, there are numerous potential avenues for making the 3.7-4.2 GHz band available for mobile

⁷³ Reply Comments of Competitive Carriers Association at 4, ET Docket No. 18-21 (filed May 17, 2018).

⁷⁴ AIRWAVES Act, S. 1682, 115th Cong. (2017).

⁷⁵ *See, supra*, note 74 at 2.

⁷⁶ *Expanding Flexible Use in Mid-Band Spectrum Between 3.7 and 24 GHz*, Notice of Inquiry, Notice of Inquiry, 32 FCC Rcd 6373 (2017) (“*Mid-Band NOI*” or “*NOI*”).

⁷⁷ Statement of Chairman Ajit Pai, *Expanding Flexible Use in Mid-Band Spectrum Between 3.7 and 24 GHz*, Notice of Inquiry, GN Docket No. 17-183 (rel. Aug. 3, 2017).

use.⁷⁸ CCA, therefore, supports ambitious, but prudent, action to make more 3.7-24 GHz spectrum available for coming next-generation deployments.⁷⁹

Specifically, CCA agrees with comments on record that recommend that the FCC explore ways to support licensed, flexible use in the 3.7-4.2 GHz band.⁸⁰ At the same time, an interference plan is necessary to protect incumbent users currently providing critical services to unserved, underserved, and rural areas, while simultaneously creating opportunities for new wireless applications throughout the band and across the country. Fortunately, the record reflects several approaches to supporting licensed, flexible use of the band while protecting incumbents, including but not limited to: facilitating alternative transmission options for 3.7-4.2 GHz incumbents; changes to Fixed Satellite Service (“FSS”) service rules that could improve the prospects of sharing in the band; structuring market-based or other economic incentives for incumbent relocation (e.g., auction, and/or payment of relocations expenses); or some combination of multiple approaches. Each of these approaches has received attention in the record and should be further considered.⁸¹ But we need more than just exploration or

⁷⁸ Commissioner Michael O’Rielly, Federal Communications Commission, “A Mid-Band Spectrum Win in the Making,” (Jul. 10, 2017) at <https://www.fcc.gov/news-events/blog/2017/07/10/mid-band-spectrum-win-making>.

⁷⁹ See, Reply Comments of Competitive Carriers Association, GN Docket No. 17-183 (filed Nov. 15, 2017) (“CCA Mid-Band Reply Comments”); Comments of Competitive Carriers Association, RM-11791, GN Docket No. 17-183 (filed Aug. 7, 2017) (“CCA BAC Petition Comments”).

⁸⁰ See, Comments of T-Mobile, GN Docket No. 17-183 (filed Oct. 2, 2017) at 7-13 (“T-Mobile Comments”); Comments of Verizon, GN Docket No. 17-183 (filed Oct. 2, 2017) at 13-14 (“Verizon Comments”); Comments of CTIA, GN Docket No. 17-183 (filed Oct. 2, 2017) at 2 (“CTIA Comments”); Comments of Nokia, GN Docket No. 17-183 (filed Oct. 2, 2017), at 2 (“Nokia Comments”); Comments of Ericsson, GN Docket No. 17-183 (filed Oct. 2, 2017) at 5-6 (“Ericsson Comments”).

⁸¹ See, e.g., T-Mobile Comments at 15; Verizon Comments at 17-20; CTIA Comments at 10-13.

consideration; we need action now to unleash this spectrum.

CCA likewise supports exploration of unlicensed and licensed uses in the 6 GHz bands, while ensuring adequate protection of incumbent users.⁸² Certain portions of the 6 GHz band may be suitable for licensed operations, while others could be appropriately dedicated for unlicensed services, with adequate protections for incumbent operations. The FCC should implement a specific process to determine whether and how these operations can coexist. Because of mid-band spectrum's positive traits and the potential for widespread innovation, it is important that the Commission initiate a further rulemaking to fully explore use of each of these bands to determine the optimal way to use them and thereby maximize this spectrum.⁸³

4. 3.5 GHz

Industry stakeholders also have turned a keen eye to the use of 3.5 GHz for next-generation and innovative new wireless broadband offerings.⁸⁴ For these reasons, the Commission must expeditiously conclude the 3.5 GHz rulemaking proceeding and promptly move 3.5 GHz spectrum into the marketplace in a manner that promotes investment and innovation from a variety of stakeholders.⁸⁵ Specifically, CCA and CTIA jointly submitted a compromise proposal to facilitate this mutual goal and balance the needs of a variety of stakeholders that are expected to participate in the 3.5 GHz auction. The Commission should

⁸² CCA Mid-Band Reply Comments at 7.

⁸³ CCA Comments at 4.

⁸⁴ See, *Promoting Investment in the 3550-3700 MHz Band*, Notice of Proposed Rulemaking, 32 FCC Rcd 8071, ¶ 2 (2017) ("*Notice*").

⁸⁵ See, e.g., AT&T Comments at 11; Charter Ex Parte at 3; Dynamic Spectrum Alliance Comments at 20; NCTA Ex Parte (filed March 27, 2018); Nokia Ex Parte (filed March 15, 2018); Open Technology Institute at New America and Public Knowledge Comments at 33; Ruckus Ex Parte at 1 (filed July 21, 2017); Starry Comments at 2; SouthernLinc Comments at 5; TIA Comments at 2; Verizon Comments at 1; WISPA Comments at 3.

license Priority Access Licenses (“PALs”) using Metropolitan Statistical Areas (“MSAs”) in the top 306 Cellular Market Areas (“CMAs”) and use county-based geographic area licenses in the remaining 428 CMAs.⁸⁶ This compromise proposal will reduce the more than 74,000 license areas and more than 500,000 licenses to roughly 2,700 license areas and 19,000 total licenses, as compared to a more complicated approach that would include the use census tracts or package bidding.⁸⁷ As a result, adopting CCA/CTIA’s compromise would dramatically reduce auction complexity for the Commission and bidders alike, and simultaneously promote investment in the band by providing opportunities for all parties to acquire PAL spectrum in areas that best fit their business models and investment plans.

