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April 23, 2015

VIA ELECTRONIC FILING
Ms. Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

Re: *Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auctions, GN Docket No. 12-268*

Policies Regarding Mobile Spectrum Holdings, WT Docket No. 12-269

Dear Ms. Dortch:

As counsel to T-Mobile USA, Inc. ("T-Mobile"),[1] we write to address errors, misleading statements, and unsupported conclusions that Mobile Future and American Rural made in a recent filing to the Commission.[2]

Mobile Future Does Not Disclose Financial Support for Its Submission. Mobile Future and American Rural falsely represent themselves as populist entities.[3] They are not. AT&T and Verizon fund Mobile Future's operations and largely shape its advocacy.[4] The American Rural organization, meanwhile, has never before filed in these proceedings and that organization's chief executive officer is also employed by Mobile Future, which, in turn, receives the majority of its financing from AT&T and Verizon. Any claim to impartiality or objectivity made by Mobile Future or the American Rural entity is highly suspect.[5]

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[1] T-Mobile USA, Inc. is a wholly-owned subsidiary of T-Mobile US, Inc., a public traded company.

[2] Letter of Diane Smith, Mobile Future Advisor and CEO of American Rural to Marlene H. Dortch, Secretary, FCC, GN Docket No. 12-268, WT Docket No. 12-269 (Mar. 16, 2015) ("Mobile Future Letter"); Diane Smith, *The Truth About Spectrum Deployment in Rural America* (Mar. 2015), *attached to* Mobile Future Letter ("Mobile Future Report").

[3] *See About Us,* MOBILE FUTURE, http://mobilefuture.org/about/; *Our Mission*, AMERICAN RURAL, http://www.americanrural.org/mission/.

[4] *See* Allan Holmes, *The Wireless Wars - The Future of Wireless Communication May Be Decided By a Massive Influence Web of Lobbyists, Think Tanks, and Academics Who are Paid for Their Opinions*, SLATE (Mar. 21, 2014), http://slate.me/1giCJDD; *see also* Phillip Dampier, *Astroturf and Industry-Backed, Dollar-a-Holler Friends Support Telco's USF Reform Plan*, STOP THE CAP! (Sep. 8, 2011), http://bit.ly/1HrGm7L.

[5] For an organization that self-identifies as working to "ensure telecommunications/technology speeds and network deployments [in rural areas] are equivalent in performance, price and availability to those in densely populated metropolitan areas," *see Our Mission*, AMERICAN RURAL,

For this reason, T-Mobile has supported the adoption of truth-in-pleading requirements at the FCC that would require parties to divulge the origin of their funding when one or a small number of donor entities contribute a substantial portion of a filing party's budget or substantially all of the costs associated with a particular piece of advocacy.[6] These types of rules would promote transparency, conserve agency resources, and increase confidence in the Commission's decision-making. Mobile Future and American Rural have been notably silent on these proposals at the FCC.

On substance, Mobile Future purports to examine the state of wireless network deployment and competition in rural America, but its selective treatment of the issues leads to conclusions so at odds with the facts that the record must be corrected.

Mobile Future's Data Demonstrates the Importance of Low-Band Spectrum. To the extent Mobile Future provides any data of its own, its data supports the exact opposite conclusion it reaches. The availability of low-band spectrum is central to competition in rural areas because these frequencies largely determine whether, when, how, and where wireless carriers deploy broadband services.

In its submission, Mobile Future identifies regions in which T-Mobile holds spectrum but does not offer coverage except under costly roaming arrangements.[7] However, Mobile Future fails to discuss how much of that spectrum is low-band because next to none of it is.[8] Prior to the middle of last year, T-Mobile had no low-band spectrum holdings in any of the states that Mobile Future evaluated. AT&T and Verizon, by comparison, have held at least 25 megahertz of low-band spectrum since they or their predecessors received government grants of spectrum in the 1980s.[9] It is unsurprising

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http://www.americanrural.org/mission/, American Rural has been oddly silent in FCC proceedings relating to Universal Service, the designated entity program, and roaming. Furthermore, available public records reveal a dearth of information relating to the organization's membership, its revenue streams, or the composition of its board. American Rural does not provide any of its research, advocacy pieces, or white papers on its website. It does, however, have a collection of pictures of dogs in trucks. *See* http://www.americanrural.org/truck-dogs/. It is also not immediately clear whether the organization is properly incorporated. Records from the Montana Secretary of State indicate that American Rural, Inc., with the registered agent of Diane Smith, was involuntarily dissolved in December of 2013.

