Filed by T-Mobile US, Inc.
pursuant to Rule 425 under the Securities Act of 1933
and deemed filed pursuant to Rule 14a-12
under the Securities Exchange Act of 1934
Subject Company: Sprint Corporation
Commission File No.: 001-04721

REDACTED – FOR PUBLIC INSPECTION

Description of Transaction,

Public Interest Statement, and

Related Demonstrations

June 18, 2018

EXECUTIVE SUMMARY

T-Mobile US, Inc. ("T-Mobile") and Sprint Corporation ("Sprint") respectfully request approval from the Federal Communications Commission ("FCC" or "Commission") to join together to form "New T-Mobile." This proposed merger is necessary to accomplish a goal critical to enhancing consumer welfare in this country: the rapid and widespread deployment of 5G networks in a market structure that spurs rivals to invest in a huge increase in capacity, and, correspondingly, to drop tremendously the price of data per gigabyte. New T-Mobile will be able to leverage a unique combination of complementary assets to unlock massive synergies in order to build a world-leading nationwide 5G network that will deliver unprecedented services to consumers, increasingly disrupt the wireless industry, and ensure U.S. leadership in the race to 5G.

Consumer Benefits Are Compelling. This transaction is a unique opportunity to deliver myriad compelling benefits for American consumers, which would not be achievable in the absence of the merger:

- ***New T-Mobile Will Build a World-Class Nationwide 5G Network That Will Leapfrog Verizon and AT&T's Networks.*** New T-Mobile will invest nearly $40 billion to combine the complementary spectrum, sites, and assets of T-Mobile and Sprint to deliver a robust, nationwide world-class 5G network and services sooner than otherwise possible. Current Sprint customers will realize 4G LTE coverage benefits; T-Mobile customers will realize improvements from the greater depth of spectrum; and, as the 5G network is built out, the speed and capacity gains will be significant. By 2024, the New T-Mobile network will have approximately double the total capacity and triple the total 5G capacity of T-Mobile and Sprint combined, with 5G speeds four to six times what they could achieve on their own. In the face of this challenge, Verizon and AT&T will need to respond with improved and accelerated 5G network investment and deployment to the betterment of all consumers and the country.
- ***American Consumers Will Pay Less and Get More.*** As New T-Mobile expands its capacity, the cost of delivering each gigabyte of data to customers will be greatly reduced—"capacity will double and the cost of delivering data will plummet. [New T-Mobile] will compete aggressively with lower prices to take market share from Verizon

and AT&T, allowing more customers to enjoy the benefits of [its] increased capacity." [1] This benefit will not be limited to T-Mobile's customers. Indeed, an economic analysis by Dr. David Evans concludes that building the nationwide 5G network will provoke competitive responses from Verizon and AT&T that result in as much as a 55 percent decrease in price per GB and a 120 percent increase in cellular data supply for all wireless customers. [2] Consumers get both a dollar and also a data dividend from the merger.

- ***New T-Mobile Will Deliver Fiber-Like Speeds That Enable Exciting and Innovative Uses on a Broader Basis.*** New T-Mobile's nationwide 5G network will make possible real-time interactivity and a significantly enhanced user experience. The new network will virtually eliminate the constraints consumers currently experience in congested environments, allowing for near instantaneous sharing and downloading of content from almost any location. This will transform the way Americans live, work, travel, and play by facilitating an enormous variety of Internet of Things ("IoT") applications, as well as the full spectrum of connected devices. Even better, the broad geographic reach of New T-Mobile's 5G network will facilitate the use of advanced applications that are critically needed in small towns and rural communities.

- ***New T-Mobile Will Provide a Bona Fide Alternative to Traditional In-Home Broadband Providers.*** New T-Mobile's robust, nationwide 5G network will eliminate the speed and capacity differential between mobile and in-home wired broadband for many Americans, allowing millions more Americans to free themselves from the grip of traditional in-home broadband providers. The new 5G network's speeds, capacity, and low prices will allow consumers to "cut the cord" and use their mobile wireless service as their broadband service both inside and outside the home and pocket the savings from eliminating an unnecessary and costly wired broadband bill month after month. New T-Mobile will also offer an aggressively priced wireless in-home broadband solution to compete head-on with the traditional providers.

- ***The Merger Will Create Expanded Choices for Enterprise and Video Customers.*** The merger also will unleash a maverick Un-carrier delivering competition and lower prices for customers of other services. New T-Mobile will have the scale, spectrum, and financial strength to disrupt the enterprise segment and video marketplace with innovative products and services that will bring much-needed competition, innovation, and consumer choice to these areas.

- ***Rural Americans Win Big with Better Service, Including High Speed Broadband.*** New T-Mobile will bring increased broadband coverage to rural Americans, along with improved signal quality and increased network capacity that will enable data-intensive applications and superior rural consumer experiences. This improved service will be accompanied by enhanced customer service through 600 or more new stores and up to five call centers located to serve rural areas and small towns.

1 Declaration of G. Michael ("Mike") Sievert, President and Chief Operating Officer, T-Mobile US, Inc., Appx. C, at ¶21 ("Sievert Decl.").

2 *See* David S. Evans, Market Platform Dynamics, "Economic Analysis of the Impact of the Proposed Merger of T-Mobile and Sprint on the Deployment of 5G Cellular Technologies, the 5G App Ecosystem, and Consumers, Enterprises, and the Economy," Appx. G, Section V.C., ¶¶220-44 ("Evans Decl.").

- ***Accelerated 5G Deployment Will Help the United States Continue to Lead the World.*** As Chairman Pai has stated, the United States should "be the best country for innovating and investing in 5G networks" [3] and "continue[ ] to lead in 5G and to enable wireless consumers to benefit from these technologies sooner rather than later." [4] New T-Mobile's 5G nationwide network will help ensure that this leadership happens right here in the United States.
- ***The Merger Will Create Thousands of Additional American Jobs.*** Finally, the merger will create jobs on New T-Mobile's first day and going forward. New T-Mobile will hire employees to build the new network; extend the Un-carrier customer care model to a wider subscriber base; and support customers in growing segments like in-home broadband, enterprise, and IoT. New T-Mobile's increased investment and rapid growth—and resultant accelerated roll-out of 5G services—also will stimulate thousands of additional jobs throughout the U.S. economy.