5. Other Mid-Band Opportunities

With respect to other mid-band spectrum opportunities, the FCC should continue to pursue innovative solutions that allow providers to deploy new technologies and highlight spectrum sharing between the federal government and commercial entities. While CCA members generally prefer exclusive use, facilitating shared use of spectrum would make more spectrum available for competitive wireless carriers to provide mobile broadband services for their customers, resulting in reduced prices for consumers and increased opportunities for innovation.⁸⁸

Specifically, the Commission can take a concrete step towards more efficient use of mid-

⁸⁶ Letter from Rebecca Murphy Thompson, EVP & General Counsel, CCA and Scott K. Bergmann, Senior Vice President, Regulatory Affairs, CTIA, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 17-258 (filed. Apr. 20, 2018) (“CCA/CTIA 3.5 GHz Proposal”).

⁸⁷ *See id.* at 1-2.

⁸⁸ Comments of Competitive Carriers Association at 3, IB Docket Nos. 11-109, 12-340 (filed July 19, 2018).

band spectrum by promptly granting Ligado’s recent Amended Application to utilize 35 MHz of mid-band spectrum for deployment.⁸⁹ As the record in that proceeding makes clear, granting Ligado’s Amended Application “would help not just a single company but players across the wireless ecosystem, which would benefit from the new opportunities Ligado’s broadband deployment would generate.”⁹⁰ The Commission should move expeditiously to support innovative and efficient spectrum solutions like Ligado’s that advance broadband deployment.

6. 2.5 GHz Proceeding

CCA supports the FCC’s recent action to reinvigorate spectrum resources like 2.5 GHz spectrum,⁹¹ while maintaining legitimate existing users’ deployment strategies. The *2.5 GHz NPRM* addresses the largest band of contiguous spectrum below 3 GHz, of which “significant portions . . . currently lie fallow across approximately one-half of the United States, mostly in rural areas.”⁹² Accordingly, this proceeding offers a prime opportunity to increase spectrum resources for next-generation mobile operations.⁹³ CCA agrees that the Commission’s efforts to “allow more efficient and effective use of this spectrum band” will “facilitate improved access to

⁸⁹ See, Amendment to License Modification Applications of Ligado Networks LLC at 1–3, IB Docket No. 11-109 (filed May 31, 2018).

⁹⁰ Comments of TeleWorld Solutions at 2, IB Docket No. 11-109 (filed July 6, 2018).

⁹¹ *Amendment of Parts 1, 21, 73, 74 and 101 of the Commission’s Rules to Facilitate the Provision of Fixed and Mobile Broadband Access, Educational and Other Advanced Services in the 2150-2162 and 2500-2690 MHz Bands, Transforming the 2.5 GHz Band*, Notice of Proposed Rulemaking, FCC 18-59, WT Docket Nos. 03-66, 18-120 (rel. May 10, 2018) (“*2.5 GHz NPRM*”).

⁹² Ajit Pai, *On the Road Again*, FCC BLOG (July 25, 2018 9:55 AM), <https://www.fcc.gov/news-events/blog/2018/04/18/road-again> (“*On the Road Again*”).

⁹³ See, *FCC Takes Steps to Transform the 2.5 GHz Band for Next Generation 5G Connectivity*, Press Release, WT Docket No. 18-120 (rel. May 10, 2018).

next-generation wireless broadband, including 5G.”⁹⁴ CCA, therefore, encourages proceedings like the 2.5 GHz NPRM in which the Commission revisits the use of “a scarce public resource that could be used to connect millions of Americans.”⁹⁵

7. 600 MHz Transition

With the close of the 600 MHz incentive auction in March 2017,⁹⁶ the Commission should continue its work to ensure a smooth transition to clear valuable 600 MHz spectrum. As Chairman Pai has acknowledged, it is “imperative that we move forward with equal zeal to ensure a successful post-auction transition, including a smooth and efficient repacking process.”⁹⁷ T-Mobile has likewise confirmed on the record that “keeping the 600 MHz relocation on schedule offers one of the most promising means available to accelerate and expand wireless broadband deployment in the United States, especially for the hundreds of thousands of square miles of rural and remote portions of the country where residents may have never had wireless broadband connections or where competition is limited.”⁹⁸ Accordingly, the Commission should keep relocation on track and assist efforts of wireless carriers and broadcasters to facilitate a smooth transition to wireless use of this spectrum.⁹⁹

⁹⁴ 2.5 GHz NPRM at ¶ 1.

⁹⁵ *On the Road Again*.

⁹⁶ *Incentive Auction Closing and Channel Reassignment*, Public Notice, DA 17-314, AU Docket No. 14-252 (rel. Apr. 13, 2017).

⁹⁷ *Statement of Chairman Ajit Pai on the Completion of the Incentive Auction and the Start of the Post-Auction Transition Period*, Press Release (rel. Apr. 13, 2017), <https://www.fcc.gov/document/statement-chairman-pai-completion-incentive-auction>.

⁹⁸ Letter from Steve B. Sharkey, Vice President, Government Affairs, T-Mobile USA, Inc., to Marlene H. Dortch, Secretary, FCC, GN Docket No. 12-268, MB Docket No. 16-306, at 2 (filed Aug. 4, 2017).