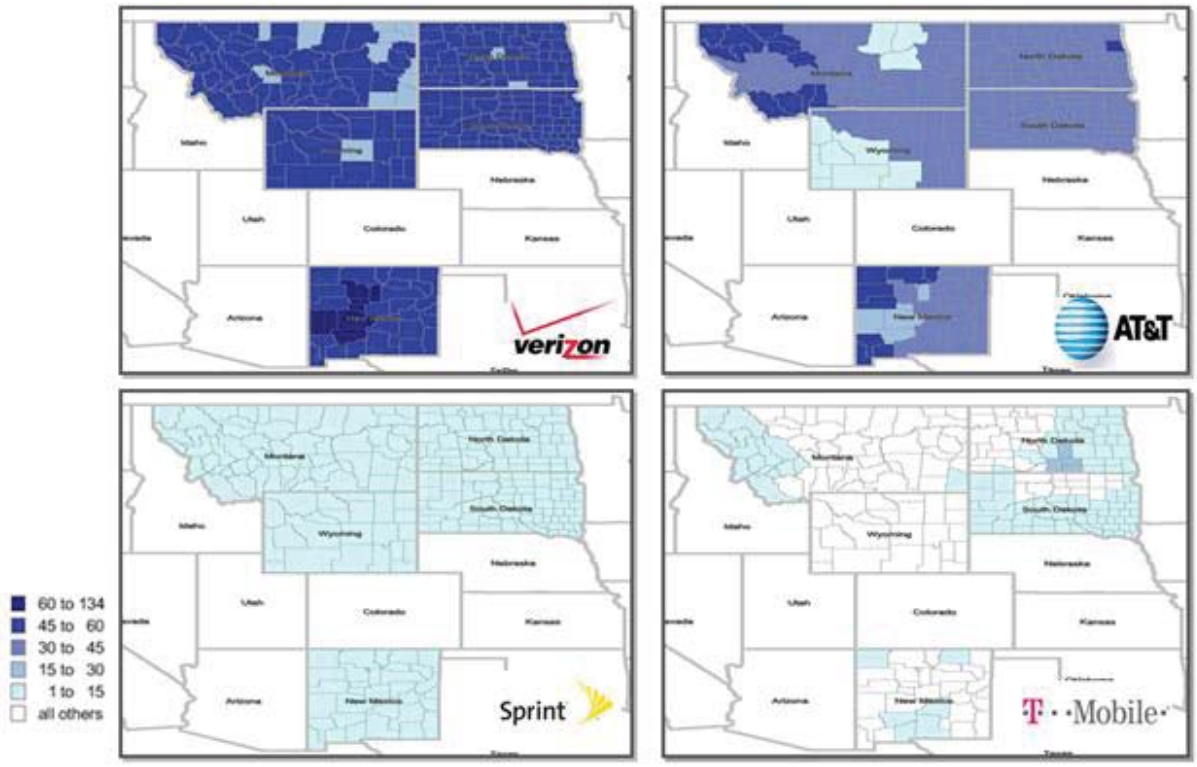
[6] *See* Letter from Trey Hanbury, Counsel to T-Mobile to Marlene H. Dortch, Secretary, FCC, GC Docket No. 10-43, GN Docket No. 14-25 (Mar. 12, 2014); Letter from Trey Hanbury, Counsel to T-Mobile to Marlene H. Dortch, Secretary, FCC, GC Docket No. 10-43 (Dec. 20, 2013; amended Feb. 3, 2014); Letter from Trey Hanbury, Counsel to T-Mobile to Marlene H. Dortch, Secretary, FCC, GC Docket No. 10-43 (Feb. 24, 2014).

[7] Mobile Future Letter at 1; Mobile Future Report at 2, 11.

[8] T-Mobile holds an average of 5.7 megahertz of low-band spectrum in the counties analyzed by Mobile Future. AT&T and Verizon hold an average of 38.6 and 46.3 megahertz respectively. Furthermore, AT&T is attempting to further solidify its dominant position in these markets by acquiring additional low-band spectrum holdings. *See* ULS Application File No. 0006366669 (acquiring the 700 MHz C Block license in CMA556 - New Mexico 4 - Santa Fe from Plateau Telecommunications, Inc.).

[9] *See An Inquiry into the Use of the Bands 825-845 MHz and 870-890 MHz for Cellular Communications Systems*, Report and Order, 86 FCC 2d 469 (1981); *Amendment of the Commission's Rules to Allow the Selection from among Mutually Exclusive Competing Cellular Applications Using Random Selection or Lotteries Instead of Comparative Hearing*, Report and Order, 98 FCC 2d 175 (1984).

then that the two dominant carriers now control 73% of the available low-band spectrum in the United States and the lion's share of low-band spectrum in many areas.[10] To offer an "apples-to-apples" comparison, the maps below depict the low-band spectrum holdings of each of the four nationwide carriers in the five rural states Mobile Future evaluated.