Competition Will Intensify. The merger is resoundingly pro-competitive and pro-consumer:

- ***New T-Mobile Will Be a Disruptive Consumer-Focused Un-carrier.*** New T-Mobile will have the scale and resources to take the Un-carrier movement to the next level and into new market segments. The combined company will have lower costs and the incentives to engage in aggressive pricing to expand its 4G LTE customer base as the industry continues its major transformation towards 5G. To date, T-Mobile and Sprint, individually, have not been able to materially erode Verizon and AT&T's wireless market share or overcome their scale advantages. New T-Mobile, however, will be able to go toe-to-toe with the two larger rivals to the benefit of competition and consumers.
- ***New T-Mobile Will Have Incentives to Compete Aggressively.*** The combined company's network will have enormous capacity that will incentivize New T-Mobile to compete vigorously to "fill up" the network. This increased pressure to utilize added capacity is supported by New T-Mobile's financial plan, which calls for the company to provide a combination of greater value and lower cost for conventional data services and to continue offering subscribers more data each year without increasing prices. Indeed, as Dr. David S. Evans substantiates, added capacity has historically reduced unit prices for consumers, and it will continue to do so here.

3 Chairman Ajit Pai, Remarks at Mobile World Congress, Barcelona, Spain (Feb. 26, 2018), https://apps.fcc.gov/edocs_public/attachmatch/DOC-349432A1.pdf .

4 Chairman Ajit Pai, Remarks at Mobile World Congress Americas, San Francisco, CA (Sept. 12, 2017), https://docs.fcc.gov/public/attachments/DOC-346666A1.pdf .

- ***T-Mobile and Sprint Are Merging to Beat Verizon and AT&T, Not to Be Like Them.*** Verizon and AT&T are investing in a wide array of businesses in recognition of a converging broadband market, and therefore their interests and resources are spread across a lot of areas. New T-Mobile will be laser-focused on improved broadband connectivity at a lower price. This means New T-Mobile will not be coordinating with AT&T, Verizon or other large players to increase prices or restrict the amount of data delivered per dollar.
- ***Other Large Players Will Intensify Competition Further.*** Many significant companies, particularly Comcast and Charter, but also DISH, TracFone, and Google, have successfully entered or are on the verge of entering the wireless market, demonstrating the intensity of current competition in the sector. Indeed, renowned economists Professor Steven Salop and Dr. Yianis Sarafidis find that, "a conclusion that there will be higher risk of coordination after this merger cannot be supported" by the totality of the evidence and economic analysis. [5]

T-Mobile's Chief Executive Officer John Legere aptly captures the benefits of this transaction for consumers and competition:

> We are committing nearly $40 billion to bring this company into the 5G era over the first 3 years, with the majority of this investment focused on the rapid enhancement of the network, in order to retain our existing customer base, attract new customers, and benefit from being first to deliver transformative 5G services across the country. That's why we plan to expand T-Mobile's unique customer service model to Sprint while we subsequently deliver better coverage, reliability, and speed. And that's why we will keep prices low for consumers, who are vital to our ability to build out 5G infrastructure across the country. When it comes to changing how the wireless industry operates, we're only getting started. [6]

For these reasons, the grant of the T-Mobile and Sprint applications to transfer their authorizations to New T-Mobile clearly will serve the public interest, convenience and necessity.

5 Declaration of Prof. Steven C. Salop and Dr. Yianis Sarafidis, Charles River Associates, Appx. H, at ¶9.
6 Declaration of John Legere, Chief Executive Officer, T-Mobile US, Inc., Appx. A, at ¶23.

TABLE OF CONTENTS

By this application and related applications (the "Applications") [1] and pursuant to Sections 214 and 310(d) of the Communications Act of 1934, as amended ("the Act"), T-Mobile US, Inc. ("T-Mobile") and Sprint Corporation ("Sprint" and, collectively with T-Mobile, "Applicants") hereby request the Federal Communications Commission's ("FCC" or "Commission") consent to the transfer of control of the FCC authorizations, radio licenses, and spectrum leases held by Sprint's subsidiaries from Sprint to T-Mobile. In addition, the Applicants hereby request authority for the *pro forma* transfer of control of the authorizations, radio licenses, and spectrum leases held by T-Mobile's subsidiaries as a result of the proposed transaction. As discussed herein, the proposed transfers of control satisfy the Commission's standards for approval, generate substantial public interest benefits for the customers of T-Mobile and Sprint and for U.S. wireless customers as a whole, and do not give rise to any competitive harms. So that consumers can promptly enjoy these benefits, the Applicants seek expedited review and grant of the Applications.

I. DESCRIPTION OF THE APPLICANTS AND TRANSACTION

A. The Applicants

1. Description of T-Mobile

T-Mobile is currently the third largest wireless carrier in the United States, serving approximately 72.6 million customers under the T-Mobile and MetroPCS brands. [2] Through its owned and operated retail stores, third-party distributors, and its websites, T-Mobile offers wireless voice and data services to residential and business customers in the United States, Puerto Rico, and the U.S. Virgin Islands, as well as a wide selection of wireless devices and accessories.

---

1 Individual applications have been filed to transfer control of the radio station licenses, leases, subleases, satellite earth station licenses, submarine cable landing licenses, experimental licenses, and domestic and international Section 214 authorizations involved in this transaction. ULS File No. 0008224209 is the lead wireless application; *see also* Joint Application for Consent to Transfer Control of Domestic and International Authority Pursuant to Section 214 of the Communications Act, as amended, WT Docket No 18-197 (filed June 18, 2018).

2 T-Mobile US, Inc., Annual Report (Form 10-K), at 37 (Feb. 7, 2018), http://investor.t-mobile.com/Cache/392104903.pdf ("T-Mobile 2017 10-K").