⁹⁹ *Id.*

8. Cellular Licensing and Wireless Radio Services Reform

CCA supports the Commission's efforts to reduce unnecessary regulatory requirements for cellular licensing¹⁰⁰ and wireless radio services,¹⁰¹ as these efforts will minimize administrative burdens and allow licensees to focus on offering ubiquitous service. As the Commission continues its efforts to reform wireless radio services—particularly with respect to license renewals—CCA urges the Commission to take into account marketplace realities associated with spectrum construction and deployment. Specifically, the FCC should reject proposals to implement complex and detailed renewal showings for geographic-based wireless services.¹⁰² Additional construction requirements may not target the areas that need them the most, resulting in uneconomic and/or duplicative buildout, as well as an inefficient use of resources, ultimately “divert[ing] limited capital away from areas that have proven need.”¹⁰³ In addition, many of CCA's members—including small and rural carriers—should be directing their resources to building out rural communities, not diverting those resources towards complying with additional administrative procedures.¹⁰⁴

¹⁰⁰ See, *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; 2016 Biennial Review of Telecommunications Regulations*, Third Report and Order, FCC No. 18-92, WT Docket Nos. 10-112, 16-138 (rel. July 13, 2018).

¹⁰¹ See, *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*, Second Report and Order and Further Notice of Proposed Rulemaking, FCC No. 17-105, WT Docket No. 10-112, ¶ 50 (rel. Aug. 3, 2017).

¹⁰² Reply Comments of Competitive Carriers Association at 4, WT Docket No. 10-112 (filed Oct. 31, 2017).

¹⁰³ *Id.*

¹⁰⁴ *Id.*

Rather, CCA supports incentive-based buildout requirements and longer license renewal terms to facilitate service to unserved and underserved areas.¹⁰⁵ To the extent the FCC modifies the current license renewal regime, it should extend the renewal certification rule proposed for site-based wireless services to geographic-based services.¹⁰⁶ Any new buildout and renewal requirements should encourage deployments in the totality of the license area—including rural, urban and suburban areas—consistent with the goal of ubiquitous mobile broadband deployment.¹⁰⁷

B. The Commission Should Continue to Address Barriers to Wireless Infrastructure Deployment.

As CCA has depicted in Appendix A, some of the greatest barriers to mobile wireless competition and deployment are federal, state, and local regulations that impede buildout of wireless infrastructure.¹⁰⁸ The Commission has taken major steps towards removing federal regulatory barriers to infrastructure deployment. The Commission should act quickly to continue its infrastructure siting reform by removing state and local barriers and addressing uncertainties associated with Twilight Towers.

CCA applauds the Commission’s recent work to address concerns related to the National Environmental Policy Act review, the National Historic Preservation Act, and Section 106 review through the *Wireless Infrastructure* proceeding.¹⁰⁹ As CCA has noted, the Commission’s

¹⁰⁵ *Id.* at 3.

¹⁰⁶ *Id.*

¹⁰⁷ *Id.*

¹⁰⁸ See, *Wireless Infrastructure NPRM*, 32 FCC Rcd. Statement of Chairman Pai at 3385 (“I have heard time and time again how current rules and procedures impede the timely, cost-effective deployment of wireless infrastructure.”).

¹⁰⁹ *Accelerating Wireless Broadband Deployment by Removing Barriers to Infrastructure Investment*, Second Report and Order, FCC No. 18-30, WT Docket No. 17-79, ¶ 4 (rel. Mar. 30,

reforms to streamline the process for historic and environmental review expedite the siting process, assuage concerns and confusion surrounding siting applications, and further deployment of advanced technologies for all consumers.¹¹⁰ The Commission’s *Wireless Infrastructure Second Report and Order* is therefore an important step in removing barriers to deployment.¹¹¹ This action—which cuts the regulatory costs of deployment, trims months off of deployment timelines, and incentivizes thousands of new wireless deployments¹¹²—is precisely the type of regulatory action needed to enable competitive expansion of mobile wireless communications across the country.

To ensure widespread deployment of mobile broadband, the Commission must continue to reduce barriers to infrastructure deployment by addressing state and local siting issues. The record in this proceeding confirms that Sections 253 and 332 of the Communications Act, as amended, provide the Commission the necessary authority to address local siting processes that

2018) (“*Wireless Infrastructure Second Report and Order*”) (clarifying that deployment of small wireless facilities is not a “federal undertaking” or “major federal action”, and thus not subject to requirements for certain federal historic preservation and environmental reviews); *see also Accelerating Wireless Broadband Deployment by Removing Barriers to Infrastructure Deployment*, Report and Order, 32 FCC Rcd. 9760 (2017) (relieving the historic preservation review requirement for replacement utility poles that meet specified criteria and consolidating FCC historic preservation requirements and procedures into a single rule).

¹¹⁰ Letter from Rebecca Murphy Thompson, EVP & General Counsel, CCA, to Marlene H. Dortch, Secretary, FCC, WT Docket Nos. 17-79, 15-180, WC Docket No. 17-84 (filed Mar. 16, 2018).

¹¹¹ *Wireless Infrastructure Second Report and Order* at ¶ 1 (“next-generation wireless networks, in many areas, will increasingly need to rely on network densification, whereby spectrum is reused more frequently through the deployment of far more numerous, smaller, lower-powered base stations or nodes that are much more densely spaced. Even today, existing 4G networks are being similarly densified to meet capacity demands. Facilitating such densification will require the elimination or mitigation of regulatory and other barriers to network deployment.”).

¹¹² *Wireless Infrastructure Second Report and Order* at ¶ 5.

effectively prohibit carriers from providing telecommunications services.¹¹³ Inconsistent and overly burdensome state and local siting regulations and regulatory practices act as a barrier to competitive entry and to the competitive expansion of existing providers of communications services.