Low-band Spectrum Holdings of the Four Largest Wireless Providers[11]

Mobile Future acknowledges that AT&T and Verizon have significant low-band spectrum holdings[12] and notes that AT&T and Verizon cover more rural population than their competitors.[13] But incredibly, Mobile Future somehow fails to make the obvious connection that the more extensive low-band spectrum holdings shown above directly correlate with more extensive rural deployments in those same areas. The reality, of course, is that low-band signals cover more territory than high-band signals. This additional range helps dominant carriers with low-band spectrum such as AT&T and Verizon overcome the lower population density found in rural markets because they can amortize costs over more end-users than possible using higher frequency spectrum.[14]

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[10] *Policies Regarding Mobile Spectrum Holdings; Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auctions*, Report and Order, 29 FCC Rcd 6133 ¶ 153 (2014) ("*Mobile Spectrum Holdings Report and Order*")

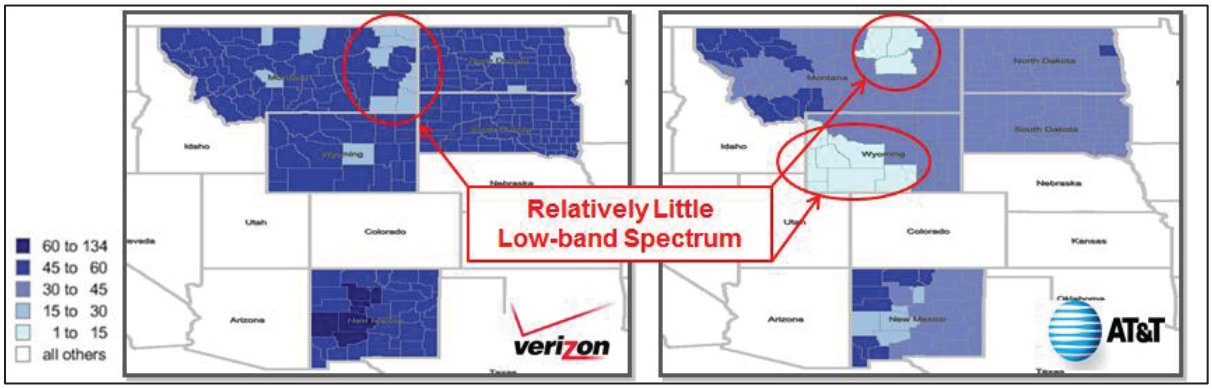
[11] Based on information provided in the FCC's Universal Licensing System ("ULS") accessed April 8, 2015.

[12] Mobile Future Report at 6-7.

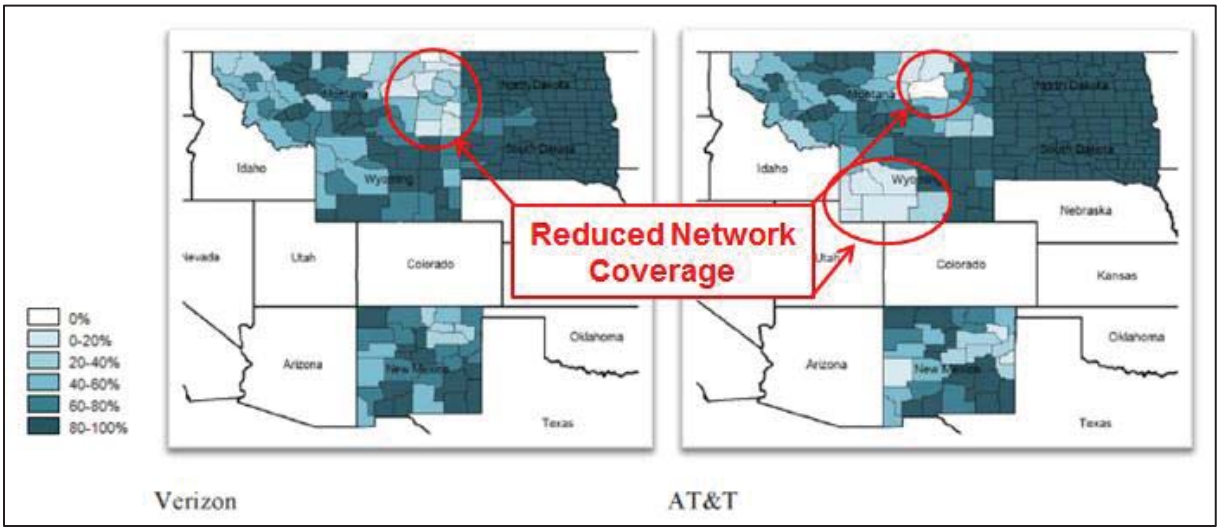
[13] *Id.* at 8-14.