T-Mobile is a publicly traded Delaware corporation headquartered in Bellevue, Washington. T-Mobile's 2017 revenues were approximately $40.6 billion, [3] its assets currently total approximately $70.56 billion, [4] its market capitalization is approximately $50.82 billion, [5] and it holds approximately $28.32 billion in debt. [6] The company is controlled by Deutsche Telekom AG ("Deutsche Telekom"), which indirectly holds approximately 62 percent of T-Mobile's stock. Deutsche Telekom is based in Bonn, Germany, and provides fixed broadband and wireless services to customers in more than 50 countries around the world. [7]

2. Description of Sprint

Sprint is the fourth-largest wireless carrier in the United States, serving approximately 54.58 million customers across its retail and wholesale wireless service offerings at the end of 2017, and is an interexchange carrier and Tier 1 Internet backbone provider. [8] Sprint offers a range of wireless and wireline voice and data products and services, as well as devices and accessories, to residential and business customers in the United States, Puerto Rico, and the U.S. Virgin Islands under the Sprint, Boost Mobile, Virgin Mobile, and Assurance Wireless brands.

3 *Id.* at 24.
4 *Id.*
5 *See* T-Mobile US, Inc., W ALL S TREET J OURNAL , https://quotes.wsj.com/TMUS (last visited June 16, 2018).
6 T-Mobile 2017 10-K at 24.
7 *See* Deutsche Telekom, *Leading European Telco,* https://www.telekom.com/en/company/details/leading-european-telco-355194 (last visited June 16, 2018).
8 Sprint Corporation, Annual Report (Form 10-K), at 40 (May 24, 2018), http://d18rn0p25nwr6d.cloudfront.net/CIK-0000101830/f87fb089-cbf4-415a-accf-2122a5b0323f.pdf ("Sprint 2017 10-K").

Sprint also provides wireline voice and data services to businesses with operations outside the United States.

Sprint is a publicly traded Delaware corporation with its headquarters located in Overland Park, Kansas. Sprint's 2017 revenues were approximately $32.41 billion, [9] its assets currently total approximately $85.46 billion, [10] its market capitalization is approximately $22.02 billion, [11] and it holds approximately $32 billion in net debt. [12] Sprint is controlled by SoftBank Group Corp. ("SoftBank"), which indirectly holds approximately 84 percent of Sprint's stock. [13] SoftBank is based in Tokyo, Japan, and provides mobile and fixed-line services in Japan through SoftBank Corp., its telecommunications subsidiary. [14]

B. The Transaction

The Business Combination Agreement between the parties sets forth the structure and steps of the proposed transaction. In short, the transaction will be a merger of Sprint into an indirect subsidiary of T-Mobile, with Sprint surviving as a direct subsidiary of T-Mobile USA, Inc., which is a direct subsidiary of T-Mobile. This will be accomplished through several, virtually simultaneous steps.

9 *Id.* at 30.

10 *Id.*

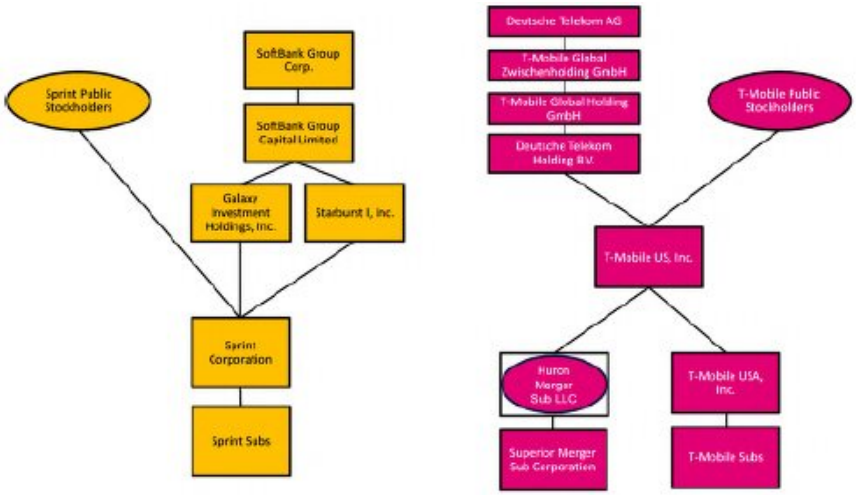
11 *See* Sprint Corporation, WALL STREET JOURNAL, https://quotes.wsj.com/S (last visited June 16, 2018).

12 Sprint 2017 10-K at 18. *See also* Sprint Corporation, *Sprint Delivers Best Financial Results In Company History With Highest Ever Net Income And Operating Income In Fiscal Year 2017* (May 2, 2018), http://investors.sprint.com/news-and-events/press -releases/press-release-details/2018/Sprint-Delivers-Best-Financial-Results-In-Company-History-With-Highest-Ever-Net-Income-And-Operating-Income-In-Fiscal-Year-2017/default.aspx (laying out debt maturity schedule).

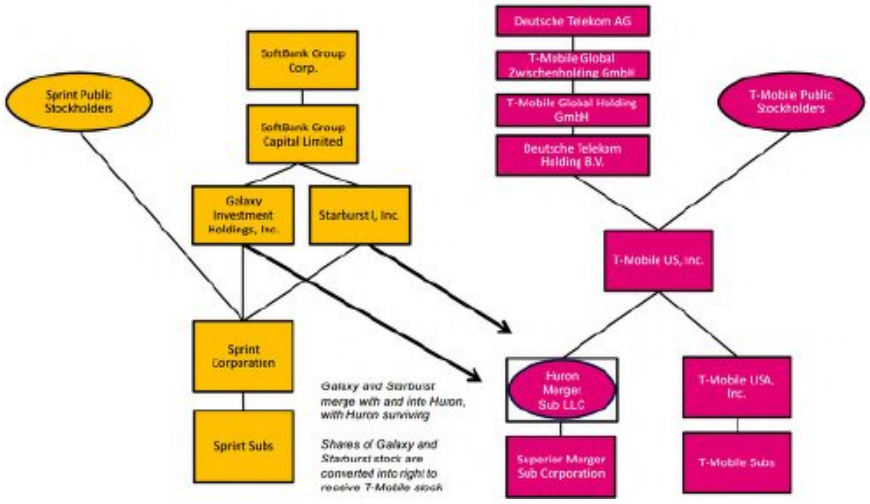
13 Sprint 2017 10-K at 1.

14 *See* SoftBank Group, *Group Structure,* https://www.softbank.jp/en/corp/irinfo/about/outline/ (last visited June 16, 2018).