As CCA has previously explained, many localities continue to charge exorbitant siting fees that vary by jurisdiction and lack basis in actual costs, which ultimately prohibits necessary deployments.¹¹⁴ Rural and regional providers often lack the resources and leverage necessary to attain reasonable siting arrangements with localities intent on charging exorbitant fees.¹¹⁵ And even though larger providers may be able to enter into individual arrangements, these often result in inflated rates that divert limited funds from investment in higher-cost areas.¹¹⁶ Fees charged by state and local governments should be cost-based, nondiscriminatory, and publicly available.

In addition, the Commission should address unreasonable review periods for siting applications by shortening Section 332 shot clocks to address the proliferation of small cells and today's network buildout needs.¹¹⁷ Many jurisdictions maintain slow review practices that stunt deployment and effectively prohibit carriers' ability to expand into those markets. Accordingly,

¹¹³ *See*, Letter from Rebecca Murphy Thompson, EVP & General Counsel, CCA, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 17-79 (filed June 7, 2018); *see also*, Letter from Kenneth J. Simon, Senior Vice President and Senior Counsel, Crown Castle, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 17-79 (filed June 7, 2018).

¹¹⁴ Letter from Rebecca Murphy Thompson, EVP & General Counsel, CCA, to Marlene H. Dortch, Secretary, FCC, WT Docket Nos. 17-79, 15-180, WC Docket No. 17-84, at 2 (filed July 16, 2018).

¹¹⁵ *Id.*

¹¹⁶ *Id.*

¹¹⁷ Letter from Rebecca Murphy Thompson, EVP & General Counsel, CCA, to Marlene H. Dortch, Secretary, FCC, WT Docket Nos. 17-79, 15-180, WC Docket No. 17-84, at 2 (filed June 25, 2018).

the Commission should intervene to implement reasonable timeframes for addressing siting applications.

In addition to addressing unreasonable application review periods and fees, the Commission should address inequitable right-of-way management charges. This includes fees to use public poles or installing poles in a right-of-way, allowing carriers to submit batch applications, and clarifying that any aesthetic requirements imposed by a state and local government should be reasonable and explicit before a siting application is filed.¹¹⁸

In light of these state and local barriers to deployment, CCA urges the Commission to interpret the language of Sections 253 and 332 to address state and local regulations that are effectively prohibiting services in these areas and that are further limiting competitive entry and expansion in these areas. By confronting these issues, which are prevalent across the country, the FCC will enable competitive providers to bridge the digital divide where needed.

The Commission also should expeditiously conclude the long-standing Twilight Towers proceeding¹¹⁹ by working alongside the Advisory Council on Historic Preservation (“ACHP”) to implement its Program Comment. The Twilight Towers proceeding affects a large number of towers—potentially thousands—on which collocated facilities would further wireless infrastructure deployment and bring substantial improvements in broadband deployment and services.¹²⁰ CCA applauds the Commission for creating a concrete path forward and for clarifying that the Commission will not take enforcement action relating to Twilight Towers

¹¹⁸ *Id.* at 3.

¹¹⁹ *Comment Sought on Draft Program Comment for the Federal Communications Commission’s Review of Collocations on Certain Towers Constructed Without Documentation of Section 106 Review*, Public Notice, 32 FCC Rcd. 10,715 (2017) (“*Twilight Towers Public Notice*”).

¹²⁰ *Id.*

construction. Such clarification provides much-needed certainty to carriers that have been in limbo for over a decade. CCA urges the Commission to implement the clarifications and practical improvements proposed on the record, such as ensuring the complaint process does not undermine the proposed exception to requiring Section 106 review and clarifying the evidentiary standard for complaints.¹²¹ Adopting the Commission’s concrete plan for Twilight Towers will allow these towers to move forward without the regulatory uncertainty that previously stymied use of these towers for deployment.

C. The Commission Should Ensure Universal Service Fund Resources Reach Underserved and Hard-To-Serve Areas.

The Universal Service Fund (“USF”) is one of the Commission’s key tools to addressing barriers to competition and deployment. In particular, Mobility Fund II is necessary for carriers to deploy, maintain, and upgrade broadband networks in underserved and hard-to-serve areas. In addition, general USF contribution reform can ensure adequate resources are available to support the areas of greatest need.

CCA applauds the Commission for moving towards implementation of Mobility Fund II by working to adopt procedures for the challenge process and technical implementation “that efficiently resolve[] disputes about areas eligible for MF-II support.”¹²² Obtaining accurate data through the challenge process is critical to ensuring that Mobility Fund II support reaches the

¹²¹ See, Comments of Competitive Carriers Association at 2-3, WT Docket Nos. 17-79, 15-180 (filed Feb. 9, 2018).

¹²² *Connect America Fund, Universal Service Reform – Mobility Fund*, Report and Order and Further Notice of Proposed Rulemaking, 32 FCC Rcd. 2152, 2235 ¶ 226 (2017) (“*MF-II Report and Order*”). See also *Connect America Fund, Universal Service Reform – Mobility Fund*, Order on Reconsideration and Second Report and Order, 32 FCC Rcd. 6282, 6296 ¶ 27 (2017) (“*MF-II Challenge Process Order*”) (“we adopt a streamlined challenge process that will efficiently resolve disputes about areas deemed presumptively ineligible for MF-II support.”).

areas most in need of resources for deployment. As Chairman Pai has recognized, “[i]t is critical that we use accurate data to determine which areas will be included” in the Mobility Fund II reverse auction.¹²³ Over two-dozen bipartisan Senators also have flagged that the FCC’s current eligibility map “falls short of an accurate depiction of areas in need of universal support,” meaning that the “challenge process will play an outsized role in determining appropriate eligible areas for MFII support.”¹²⁴ These Senators demonstrate the importance of the challenge process, noting that without it, “[c]ommunities in our states that are not initially eligible or successfully challenged will be ineligible for up to \$4.53 billion in support over the next 10 years, exacerbating the digital divide and denying fundamental economic and safety opportunities to rural communities.”¹²⁵ Accurately identifying underserved areas that are currently ineligible for the Mobility Fund II program will help carriers expand access to broadband services to further close the digital divide.