[14] By spreading their costs of rural deployment over more customers, Verizon and AT&T enjoy greater return on investment and are able to capture the vast majority of industry revenues and almost all the free

The relationship between low-band spectrum and network deployment in rural areas is further demonstrated in the maps below. Verizon and AT&T provide the best coverage in those areas where they hold the most low-band spectrum. In areas where the two dominant incumbents have relatively little low-band band spectrum, such as in eastern Montana for Verizon and in southwestern Wyoming for AT&T, the two largest carriers provide much less robust coverage.[15]



Low-band Spectrum Holdings (Verizon & AT&T)



Verizon and AT&T Offer Better Coverage Where They Have Low-Band Spectrum[16]

T-Mobile operates within similar constraints, but at a much greater scale. While T-Mobile will deploy services using recently acquired licenses, and plans to leverage its newly acquired spectrum to

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cash flow. Verizon alone has more than fifteen times the free cash flow of either T-Mobile or Sprint. While there are many factors that contribute to bottom-line financial figures, Mobile Future's implication that the dominant carriers have lost revenue while building out rural networks is simply not supported by the facts.

[15] The upcoming incentive auction will give dominant carriers ample opportunity to increase their low-band spectrum holdings in markets where they do not already own more than one-third of all low-band resources. Under the auction's reserve eligibility rules, either Verizon or AT&T – or both – will be eligible to bid for reserve spectrum blocks in 74% of the nation's geography.

[16] Mobile Future Report at 13.

cover 300 million consumers by the end of 2015,[17] additional low-band spectrum would enable greater expansion of its coverage throughout the country.

Mobile Future Omits Critical Data. Mobile Future ignores numerous important factors affecting rural broadband deployment. For example, Verizon and AT&T continue to benefit from cost-free government grants of low-band spectrum more than thirty years ago, which was more than ten years before the Commission had the authority to auction spectrum licenses.[18] This subsidy of low-band spectrum resources, along with the lengthy head start in deployment over new entrants such as T-Mobile that did not acquire spectrum until the PCS auctions of the late 1990s, may represent the foundation of the two dominant incumbents' large geographic coverage in the states that Mobile Future studied.[19]

But rather than offer even the most cursory examination of the many well-documented market factors that might lead to the two largest carriers' dominance across five rural states, Mobile Future focuses exclusively on current spectrum holdings of the four nationwide carriers in these regions. Spectrum, in Mobile Future's estimation, is undifferentiated. The date of spectrum acquisition, the length of holding, the extent of geographic and frequency contiguity in the region, and the degree to which impairments exist on a particular frequency are all ignored and play no role whatsoever in Mobile Future's analysis.

Perhaps most striking, Mobile Future fails to distinguish low-band spectrum that wireless operators can actually use to serve rural areas in a cost-effective manner from higher-band spectrum that does not travel far enough to reach a sufficient number of customers or potential customers to prove economical. The failure to distinguish among different types of spectrum resources deprives the study of any empirical value. Needless to say, the FCC, the expert agency, has made clear there is a difference.

Mobile Future Ignores Commission Findings and Technical Studies Demonstrating the Differences Among Different Frequency Bands. The Commission has explained that low-band spectrum has superior propagation characteristics compared to mid- or high-band spectrum.[20] The

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[17] *See* Phil Goldstein, *T-Mobile's Carter: We'll continue going after 700 MHz spectrum, and will be 'aggressive' in 2015 deployments*, FIERCE WIRELESS (Dec. 10, 2014), http://www.fiercewireless.com/story/t-mobiles-carter-well-continue-going-after-700-mhz-spectrum-and-will-be-agg/2014-12-10.

[18] AT&T and Verizon effectively each hold approximately half of the 850 MHz cellular spectrum. During the 1980s, two 25 megahertz cellular licenses were awarded in each market, one to an incumbent local exchange carrier and the other to a new entrant. Generally speaking, AT&T and Verizon each now hold one of those cellular licenses in most markets.

[19] Other non-spectrum factors, including the two dominant providers' national market power in the wireless industry and their control over related input resources, such as backhaul, also contribute to the their ability to provide service in these areas.

[20] *See Mobile Spectrum Holdings Report and Order* ¶ 54 (explaining that "low-band spectrum has significantly greater propagation advantages"); *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*, Seventeenth Report, 29 FCC Rcd. 15311, ¶ 90 (WTB 2014) ("*Seventeenth Mobile Wireless Competition Report*") ("Spectrum below 1 GHz … has distinct propagation advantages for network deployment over long distances"); *Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993, Annual Report and Analysis of Competitive*

Commission has also explained that "low-band spectrum is less costly to deploy and provides higher coverage quality," while "[d]eploying high-band spectrum is more costly, more time-consuming, and more subject to variation given the increased number of cell sites required for deployment to achieve similar service quality."[21] And in its most recent Mobile Competition Report, the Wireless Bureau unambiguously concluded that low-band spectrum is a competitive imperative in rural areas: without low-band spectrum, "service providers would have to rely on alternative, less cost-effective methods to increase rural … coverage."[22]