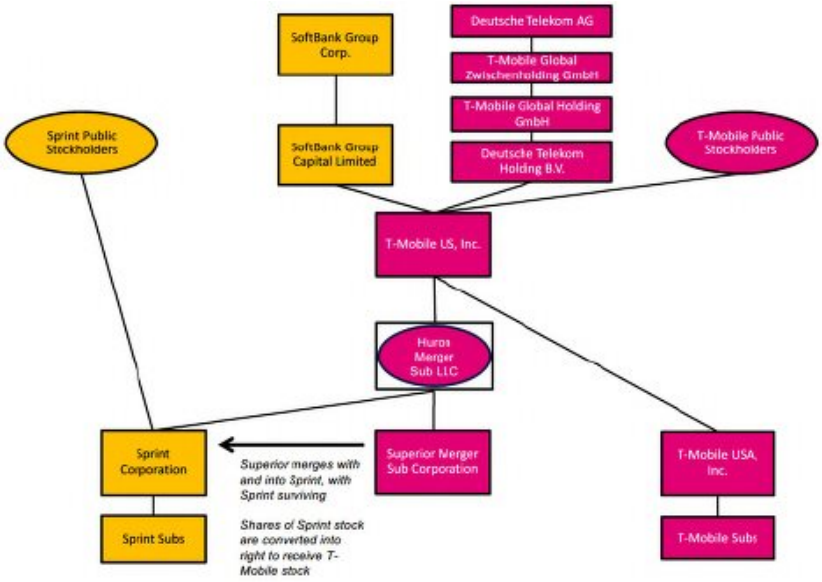
In anticipation of the transaction, T-Mobile has formed two indirect subsidiaries, Huron Merger Sub LLC ("Huron") and Superior Merger Sub Corporation ("Superior"). The current, pre-closing structure of Sprint and T-Mobile is illustrated below:



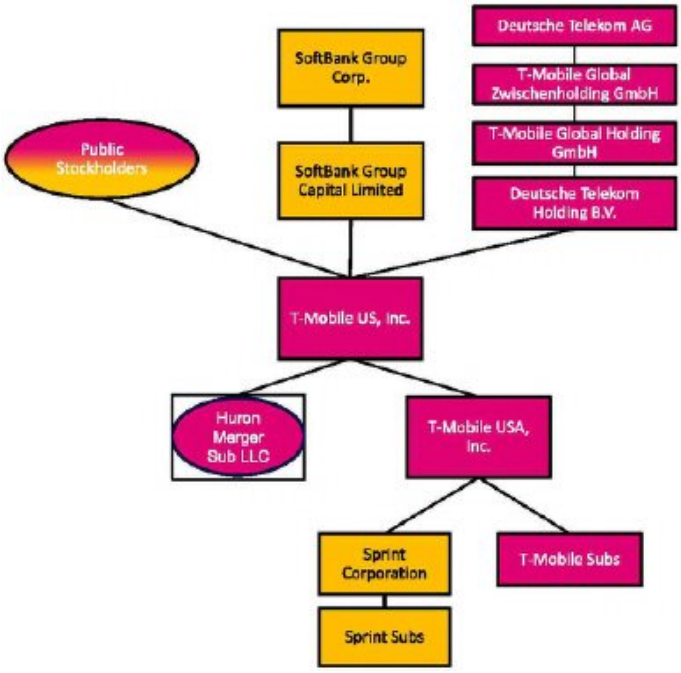
At closing, if certain conditions are met, the first step will be that SoftBank subsidiaries, Galaxy Investment Holdings, Inc. ("Galaxy") and Starburst, Inc. ("Starburst"), which currently collectively own approximately 84 percent of Sprint, will merge with and into Huron, with Huron continuing as the surviving corporation. All of the issued and outstanding shares of Galaxy and Starburst stock will be converted such that SoftBank will receive an aggregate number of shares of T-Mobile Common Stock, par value $0.00001 per share, equal to the product of 0.10256 (the "Exchange Ratio") and the aggregate number of shares of common stock of Sprint, par value $0.01 per share, held by Galaxy and Starburst, collectively.



Next, Superior will merge with and into Sprint, with Sprint continuing as the surviving entity. Each share of Sprint stock issued and outstanding (other than shares of Sprint Common Stock that were held by Galaxy and Starburst or are held by Sprint as treasury stock) will be converted into the right to receive a number of shares of T-Mobile Common Stock equal to the Exchange Ratio. SoftBank and its affiliates will receive the same amount of T-Mobile Common Stock per share of Sprint Common Stock as all other Sprint stockholders. If the first step above does not occur, Sprint shares held by Galaxy and Starburst will be converted into T-Mobile shares in this step.



As a final step, Huron will distribute Sprint stock to T-Mobile, which T-Mobile will then contribute to its subsidiary, T-Mobile USA, Inc. Following completion of these steps, Sprint will be a wholly owned subsidiary of T-Mobile USA, Inc., which is a direct subsidiary of T-Mobile. Deutsche Telekom and SoftBank are expected to hold approximately 42 percent and 27 percent of the fully diluted shares of T-Mobile Common Stock, respectively, with the remaining approximately 31 percent of the fully-diluted shares of T-Mobile Common Stock held by public stockholders. Pursuant to a Proxy, Lock-up and ROFR Agreement between Deutsche Telekom and SoftBank to be executed prior to closing, SoftBank will grant Deutsche Telekom the right to direct the voting of SoftBank's T-Mobile shares. The post-closing structure of New T-Mobile is below:



John Legere, CEO of T-Mobile and the creator of T-Mobile's successful Un-carrier strategy, will serve as Chief Executive Officer of the combined company. Mike Sievert, T-Mobile's current President and Chief Operating Officer, will serve as President and Chief Operating Officer of the combined company.

The Board of Directors ("Board") of New T-Mobile will be comprised of 14 members. Pursuant to the Business Combination Agreement, Deutsche Telekom will designate 9 directors (at least 2 of whom will be independent). SoftBank will designate 4 directors (at least 2 of whom will be independent). [15] The remaining director will be New T-Mobile's CEO. Existing T-Mobile Chairman and Deutsche Telekom CEO, Tim Höttges, has been designated to serve as

15 Masayoshi Son, current SoftBank Chairman and CEO, and Marcelo Claure, current SoftBank Chief Operating Officer and Sprint Executive Chairman, will serve on the Board of the new company as SoftBank designees.