CCA, therefore, urges the Commission to adopt rules in the current Mobility Fund II proceeding that will ensure a fair and administrable challenge process that does not place unnecessary burden on smaller carriers. This includes continuing to ensure that the challenge process provides challengers and challenged parties with sufficient time to respond. As CCA has explained, “challengers will incur disproportionately large labor and travel costs based on the

¹²³ *Bridging the Digital Divide*.

¹²⁴ *Wicker/Hassan Letter*; see also Letter from Senator Joe Manchin III to Ajit Pai, Chairman, FCC (Mar. 29, 2018), <https://docs.fcc.gov/public/attachments/DOC-351359A1.pdf> (“Mobility Fund II has the opportunity to significantly help level the playing field between rural and urban areas, allowing states like mine to compete in a 21st century economy. Ensuring the eligible areas map reflects the real-world experience of real people is essential to the success of this program.”).

¹²⁵ *Wicker/Hassan Letter*.

carriers' network footprints and the eligible map areas.”¹²⁶ CCA applauds the Commission's Order on Reconsideration that addressed some of these concerns by modifying the parameters for the challenge process to “significantly reduce the burden on potential challengers while not unduly compromising the Commission's interest in collecting accurate data that reflects consumers' experience.”¹²⁷ CCA agrees with the Commission that a 400-meter buffer will result in more accurate mapping while avoiding overly burdensome challenge process procedures.¹²⁸ The Commission should therefore deny Verizon's Application for Review¹²⁹ seeking to vacate the modifications that the Commission has made to improve the challenge process.

In addition to its work in the Mobility Fund II proceeding, the FCC should continue to pursue contribution reform policies that level the playing field for providers contributing to, and taking from, USF programs. The current mechanisms for calculation are outdated and complicated. Further, the current USF contribution base is not sustainable enough to meet the need for subsidies, particularly in rural areas.

D. The Commission's Proposed Supply Chain Security Rules Will Harm Mobile Wireless Competition.

CCA supports efforts to harden the nation's telecommunications networks against cyberattacks and vulnerabilities.¹³⁰ At the same time, the FCC must enact policies that avoid

¹²⁶ Comments of Competitive Carriers Association at 2, WC Docket No. 10-90, WT Docket No. 10-208 (filed Nov. 8, 2017).

¹²⁷ *Connect America Fund; Universal Service Reform – Mobility Fund*, Order on Reconsideration, DA 18-427, WT Docket Nos. 10-90, 10-208, ¶ 4 (rel. Apr. 30, 2018).

¹²⁸ *See*, Reply of Competitive Carriers Association to Verizon's Application for Review at 2, WC Docket No. 10-90, WT Docket No. 10-208 (filed July 23, 2018).

¹²⁹ Application for Review of Verizon, WC Docket No. 10-90, WT Docket No. 10-208 (filed June 21, 2018).

¹³⁰ *See*, Comments of Competitive Carriers Association at 1, WC Docket No. 18-89 (filed June 1, 2018) (“CCA has taken a leading role in supporting cybersecurity and network security

harm to CCA’s members and millions of rural consumers.

In particular, the proposed rules in the FCC’s recent *Supply Chain NPRM* will directly harm competitive carriers and the rural consumers they serve. The *Supply Chain NPRM* seeks comment on a rule that would prohibit, on a going forward basis, the use of USF support to purchase or obtain any equipment or services produced or provided by any company posing a national security threat to the integrity of communications networks or the communications supply chain.¹³¹ As CCA has explained, the proposed rule would “potentially devastate the ability of carriers receiving USF support to continue to provide service to millions of Americans in rural and other high-cost areas.”¹³² In addition, the proposed rule exceeds the FCC’s statutory authority and is unconstitutional.¹³³

Rather than imposing harmful regulations that will either put carriers out of business or severely limit their ability to compete in the wireless market, the Commission should work with other expert agencies, like the Department of Homeland Security and the Department of Commerce, to craft a whole-government approach to cybersecurity.¹³⁴ These agencies have already taken steps to assess telecommunications supply chain risks.¹³⁵ Rather than creating its own harmful, piecemeal regulations, the Commission should defer to these expert agencies, and

initiatives in light of the pressing need to secure the United States’ telecommunications networks against hostile foreign actors.”).

¹³¹ *Protecting Against National Security Threats to the Communications Supply Chain Through FCC Programs*, Notice of Proposed Rulemaking, FCC No. 18-42, WC Docket No. 18-89, Appendix A (rel. Apr. 18, 2018).

¹³² *See*, Comments of Competitive Carriers Association at 2, WC Docket No. 18-89 (filed June 1, 2018).

¹³³ *Id.* at 15-27, 40-43.

¹³⁴ *Id.* at 20.

¹³⁵ *Id.* at 20-21.

as necessary, provide technical expertise.¹³⁶ Coordination with these national security agencies can lead to more narrowly-tailored policies to protect against cybersecurity risks without the substantial harm to competitive carriers that will result from the *Supply Chain NPRM* proposed rules.

E. Spectrum Aggregation Through Secondary Market Transactions Threatens Competitive Carriers' Ability to Compete in the Transition to 5G.