The Antitrust Division of the United States Department of Justice foreshadowed these findings in 2014 when it said that low-band spectrum is a "competitively critical input" and that "some aspects of wireless coverage and quality, such as strong rural or in-building coverage, simply cannot be provided as cost-effectively without low-frequency spectrum."[23]

In a report submitted into the record last year, T-Mobile confirmed that deploying a wireless network over mid-band spectrum is more expensive than deploying a comparable low-band network.[24] The CostQuest Report provided data-driven cost projections for deploying networks in a broad sampling of states using both mid-band (1900 MHz) and low-band (700 MHz) spectrum. It showed that, on average, a network deployed using 1900 MHz band spectrum would require nearly 300 percent more in total investment than a comparable network deployed using 700 MHz band spectrum.[25] The results of the CostQuest report are consistent with T-Mobile's experience with high build-out costs using mid- and high-band spectrum, especially in rural areas. As Mark McDiarmid, T-Mobile's Vice President of Radio Network Engineering and Development, stated:

> It would take roughly 8 cell sites using 1.9 GHz spectrum to cover the same area as one base station using 700 MHz, and at least 13 cell sites at 2.5 GHz to cover the

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Market Conditions with Respect to Commercial Mobile Services, Sixteenth Report, 28 FCC Rcd 3836, ¶ 121 (2013) ("*Sixteenth Mobile Wireless Competition Report*"); *see also Next Steps for Spectrum Policy: Hearing Before the H. Comm. on Energy and Commerce, Communications and Technology Subcommittee*, 114th Cong. (2015) ("*Next Steps for Spectrum Policy*") (statement of R. Sherman, Chief, Wireless Telecommunications Bureau) ("And last year, about a year ago, when [the Commission] adopted the Incentive Auction order, it also adopted a companion Order on mobile spectrum holdings in which it recognized that a complementary mix of spectrum – including low-band spectrum, because of its special properties – was critical to competition, and it took steps in that Order to recognize the unique characteristics of low-band, which, as you know, is better for rural coverage because it propagates over further distances, and is also great for urban areas, because it can go through buildings and walls.").

[21] *Mobile Spectrum Holdings Report and Order* ¶ 60.

[22] *Seventeenth Mobile Wireless Competition Report* ¶ 92.

[23] Letter from William J. Baer, Assistant Attorney General, U.S. Department of Justice to Marlene H. Dortch, Secretary, FCC, WT Docket No. 12-269 (May 14, 2014).

[24] CostQuest Associates, *T-Mobile USF Mobility Model Report* (Oct. 1, 2012), available at http://apps.fcc.gov/ecfs/document/view?id=7521069118 ("CostQuest Report"); Letter of Trey Hanbury, Counsel to T-Mobile USA, Inc. to Marlene Dortch, Secretary, FCC, GN Docket No. 12-268, WT Docket No. 12-269 (Jan. 29, 2014) ("CostQuest Letter").

[25] CostQuest Letter at 4. The CostQuest analysis showed that building a greenfield network using mid-band spectrum could, in some areas, be greater than a thousand percent more expensive than using low-band spectrum. CostQuest Report at 35-40 (explaining that the difference in deployment costs could be as great as 2108% in Kentucky and 1895% in Louisiana).

> same area as one 700 MHz tower. . . . Because mid-band spectrum's weaker in-building capabilities and poorer propagation over distance make coverage expansions comparatively expensive to implement, operating exclusively with higher-frequency spectrum requires disproportionately large capital expenditures.[26]

In other words, the number of base stations required to provide service and, thus, the deployment expenses for any given area, vary dramatically by frequency band. T-Mobile, for example, has more cell sites in operation nationwide than Verizon and almost as many as AT&T, despite covering a smaller geographic footprint and holding less spectrum on a MHz-pops basis than either of the two dominant carriers. T-Mobile must deploy more sites to cover a smaller area (at greater cost) because of the propagation characteristics of its primarily mid-band spectrum holdings. Mr. McDiarmid's explanation of limited coverage areas and higher costs associated with mid-band spectrum is thus borne out in the real world: only those few carriers with significant low-band spectrum holdings are widely deploying networks in rural areas.[27]

Sprint has also studied the network deployment costs associated with different spectrum bands.[28] It found that build-out requirements using high-band spectrum were up to *13 times higher* in rural areas,[29] resulting in enormous cost differentials for carriers[30] and a competitive advantage for established providers.[31] Sprint concluded that "[t]here is no substitute for the benefits of low-band spectrum in reducing infrastructure costs, enhancing wide-area coverage and improving in-building service."[32] Other interested parties – including the Rural Wireless Association,[33] the Competitive

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[26] Letter from Trey Hanbury, Counsel to T-Mobile to Marlene H. Dortch, Secretary, FCC, GN Docket No. 12-268, WT Docket No. 12-269 (Apr. 1, 2014), Declaration of Mark McDiarmid at 17-18, 20.