Chairman of the Board of New T-Mobile. The combined company will have its headquarters in Bellevue, Washington, with a secondary headquarters in Overland Park, Kansas.

C. Approvals Requested

Sprint's subsidiaries hold a variety of FCC authorizations, licenses, and leases, including radio station licenses, leases and subleases, satellite earth station and Cable Television Relay Service ("CARS") licenses, submarine cable landing licenses, and domestic and international Section 214 authorizations. The transaction will result in a transfer of control of these authorizations to New T-Mobile and, accordingly, applications seeking Commission consent to such transfers are being contemporaneously submitted to the agency. The parties request that the Commission find that such transfers are in the public interest and grant the applications.

The transaction will also result in a *pro forma* transfer of control of the FCC authorizations, licenses, and leases held by T-Mobile's subsidiaries to New T-Mobile. These entities hold radio station licenses and leases, experimental licenses, and international Section 214 authorizations. As a result of having a majority of Board seats and the right to direct the voting of SoftBank's shares, T-Mobile's controlling shareholder, Deutsche Telekom, will retain *de facto* control of New T-Mobile post-closing even though its shareholdings in New T-Mobile will drop below 50 percent. While the Commission's rules permit post-closing notification for *pro forma* transfers of control of many of the licenses and leases held by T-Mobile's subsidiaries, T-Mobile is submitting all of its *pro forma* applications and notifications at this time per instructions from the FCC staff. It requests that the Commission approve such submissions.

Following consummation of the transaction, the T-Mobile and Sprint licensees will have indirect non-U.S. ownership in excess of 25 percent. For that reason, the parties are additionally submitting a request for declaratory ruling under Section 310(b)(4) of the Communications Act [16] and section 1.5000(a)(1) of the Commission's rules. [17] The parties seek Commission grant of that request.

II. FCC STANDARD OF REVIEW

A. Public Interest Evaluation

Pursuant to sections 214(a) and 310(d) of the Act, [18] when transactions in the communications industry are proposed involving common carrier authorizations under Title II or radio licenses under Title III, the Commission must determine whether the proposed transfer of control will serve the "public interest, convenience, and necessity." [19] Procedurally, if the proposed transaction does not violate a statute or rule, then the Commission "considers whether the transaction could result in public interest harms by substantially frustrating or impairing the objectives or implementation of the Act or related statutes." [20]

The Commission's review of potential competitive harms is an integral part of the FCC's public interest analysis, but importantly, the analysis "is informed by, but not limited to, traditional antitrust principles." [21] In particular, "the Commission's competitive analysis under the public interest standard is somewhat broader [than that conducted by the Department of Justice]," and "the Commission may impose and enforce narrowly tailored, transaction-specific

16 47 U.S.C. § 310(b)(4).

17 47 C.F.R. § 1.5000(a)(1).

18 47 U.S.C. §§ 214(a), 310(d).

19 47 U.S.C. §§214(a), 310(d). *See also AT&T Inc. and BellSouth Corp. Application for Transfer of Control,* Memorandum Opinion and Order, 22 FCC Rcd 5662, 5671-72 ¶19 (2007).

20 *Applications of Level 3 Communications, Inc. and CenturyLink, Inc. for Consent to Transfer Control of Licenses and Authorizations,* Memorandum Opinion and Order, 32 FCC Rcd 9581, 9585 ¶9 (2017) ("CenturyLink-Level 3 *Order")* .

21 *Id.* at 9585 ¶9.

conditions that address the potential harms of a transaction." [22] The FCC has clarified that it "will impose conditions 'only to remedy harms that arise from the transaction (i. *e.* , transaction-specific harms)' and 'related to the Commission's responsibilities under the Communications Act and related statutes,' and it 'will not impose conditions to remedy pre-existing harms or harms that are unrelated to the transaction.'" [23] Then, "if the Commission is able to find that narrowly tailored, transaction-specific conditions are able to ameliorate any public interest harms and the transaction is in the public interest, it may approve the transaction as so conditioned." [24]

The FCC's competitive review takes place against a backdrop where the Commission "has long recognized the clear public interest benefits in a license or authorization holder being able to assign or transfer control of its license or authorization freely." [25] And the Commission considers other benefits as well—the FCC "will also review other claimed public interest benefits of a transaction," although "applicants [bear] the burden of proving those benefits by a preponderance of the evidence." [26] While a finding of public interest benefits is thus necessary for approval, the FCC has emphasized that it does not "employ a 'balancing test,' . . . or a 'sliding scale approach.'" [27]

22 *Id.* at 9585-86 ¶9.

23 *Id.* at 9586 ¶9 (citing *SBC Communications Inc. and AT&T Corp. Applications for Approval of Transfer of Control,* Memorandum Opinion and Order, 20 FCC Rcd 18290, 18303 ¶19 (2005); *Applications of AT&T Wireless Services, Inc. and Cingular Wireless Corporation for Consent to Transfer Control of Licenses and Authorizations et al.* , Memorandum Opinion and Order, 19 FCC Rcd 21522, 21545-46 ¶43 (2004); *Applications of Nextel Partners, Inc. Transferor, and Nextel WIP Corp. and Sprint Nextel Corporation, Transferees, for Consent to Transfer Control of Licenses and Authorizations,* Memorandum Opinion and Order, 21 FCC Rcd 7358, 7361 ¶9 (2006); *Applications of AT&T Inc. and CellCo Partnership d/b/a Verizon Wireless for Consent to Assign or Transfer Control of Licenses and Authorizations and Modify a Spectrum Leasing Arrangement,* Memorandum Opinion and Order, 25 FCC Rcd 8704, 8747 ¶101 (2010) ("AT&T-Verizon *Wireless Order")).*

24 *CenturyLink-Level3 Order,* 32 FCC Rcd at 9586 ¶11.

25 *Id.* at 9586 ¶10.