Spectrum consolidation is increasingly a threat to competitive carriers' ability to compete in the transition to next-generation technologies due to a rash of AT&T and Verizon transactions to purchase a vast swath of spectrum resources, including a recent focus on 5G-imperative mmW spectrum.¹³⁷ These transactions strengthen the duopoly of AT&T and Verizon and decrease competition, especially in light of the Commission's consent to the recent AT&T/FiberTower¹³⁸ and Verizon/Straight Path¹³⁹ transactions. These two transactions further concentrated spectrum from the 28 GHz and 39 GHz bands in the hands of AT&T and Verizon, which largely control these valuable bands.¹⁴⁰

The Commission should consider the potentially harmful effects of mergers initiated by

¹³⁶ *Id.* at 22.

¹³⁷ *See*, notes 36 and 37, *supra*.

¹³⁸ *Application of AT&T Mobility Spectrum LLC and FiberTower Corporation for Consent to Transfer Control of 39 GHz Licenses*, Memorandum Opinion and Order, 33 FCC Rcd. 1251 (2018).

¹³⁹ *Application of Verizon Communications, Inc. and Straight Path Communications, Inc. for Transfer of Control of Licenses*, Memorandum Opinion and Order, 33 FCC Rcd. 188 (2018).

¹⁴⁰ *See*, Letter from Courtney Neville, Policy Counsel, CCA, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 14-177, IB Docket Nos. 15-256 & 97-95, RM-11664, WT Docket No. 10-112, ULS File Nos. 0007652635, 0007652637, 0007765708, & 0007783428, at 3 (filed Oct. 20, 2017).

the duopoly in the larger context and reconsider these transactions.¹⁴¹ For competition to develop in the 5G marketplace, all carriers need access to the specific mmW bands that will support 5G deployments.¹⁴² But the recent AT&T and Verizon transactions mean that the vast majority of spectrum in these bands is tied up among incumbents, such that any future bidding on the remaining frequencies is unlikely to permit meaningful competitive entry in the race for 5G.¹⁴³

Going forward, the Commission should remain vigilant of efforts by the two largest providers to further control important mmW bands through secondary market transactions. The Commission also should be wary of secondary market transactions that incentivize warehousing of valuable spectrum licenses without meeting buildout requirements, to the detriment of carriers in need of that spectrum. Access to spectrum—including mmW spectrum—is vital to rural carriers’ ability to compete, particularly as the market expands into next-generation deployments.

F. The Commission Should Ensure Rules for New Technologies Do Not Stifle Innovation.

CCA commends the FCC for exploring alternative ways to enable new technologies,¹⁴⁴ but any new regulations should focus on enhancing innovation and complement existing processes that are focused on facilitating new technologies.¹⁴⁵ Development of new technologies

¹⁴¹ See, e.g., Application for Review, or in the Alternative, Petition for Reconsideration of Competitive Carriers Association at 15-16, ULS File No. 0007783428 (filed Feb. 20, 2018).

¹⁴² *Id.* at 17.

¹⁴³ *Id.*

¹⁴⁴ *Encouraging the Provision of New Technologies and Services to the Public*, Notice of Proposed Rulemaking, FCC No. 18-18, GN Docket No. 18-22, ¶ 2 (rel. Feb. 23, 2018) (“*New Technologies NPRM*”); see also, 47 U.S.C. § 157 (Communications Act § 7).

¹⁴⁵ See, Comments of Competitive Carriers Association at 1, GN Docket No. 18-22 (filed May 21, 2018) (“*CCA New Technologies Comments*”).

ensures that carriers can continue to improve service and meet growing customer demands. The Commission should ensure that any regulations or policies it develops with respect to new technology will promote innovation.

As the Commission correctly notes, the *New Technologies NPRM* provides a useful mechanism to “ensure that new technologies and services that serve the public interest can develop and be made available to the public on a timely basis.”¹⁴⁶ In its efforts to develop procedures under Part 7 of the *New Technologies NPRM*, the Commission should tread lightly so as not to inhibit current advancements, such as LTE-Unlicensed (“LTE-U”) and Licensed Assisted Access (“LAA”) under development under the Part 15 rules.¹⁴⁷ The Commission should continue to foster this innovation and allow for streamlined development of LTE-U, LAA, and any other technologies that can promote the use of unlicensed spectrum to increase capacity in a competitive wireless environment.¹⁴⁸

Additionally, CCA supports industry’s and the Commission’s initiatives to further advancements such as the Internet of Things (“IoT”) and Narrowband-IoT (“NB-IoT”). IoT, which is still under development, will link a variety of devices to the Internet, allowing consumers to connect to wearable devices, homes, vehicles, precision agriculture equipment, long-distance learning application, telehealth services, and others.¹⁴⁹ In addition, NB-IoT will not require a separate 3G or 4G network, but will be deployed in-band, and will utilize low-power, wide-area technology to boost signal propagation and improve battery life and power

¹⁴⁶ *New Technologies NPRM* ¶ 2.

¹⁴⁷ *CCA New Technologies Comments* at 3-4.

¹⁴⁸ *Id.* at 4.

¹⁴⁹ *See*, Comments of Competitive Carriers Association at 4, GN Docket No. 14-177, IB Docket Nos. 15-256, 97-95, WT Docket No. 10-112 (filed Jan. 23, 2018).

consumption for a large number of connected IoT devices.¹⁵⁰ NB-IoT will be a stepping stone to larger 5G deployments. Because these technologies are still being developed, the Commission should not adopt any premature performance metrics—such as in the *Spectrum Frontiers* proceeding—that would stifle, rather than promote, innovation of these technologies.¹⁵¹

Finally, the Commission must be mindful of future consequences related to CDMA turn-down. Verizon’s announced turn-down of CDMA by 2019,¹⁵² for instance, could have negative impacts on rural carriers and their customers. If CDMA is prematurely turned off without sufficient transition, customers of rural carriers who do not have a Voice over LTE device may be unable to place 911 or other phone calls when roaming in areas where they previously relied on Verizon’s CDMA network. This poses safety concerns for consumers, as well as concerns about the viability of rural carriers that currently rely on Verizon’s CDMA network for roaming. The Commission should ensure that any transition away from CDMA provides ample opportunity to address the practical effects for rural carriers losing access to that network.