[27] Mr. McDiarmid also identified additional hurdles to deploying a mid-band network in rural areas, such as tower siting and regulatory compliance issues. *Id.* at 22.

[28] *See* Lawrence R. Krevor et al., *The Imperative for a Weighted Spectrum Screen: Low-, Mid-, and High-Band Frequencies Are Not Freely Substitutable Market Inputs*, attached to Letter from Lawrence R. Krevor, Vice President, Sprint Corp., to Marlene H. Dortch, Secretary, FCC, Docket No. 12-269 (Apr. 4, 2014).

[29] Specifically, Sprint calculated that it would require roughly seven times as many sites to deploy a rural network using 1.9 GHz spectrum, and 13 times more sites using 2.5 GHz spectrum, as compared to Lower 700 MHz spectrum. *Id.* at 9.

[30] Sprint estimated that the capital expenditure necessary to cover an existing rural footprint using Lower 700 MHz spectrum would be roughly $2.7 billion, ballooning to almost $19 billion using 1.9 GHz spectrum, and topping more than $37 billion using 2.5 GHz spectrum. *Id*. at 9-10.

[31] *See* Comments of Sprint Corporation, WT Docket Nos. 14-170, 05-211, GN Docket No. 12-268, RM-11395 at 6 (Feb. 20, 2015) (concluding that "[g]iven their predominant share of low-band spectrum, AT&T and Verizon enjoy significant cost and operational advantages relative to their competitors" leading to a pronounced impact on downstream competition).

[32] Reply Comments of Sprint Corporation, AU Docket No. 14-252, GN Docket No. 12-268 at 2-3 n.4 (Mar. 13, 2015). During the comment round of that same proceeding, Sprint noted that for rural areas in particular, "low-band spectrum such as 600 MHz has *especially* significant value in cost-effectively covering areas in which network traffic is sporadic-but-heavy." Comments of Sprint Corporation, AU Docket No. 14-252, GN Docket No. 12-268 at 25 (Feb. 20, 2015).

[33] Letter of Caressa D. Bennet, General Counsel, Rural Wireless Association to Marlene H. Dortch, Secretary, Federal Communications Commission, GN Docket No. 112-268, WT Docket No. 12-269 (Apr. 10, 2014) (explaining that "[l]ow-band spectrum has inherent technical superiority for providing coverage

Carriers Association,[34] and expert analysts[35] – agree that low-band spectrum is critical for network deployment in rural areas. In addition, a large and diverse coalition of public interest groups has recognized that a broader distribution of low-band spectrum will promote competition and benefit consumers.[36] And perhaps most important, a variety of rural state regulators and advocates, including the Nebraska Public Service Commission, the Louisiana Public Service Commission, and the National Association of State Utility Consumer Advocates have noted that increased concentration of low-band spectrum threatens to harm rural consumers.[37] According to one letter signed by all five commissioners of the Nebraska PSC, for example, a failure to take more meaningful steps to promote the diversification of low-band spectrum resources will "decrease competitive choice for consumers" and "place rural markets at risk."[38]

Even Verizon and AT&T have acknowledged that low-band spectrum facilitates cost-effective network deployment. For example, a Verizon executive noted that "[s]pectrum below 1 GHz has greater propagation capabilities and therefore may require less infrastructure to deploy."[39] AT&T's Chairman and CEO similarly stated that one of the benefits of 700 MHz spectrum is that it

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in rural markets" and that "low-band spectrum is a more cost-effective and operationally efficient medium to deliver wireless broadband to rural consumers").

[34] *See* Letter from Rebecca Murphy Thompson, General Counsel, Competitive Carriers Association to Marlene Dortch, Secretary, FCC, GN Docket No. 12-268, WT Docket No. 12-269 at 2 (May 12, 2014) (stating that "mobile operators require a mix of spectrum to provide cost-effective service").

[35] William Lehr & J. Armand Musey, *Right-Sizing Spectrum Auction Licenses: The Case for Small Geographic License Areas in the TV Broadcast Incentive Auction* (Nov. 20, 2013), *attached to* Ex Parte of CCA, GN Docket No. 12-268 (Nov. 26, 2013) (noting that "600 MHz spectrum, with its longer range than higher frequency spectrum, is particularly well-suited for deploying mobile service infrastructure in less dense areas, where using smaller cell sites to provide coverage would be significantly more expensive").

[36] *See* Letter of Open Technology Institute, Public Knowledge, Engine Advocacy, Center for Media Justice, Common Cause, Writers Guild of America West, Institute for Local Self Reliance, Benton Foundation to Tom Wheeler, Chairman, FCC, GN Docket No. 12-268, WT Docket No. 12-269 at 3 (Feb. 24, 2015) ("It is difficult to see how the non-dominant carriers can effectively compete in a 4G marketplace without sufficient access to low-band spectrum that enables in-building penetration and economic wide-area coverage.").