26 *Id.*

27 *Id.* n.36. The Commission has specifically noted that it "has not allowed potential competitive harms to go unremedied nor allowed them to be offset by benefits that are not transaction-specific, *i.e.* , benefits that do not naturally arise from the transaction at issue." *Id.*

B. Product and Geographic Markets

In prior transactions, the FCC's competitive review has started by first determining "the appropriate market definitions for its evaluation," which "includes establishing the product and geographic market definitions that [the FCC] will apply." [28] The FCC has found that "[t]he relevant product market includes 'all products 'reasonably interchangeable by consumers for the same purposes.'"" [29] Specifically, the Commission has traditionally viewed the relevant product market for wireless services as "a combined 'mobile telephony/broadband services' product market, which is comprised of mobile voice and data services, including mobile voice and data services provided over advanced broadband wireless networks (mobile broadband services)." [30] In its analyses, however, the FCC has not restricted itself to facilities-based carriers, but rather has "assessed the competitive effect of Mobile Virtual Network Operators ('MVNOs') and resellers." [31]

28 *Application of AT&T Inc. and Qualcomm Incorporated,* Order, 26 FCC Rcd 17589, 17602 ¶32 (2011) ("AT&T- *Qualcomm Order")* .

29 *Id.* (citing *United States v. E.I. du Pont de Nemours & Co.* , 351 U.S. 377, 395 (1956); *United States v. Microsoft,* 253 F.3d 34, 52 (D.C. Cir. 2001), *cert. denied,* 122 S. Ct. 350 (2001)).

30 *AT&T-Qualcomm Order,* 26 FCC Rcd at 17603 ¶33 (citing *AT&T-Verizon Wireless Order,* 25 FCC Rcd at 8721 ¶35; *Applications of AT&T Inc. and Centennial Communications Corp. For Consent to Transfer Control of Licenses, Authorizations, and Spectrum Leasing Arrangements,* Memorandum Opinion and Order, 24 FCC Rcd 13915, 13932 ¶37 (2009) ("AT&T-Centennial *Order"); Applications of Cellco Partnership d/b/a Verizon Wireless and Atlantis Holdings LLC For Consent to Transfer Control of Licenses, Authorizations, and Spectrum Manager and De Facto Transfer Leasing Arrangements and Petition for Declaratory Ruling that the Transaction is Consistent with Section 310(b)(4) of the Communications Act,* Memorandum Opinion and Order and Declaratory Ruling, 23 FCC Rcd 17444, 17469-70 ¶45 (2008) ("Verizon *Wireless-ALLTEL Order"); Sprint Nextel Corporation and Clearwire Corporation Applications for Consent to Transfer Control of Licenses, Leases, and Authorizations,* Memorandum Opinion and Order, 23 FCC Rcd 17570, 17583-84 ¶26 (2008)).

31 *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 and Order, 29 FCC Rcd 2735, 2751 ¶35 (2014) (" *Cricket Leap-AT&T Order* ").

With respect to the appropriate geographic market, the FCC "will primarily use Cellular Market Areas ('CMAs') as the local geographic markets in which [it] analyze[s] the potential competitive harms." [32] The FCC has used CMAs historically because "most consumers use their mobile telephony/broadband services at or close to where they live, work, and shop, [and thus] they purchase mobile telephony/broadband services from service providers that offer and market services locally." [33] However, the Commission has also said that it "recognize[s] that two key competitive variables—prices and service plan offerings—do not vary for most providers across most geographic markets," and therefore in certain transactions the FCC "find[s] it is in the public interest not only to consider the local markets, but also to consider the effect of [the] transaction at the national level." [34]

C. The FCC Competitive Analysis and Mobile Services in a Converging Broadband Market

While the Applicants herein analyze the proposed transaction under the review framework that has been used by the FCC for mobile transactions in the past, [35] the mobile

32 *AT&T-Qualcomm Order* , 26 FCC Rcd at 17603 ¶32.

33 *Applications of Deutsche Telekom AG, T-Mobile USA, Inc., and MetroPCS Communications, Inc. for Consent to Transfer of Control of Licenses and Authorizations* , 28 FCC Rcd 2322, 2332-33 ¶31 (WTB 2013) (" *T-Mobile-MetroPCS Order* "). *See also AT&T-Qualcomm Order* , 26 FCC Rcd at 17604 ¶34 (stating "[n]othing in our record causes us to doubt that, in the event of a price increase limited to one CMA, . . . too few buyers would switch to purchasing mobile wireless services in another area to make that quality-adjusted price increase unprofitable.").

34 *AT&T-Qualcomm Order* , 26 FCC Rcd at 17605 ¶37.

35 Importantly, however, the Commission has not reviewed a major wireless transaction since the 2014 acquisition of Leap Wireless by AT&T. *See generally Cricket Leap-AT&T Order* . While the Commission has iteratively applied the prior definition of relevant "product market" in a string of decisions since 2014, it has not seriously considered whether the definition should be considered anew in light of technology and market changes.

services landscape has undergone significant transformation in recent years to converge with wireline services within the broadband market. Preferences and patterns for consuming communications services and content have shifted, with wireless being increasingly used as a complete solution to users' broadband data and video content needs—wireless is becoming many consumers' principal connection to the Internet. These changes have been driven by innovations like unlimited wireless plans and rapid changes in wireless technology that have enabled faster data connections. In this new environment, mobile providers are bringing mobile Internet, and content, to consumers in ways never imagined. Cord-cutting—in the broadest sense of removing any fixed landline connection to the home—is increasing and customers have become platform-agnostic. And, data is increasingly consumed not just by individuals, but also by machines connecting to other machines that are supporting infrastructure, services, and applications that will benefit consumers.