G. The Commission Should be Mindful of Regulations and Marketplace Practices That Could Threaten Competitive Carriers’ Access to Content and Devices.

As the Commission addresses technology in proceedings such as *Spectrum Frontiers* and its *New Technologies NPRM*, it is vital that any rules ensure that smaller carriers continue to have access to devices and content. This includes imposing interoperability requirements, where necessary, and monitoring transactions that could threaten channels of access to content over

¹⁵⁰ *Id.* (citing GSMA, Narrowband – Internet of Things (NB-IoT) <https://www.gsma.com/iot/narrow-band-internet-ofthings-nb-iot/> (last visited July 22, 2018)).

¹⁵¹ *Id.*

¹⁵² *See*, Mike Dano, *Verizon Stops Activating CDMA 3G Devices As Network Shutdown Looms*, FierceWireless (July 17, 2018), <https://www.fiercewireless.com/wireless/verizon-stops-activating-cdma-3g-devices-as-network-shutdown-looms>.

wireless networks.¹⁵³ In particular, CCA applauds the Commission for issuing a Hearing Designation Order¹⁵⁴ to properly review Sinclair Broadcasting Group’s proposed acquisition of Tribune Media Company, which—in addition to threatening the 600 MHz transition timeline—also threatens to circumvent FCC rules and could potentially dilute competitive carriers’ access to devices¹⁵⁵ and content.¹⁵⁶

As the media market increasingly trends toward online and streaming alternatives to traditional television distributions, competitive carriers may not be able to compete in such a market structure. It is therefore vital that channels to content remain open, accessible, and affordable.¹⁵⁷ The Commission should continue to monitor the effects of secondary market deals and mergers that will negatively impact the ability of competitive carriers to remain competitive

¹⁵³ See, Comments of Competitive Carriers Association at 51, WT Docket No. 17-69 (May 8, 2017) (“*May 2017 CCA Comments*”).

¹⁵⁴ *Applications of Tribune Media Company (Transferor) and Sinclair Broadcast Group, Inc. (Transferee) for Transfer of Control of Tribune Media Company and Certain Subsidiaries, WDCW(TV), et al. and For Assignment of Certain Licenses from Tribune Media Company and Certain Subsidiaries*, Hearing Designation Order, FCC No. 18-100, MB Docket No.17-179, File No. BTCCDT-20170626AGW, *et al.* (rel. Jul. 19, 2018).

¹⁵⁵ Reply of Competitive Carriers Association to Petition to Deny at 3, MB Docket No.17-179 (filed Aug. 29, 2017) (“Sinclair’s ability and incentive to leverage its unique market position in the 600 MHz clearing process against competitive carriers has the potential not only to make iPhones and other mobile broadband handsets costlier for consumers, but also to distort carrier-to-carrier competition in the wireless broadband market in ways that could diminish the benefits of robust price and quality competition that have characterized the wireless market for many years.”).

¹⁵⁶ Petition to Deny of Competitive Carriers Association at 23, MB Docket No.17-179 (filed Aug. 7, 2017) (“Mobile operators, such as CCA’s members, could suffer from higher retransmission fees and Sinclair’s extortive bargaining gambits as they become more intensively involved in video transmission to their subscribers.”); *id.* at 24 (“The proposed acquisition of Tribune will also give Sinclair ownership of highly differentiated programming that MVPDs and mobile operators nationwide will consider ‘must-have’ content”).

¹⁵⁷ See, *May 2017 CCA Comments* at 51-52.

in their content and device offerings.

H. The Commission Should Ensure that Public Safety Buildout and Rules Do Not Stifle Competition.

The Commission should ensure that the FirstNet award to AT&T and the corresponding network build of the first National Public Safety Broadband Network (“NPSBN”) do not stifle competition among carriers. FirstNet’s agreement with AT&T includes a 15 percent partnering agreement with rural carriers to perform buildout.¹⁵⁸ To meet this requirement—and to ensure the greatest efficiency in network buildout— competitive carriers should be included as much as possible in developing the NPSBN. FirstNet should prioritize allowing smaller, competitive carriers to propel buildout in rural and hard-to-reach areas, and ensure this buildout occurs in each service deployment phase.¹⁵⁹ Such inclusion will help reduce construction costs and siting delays and ensure greater coverage in rural areas.

The Commission also should continue to ensure that policy evolves with technology in Next Generation 911 advancements, including when enacting reforms in proceedings like Wireless Emergency Alerts. CCA applauds the Commission for granting CCA’s Petition for Waiver to extend the time for carriers other than the five largest to comply with the WEA embedded reference requirement.¹⁶⁰ Having more time to comply with the updated WEA

¹⁵⁸ See, Jill C. Gallagher, Cong. Research Serv., R45179, *The First Responder Network (FirstNet) and Next-Generation Communications for Public Safety: Issues for Congress* 15 (2018).

¹⁵⁹ See, U.S. Congress, House Committee on Energy and Commerce, Subcommittee on Communications and Technology, *Oversight of FirstNet: State Perspectives*, Letter for the Record, submitted by the Competitive Carriers Association (CCA), 115th Cong., 1st Sess., November 1, 2017, <https://docs.house.gov/meetings/IF/IF16/20171101/106569/HHRG-115-IF16-20171101-SD004-U4.pdf>.