[37] *See, e.g.,* Letter of Nebraska Public Service Commission to Tom Wheeler, Chairman, FCC, GN Docket No. 12-268, WT Docket No. 12-269 (Apr. 7, 2015) ("We are particularly concerned that rural areas in Nebraska will be left behind unless the Commission applies adequate safeguards to allow smaller competitors to fairly compete for spectrum"); Letter of Eric Skrmetta, Louisiana Public Service Commission to Tom Wheeler, Chairman, FCC, WT Docket No. 12-269 (Dec. 6, 2013) ("I am concerned that without reasonable auction controls designed to prevent spectrum aggregation and promote competition, particularly in the low-frequency spectrum that is now at issue, Louisiana consumers ultimately may see a duopoly of national wireless providers"); Letter of Charles A. Acquard, Executive Director, National Association of State Utility Consumer Advocates (NASUCA) to Tom Wheeler, Chairman, FCC, GN Docket No. 12-268, WT Docket No. 12-269 (Mar. 19, 2015) (explaining how diversifying low-band spectrum holdings would "reduce market concentration and enhance consumer welfare").

[38] Letter of Nebraska PSC at 1.

[39] Reply Comments of Verizon Wireless, WT Docket 12-269 (Jan. 7, 2013), Exhibit 2, Declaration of William H. Stone, Executive Director of Network Strategy, Verizon, ¶ 7.

"propagates like a bandit," thereby requiring "fewer cell sites to get a good quality signal."[40] Verizon even ran commercials touting its low-band spectrum holdings as a competitive advantage.[41] In short, these superior propagation characteristics have allowed AT&T and Verizon, with their scale and ample low-band spectrum holdings, to deploy cost-effective networks in sparsely populated areas.

Mobile Future's conclusions about rural broadband deployment ignore both the Commission's consistent findings across numerous decisions and dockets as well as the great weight of record evidence in this proceeding. Without meaningful access to low-band spectrum – 73% of which is currently held by the two dominant carriers – T-Mobile and other similarly situated carriers will remain at a competitive disadvantage and cannot expand service as cost-effectively and at similar levels of capacity as those carriers with access to low-band resources can.

A Robust Spectrum Reserve Will Promote Wireless Competition Throughout the Country. The Commission has found that implementing a spectrum reserve to allow multiple providers to gain access to low-band spectrum without the fear of foreclosure from the two dominant carriers will result in the "extension and improvement of service in both rural and urban areas."[42] Offering access to low-band spectrum to multiple competitive carriers will reduce the disparity in competition between rural and urban markets with which Mobile Future is purportedly so concerned.[43] Competition for reserve spectrum will also be fierce because the reserve will be available to all non-nationwide carriers and those operators that lack significant low-band spectrum holdings. Notably, AT&T or Verizon (or both) will be reserve-eligible in PEAs covering 74% of the country's territory, much of which is rural, and 40% of its population. The blue-shaded areas in the map below show the markets in which AT&T or Verizon or both will be able to bid on reserve spectrum.

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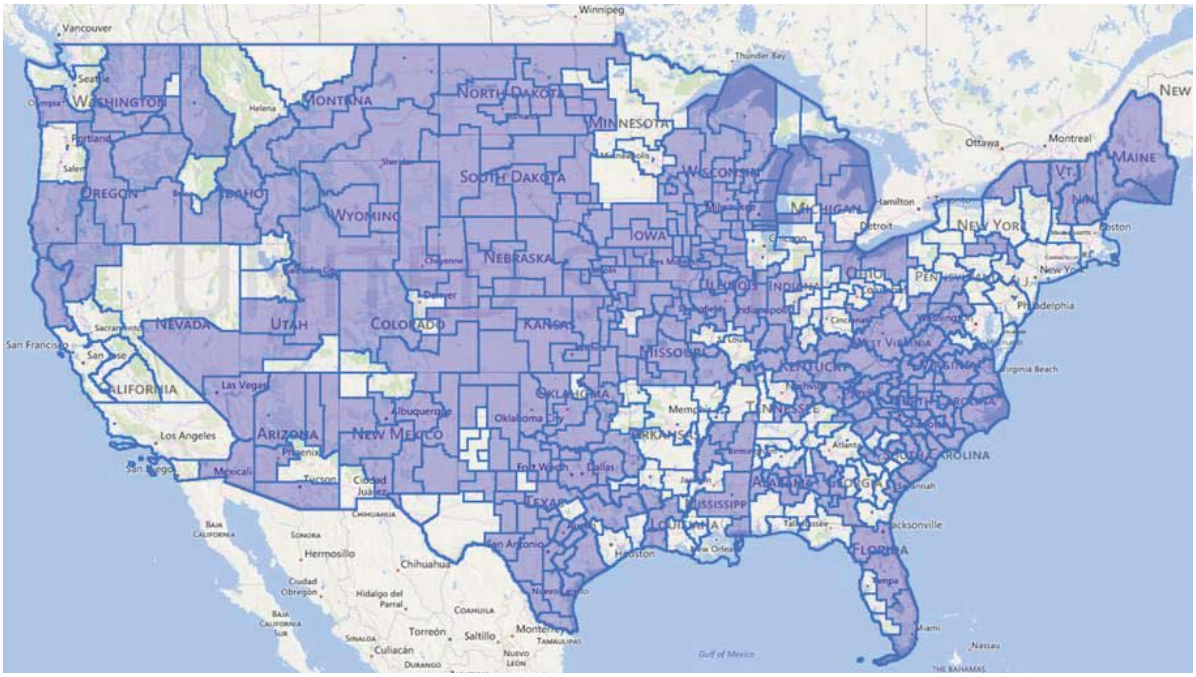
[40] *AT&T's Randall Stephenson on the Network's Strength*, FORTUNE (July 18, 2012), available at http://fortune.com/2012/07/18/transcript-atts-randall-stephenson-on-the-networks-strength//.