As the Applicants discuss, fundamental changes to the ways mobile broadband is used are being made at an accelerating pace, and the FCC has recognized that "the mobile wireless services marketplace is on the brink of a major technological transformation that is likely to be both competitively disruptive and transformative"—the introduction of 5G. In Section III.C, *infra,* the Applicants discuss the technological changes ongoing in the marketplace and the massive consumer welfare benefits that will cascade from New T-Mobile's 5G network and its derivative ability to offer 100 Mbps service to two-thirds of the country. That speed and coverage will allow New T-Mobile to bring new and enhanced competition to multiple adjacent business segments, including in-home broadband, consumer and business IoT, enterprise, and rural market segments. In Section IV, the Applicants then discuss the changing face of competition in a market shaped by the convergence of businesses around the central axis of

broadband connectivity. New T-Mobile will face competition from Verizon and AT&T—both entities are actively engaging in acquisitions and leveraging existing diverse assets to bundle services and content from related businesses to lure and keep subscribers. And, just as Verizon and AT&T are reaching into new areas, cable entities like Comcast and Charter and satellite providers like DISH are executing business strategies that exploit their existing consumer reach to provide broadband through wireless technology. As Chairman Pai has suggested, the lines between wireless and wireline service will continue to blur as technology advances and the former becomes a more reliable way to connect. [36]

Against this dynamic backdrop, now more than ever the FCC's review of the public interest benefits should not be retrospective or overlook clear trends and business plans being executed in the market today. [37] The FCC has always looked at potential competitive entry and changes in the market in its competitive analyses. [38] Especially at a time when the industry is undergoing transformative change, the merger should be considered in the context of today's marketplace.

---

36 *See* Diana Goovaerts, *FCC's Pai Won't Rule Out Wireless Consolidation,* Wireless Week (May 8, 2017), https://www.wirelessweek.com/news/2017/05/fccs-pai-wont-rule-out-wireless-consolidation .

37 As discussed in Section III.C, IV.D, and IV.E, even under a static view of the market, the substantial public interest benefits of this transaction far outweigh any potential harms.

38 *See, e.g.* , *CenturyLink-Level3 Order,* 32 FCC Rcd at 9589 ¶18 (noting "we assess the likelihood of competitive entry to the . . . in response to any post-Transaction unilateral attempt by the combined company to increase prices to customers at that location.") and 9602 ¶46 (observing "numerous potential competitors exist in the form of 'other large Internet providers, such as AT&T, Comcast, and Charter,' all of which are 'well positioned to compete aggressively in the transit marketplace,' in addition to other network owners, including firms such as Apple and Google, that have built IP networks to transport content to ISPs serving end-users but historically have not sold transit services," and recognizing "other developments in the transit services marketplace, such as falling capacity costs and the increasing tendency of large transit services customers to invest in their own network infrastructure, rather than purchasing capacity from transit providers.").

III. THE MERGER WILL PRODUCE SIGNIFICANT PUBLIC INTEREST BENEFITS

T-Mobile's Un-carrier approach of putting consumers first and driving increased competition has led to dramatic changes in the wireless industry over the last five-plus years. Today, all wireless consumers have the freedom to choose the carrier, plans, and services that work best for them, thanks in large part to T-Mobile's introduction of the Un-contract and elimination of termination fees and penalties for over-usage. [39] New T-Mobile will be able to leverage a unique combination of assets and unlock massive synergies that will allow it to build a world-leading 5G network, resulting in substantial benefits for consumers, competition, and the country.

A. The Merger Will Provide New T-Mobile with the Ability to Construct and Deploy a World-Leading 5G Network

Together, T-Mobile and Sprint possess a truly unique combination of spectrum, sites, and equipment that will provide New T-Mobile with the scale and resources necessary to supercharge the Un-carrier model. The combination of the two companies will generate enormous cost-savings in the form of approximately $43.6 billion total net present value cost synergies by 2024, allowing New T-Mobile to invest in new network technology, innovation, and operations to rapidly construct and deploy the first true, nationwide 5G network. [40] New T-Mobile will use these synergies to invest nearly $40 billion to bring the combined company into the 5G era over the next three years, or approximately three times the amount that T-Mobile would have invested on its own without the merger. [41] These merger synergies also will free up financial resources that can be invested into improving customer care, and expanding or enhancing business segments, such as in-home broadband, consumer and business IoT, business, and rural market segments. [42]

39 Declaration of John Legere, Chief Executive Officer, T-Mobile US, Inc., Appx. A, at ¶4 ("Legere Decl.").
40 Declaration of G. Michael ("Mike") Sievert, President and Chief Operating Officer, T-Mobile, US, Inc., Appx. C, at ¶12, 15 ("Sievert Decl.").
41 *Id.* at ¶15.
42 *Id.* at ¶16.

This capital commitment, paired with the unique combination of spectrum, sites, and equipment of T-Mobile and Sprint, will produce a network that will deliver unprecedented services to consumers, increasingly disrupt the wireless industry, and ensure U.S. leadership in the race to 5G. New T-Mobile also will be positioned to use its 5G network to deliver increased competition in broadband, enterprise, and video offerings. [43] Moreover, New T-Mobile will use the increased capacity realized by the combination of T-Mobile and Sprint's networks to deliver lower prices and allow for increased data usage by subscribers. [44] As T-Mobile President and Chief Operating Officer Mike Sievert explains, "[o]ur goal for the merger is to be the first, fastest, and best in the 5G race and to capture market share with the Un-carrier combination of value and quality." [45]

B. The Merger Enables Faster and Cheaper Deployment of a Nationwide 5G Network to Leapfrog Verizon and AT&T

Chairman Pai recently noted with respect to 5G deployment, "[i]f you ain't first, you're last." [46] Neither T-Mobile nor Sprint can win on its own, yet both see winning the race to deploy the first next-generation nationwide 5G network as critical to their combined future. The merger provides over $40 billion in synergies, a beneficial increase in scale, and a combination of

43 *Id.*

44 *Id.* at ¶21.

45 *Id.* at ¶12.

46 *See* Chairman Ajit Pai, Remarks at the Wireless Infrastructure Association Connectivity Expo (May 23, 2018), https://docs.fcc.gov/public/attachments/DOC-350919A1.pdf (citing Ricky Bobby, *Talladega Nights: The Ballad of Ricky Bobby* (Relativity Media 2006), in the context of country leadership in 5G).

complementary and essential assets (including spectrum and sites) to accelerate and deliver a superior nationwide 5G network that will be better and more expansive than anything the companies could deliver on their own. The goal, if not the imperative, is to leapfrog Verizon and AT&T's networks and, in doing so, force them and other competitors to more quickly provide faster, better 5G services and ensure U.S. leadership in the ongoing race to the 5G finish line.