¹⁶⁰ *Wireless Emergency Alerts, Amendments to Part 11 of the Commission’s Rules Regarding the Emergency Alert System*, Order on Reconsideration, FCC No. 17-143, PS Docket Nos. 15-91, ¶

requirements encourages carriers to remain a part of this important voluntary program and allows smaller carriers to incorporate the necessary enhanced capabilities without placing strain on their ability to provide competitive wireless service.¹⁶¹

11 (rel. Nov. 1, 2017).

¹⁶¹ Petition of Competitive Carriers Association for Waiver, or in the Alternative, Extension of Time at 3, PS Docket No. 15-91 (filed Aug. 16, 2017).

IV. CONCLUSION.

The new statutory requirement for the *Marketplace Competition Report* directs the Commission to assess the state of mobile wireless competition, the deployment of communications capabilities, and the regulatory and marketplace barriers to competition for mobile wireless service providers. As explained herein, in assessing the mobile wireless market characteristics, the Commission should rely on the experience of competitive carriers, such as CCA members, who work every day to provide service and promote competition in the rural and urban markets alike. A robust economic analysis of the data—combined with firsthand experience from consumers and service providers—will evidence a highly concentrated mobile wireless market with numerous barriers to deployment.

2018 continues to be a year of significant transition in the wireless market as recent regulatory and technological changes take hold, and 2019 will provide a platform for further evolution as carriers move toward 5G and IoT technologies. To propel this transition forward, the Commission should move swiftly on items that will reduce barriers to deployment and promote mobile wireless competition as required by statute.

Respectfully submitted,

/s/ Rebecca Murphy Thompson

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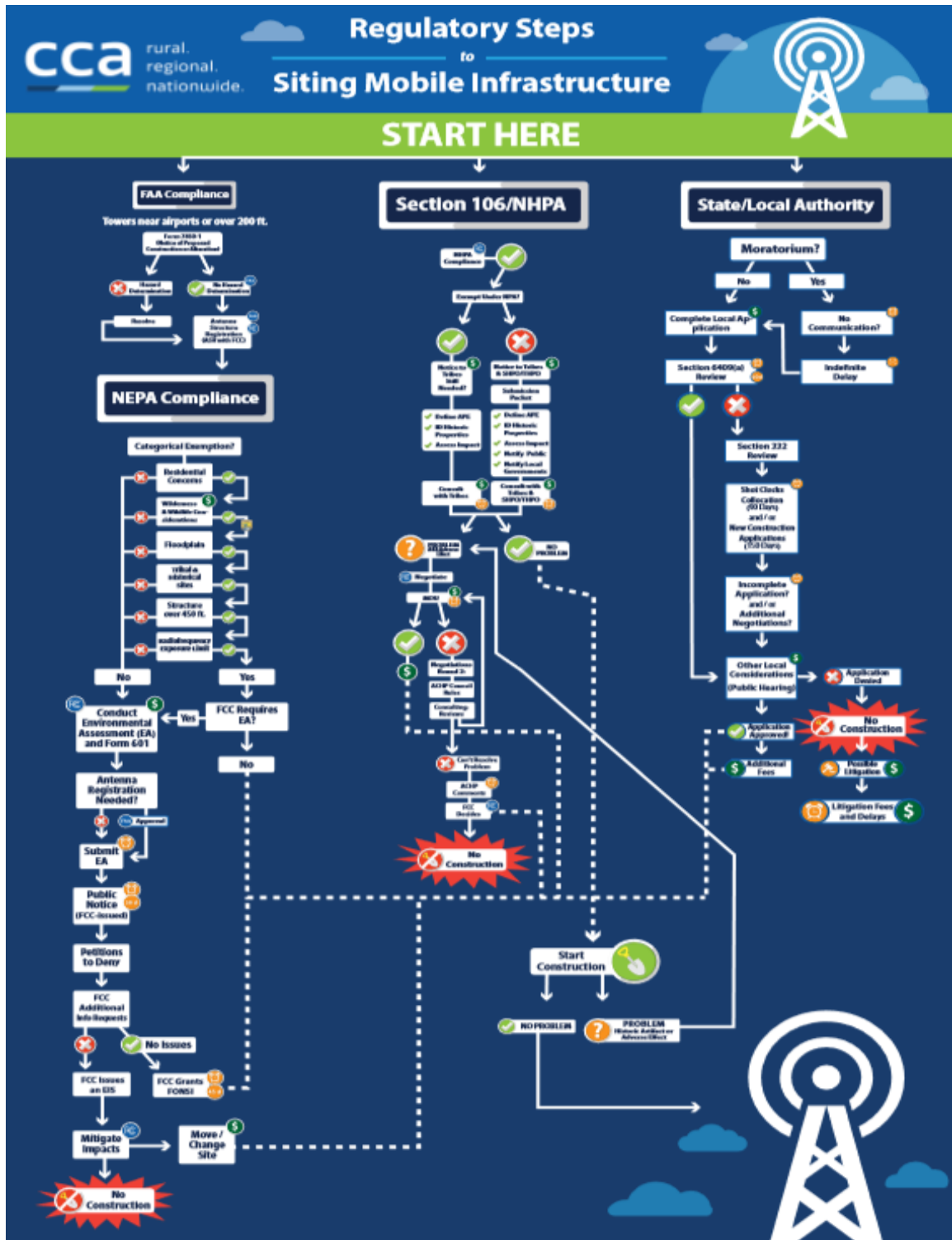
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July 26, 2018

Appendix A

Appendix A: Regulatory Steps to Siting Mobile Infrastructure (Dec. 5, 2017)¹⁶²



¹⁶² Of note, the FCC's Second Report & Order, as referenced within and released on March 30, 2018, addresses many NEPA/NHPA barriers identified in the attached chart. *See, Wireless Infrastructure Second Report and Order.*