[41] 876 Commercials, *Verizon 4G LTE Hiking Commercial*, YOUTUBE (June 26, 2013), https://youtu.be/sUqMDl6Zoc4 (where an actor discussing Verizon's strong signal strength even in remote/rural locations explains "Verizon 4G LTE: 700 MHz spectrum end-to-end, pure LTE build, the most consistent speeds indoor or out, and obviously astonishing throughput … Verizon has more fast LTE coverage than all other networks combined").

[42] *Mobile Spectrum Holdings Report and Order* ¶ 176. The spectrum reserve is therefore an auction tool carefully designed to shield non-dominant carriers from anti-competitive foreclosure and is not a "discount" as Mobile Future asserts. It is unclear what value market forces will assign to the reserve spectrum. But given the competitive considerations described below, the reserve spectrum may be auctioned for amounts very near or equal to non-reserve spectrum.

[43] By focusing only on deployment in rural areas, Mobile Future ignored one of the key competitive differentiators of low-band spectrum – that it penetrates buildings and basements better than mid-band spectrum. Rural broadband deployment is critically important, but the purpose of the spectrum reserve is to "ensure against excessive concentration in holdings of low-band spectrum," which will ultimately benefit both rural and urban consumers. *Mobile Spectrum Holdings Report and Order* ¶ 4. While the Commission and many commenting parties have noted that implementing the reserve will have the positive result of increasing mobile service in rural areas, in-building penetration of low-band spectrum makes access to low-band spectrum important in densely populated urban areas as well.



Markets Where AT&T or Verizon Are Eligible to Purchase Reserve Spectrum

Contrary to Mobile Future's claims, the map above demonstrates that the two dominant incumbents will have ample access to reserve blocks where they do not already dominate low-band spectrum holdings. And in the markets where AT&T and Verizon hold too much low-band spectrum to qualify as reserve-eligible, there will likely be vigorous and competitive bidding from T-Mobile, Sprint, DISH, and the many other competitive carriers that need low-band spectrum in those markets.[44]

In summary, nothing in the Mobile Future paper should dissuade the FCC from ensuring that at least 40 megahertz of spectrum in the upcoming 600 MHz Auction will be reserved for non-dominant carriers. Indeed, what little data Mobile Future offers points in the opposite direction of its conclusions. Mobile Future's omissions are too numerous to mention, and its allegation of undue constraint on the dominant carriers' ability to acquire even more low-band spectrum is simply not borne out by the facts. Mobile Future's latest "analysis" deserves no weight in this proceeding.

T-Mobile, therefore, strongly urges the FCC to grant T-Mobile's pending petition for reconsideration[45] and adopt pro-competitive rules for the 600 MHz Auction. Doing so will ensure that non-dominant

[44] *See generally* Kagan Media Appraisals, *Can the FCC Attract a Full House for the 2016 Broadcast Incentive Auction?* (Feb. 11, 2015), *attached to* Comments of Expanding Opportunities for Broadcasters Coalition, AU Docket No. 14-252, GN Docket No. 12-268 (Feb. 19, 2015) (explaining that all four nationwide carriers and potentially a host of other reserve-eligible bidders "are expected to be fully engaged and sufficiently capitalized bidders in the 2016 Broadcast Incentive Auction.").

[45] T-Mobile USA, Inc., *Petition for Reconsideration*, WT Docket No. 12-269 (Aug. 11, 2014) (explaining that the currently proposed auction rules are inadequate to promote robust rural and regional competition and urging the Commission to reconsider both limiting the reserve to a maximum of 30 megahertz and tying the reserve trigger to an arbitrary price per MHz/POP threshold).

carriers have access to low-band spectrum to accelerate broadband deployment, investment, and innovation in rural and urban areas alike.

Respectfully submitted,

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