The transaction will enable New T-Mobile to build a network with distinct advantages over both the standalone 5G networks planned by T-Mobile and Sprint and will provide a platform for an unrivaled nationwide 5G mobile service. [47] On a standalone basis, neither company has enough or the right combination of spectrum or cell site resources to deliver the enormous gains in capacity that New T-Mobile will provide in the near term. By having the option to use cell sites from either company, the transaction will allow the merged entity to have almost immediate access to more cell sites than either company would have absent the merger. New T-Mobile's deployment of T-Mobile's and Sprint's combined spectrum portfolios, together with the addition of many more radios across the combined network than either party would install on its own, will create a massive increase in capacity that would not be possible but for the transaction. The merger will also enable the combined company to dedicate more spectrum to 5G much sooner than either company could do individually, while also allowing New T-Mobile to more efficiently utilize existing spectrum assets for continued and unimpaired LTE services. At a fundamental level, the multiplicative effects associated with more cell sites, more

47 Declaration of Neville R. Ray, Executive Vice President and Chief Technology Officer, T-Mobile, US, Inc., Appx. B, at ¶4 ("Ray Decl."); Declaration of John C. Saw, Chief Technology Officer, Sprint Corporation, Appx. E, at ¶4 ("Saw Decl.").

spectrum per cell site, and higher spectral efficiencies will result in dramatic increases in capacity, throughput, [48] and coverage:

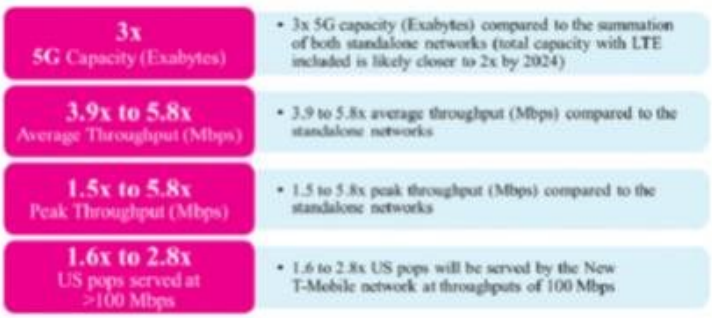


Figure 1: New T-Mobile 5G Network Comparison to Standalone Networks (2024) [49]

The increased competition for 5G leadership stimulated by the merger will dramatically enhance U.S. efforts to meet Chairman Pai's challenge to deliver world class 5G services to American consumers ahead of any other country. While T-Mobile and Sprint have each been developing plans to deploy 5G, their combined assets will bring significantly better and broader benefits to American consumers much sooner than either company could on its own, if ever. With a quicker path to true, nationwide 5G, New T-Mobile will exert competitive pressure on other U.S. providers to accelerate and improve 5G network deployment and thereby accelerate the country's technological progress, rapidly bringing enormous benefits to consumers.

1. Neither T-Mobile Nor Sprint Can Develop a Robust, Nationwide 5G Network on a Standalone Basis

The creation of New T-Mobile solves the most intractable problems standing in the way of T-Mobile and Sprint in building a superior, nationwide 5G network—the right mix of

48 Average data rate is not equivalent to the actual user experience. The user experience will be affected by a number of variable factors, including received signal strength, location of the mobile device and base station, and whether the device is in motion, among others.

49 Ray Decl. at ¶51.

spectrum and cell site resources needed to deliver 5G capacity and services faster than any other wireless provider in the world. On a standalone basis, T-Mobile would be capacity constrained and Sprint lacks coverage. The transaction will solve these issues as New T-Mobile combines each company's complementary spectrum and site assets to mitigate their individual shortcomings and leverage their strengths. The result will yield gains that are otherwise unattainable by each as a standalone network for the foreseeable future.

For T-Mobile, it would be cost-prohibitive to build out enough sites to reach comparable capacity and quality to what New T-Mobile can achieve. [50] In addition, T-Mobile's standalone capability to refarm spectrum to provide 5G service is limited because its spectrum is extensively used for LTE. [51] Its ability to roll out a robust 5G network is further challenged by its lack of available mid-band spectrum and the fact that additional mid-band spectrum suitable for 5G is not expected to become available via spectrum auctions in the near term. [52] For these reasons, and because LTE is significantly less spectrally efficient than 5G, [53] T-Mobile's ability to expand capacity to maximize the value of its spectrum assets and roll out robust 5G cannot come close to matching that of New T-Mobile.

Similarly, Sprint faces a number of constraints that do not allow it to roll out a nationwide 5G offering with robust and ubiquitous coverage. As is true for T-Mobile, Sprint cannot maximize the value of its spectrum as it would be cost-prohibitive for it to build out enough sites using its valuable 2.5 GHz spectrum to enable capacity, coverage, and quality

50 *Id.* at ¶32.
51 *Id.* at ¶18.
52 *Id.* at ¶18.
53 *Id.* at ¶24.

comparable to New T-Mobile's network. [54] Sprint is further constrained from deploying a geographically ubiquitous 5G network because of its lack of sufficient low-band spectrum and because the propagation characteristics of its 2.5 GHz spectrum restrict its ability to cover wide geographic areas, including many rural areas, or provide strong-in building coverage. [55] Sprint on a standalone basis would only cover much more limited geographic areas with 5G services using its 2.5 GHz spectrum. [56] Finally, Sprint's ability to fully dedicate its 2.5 GHz spectrum to 5G is limited by its need to use a significant portion of that spectrum for LTE under its standalone plans. [57]

a. T-Mobile's 5G Network Would Have Broad Coverage But Lack Capacity

T-Mobile has announced its intention to install a standalone 5G network utilizing its newly acquired 600 MHz low-band spectrum as well as its spectrum holdings in the millimeter wave bands. [58] T-Mobile recently began deploying equipment for its 600 MHz spectrum, which provides a clean slate for building a 5G network as an initial offering in the band. T-Mobile plans to build a 5G network in 30 cities during 2018, including New York, Los Angeles, Dallas and Las Vegas. [59] As a standalone network, T-Mobile would provide enhanced LTE through its 5G-compatible 600 MHz base stations and enable 5G on those sites when standards-based equipment becomes available. In sum, on a standalone basis, T-Mobile would have only [redacted]

54 Saw Decl. at ¶18, 23; Declaration of Brandon "Dow" Draper, Chief Commercial Officer, Sprint Corporation, Appx. F, at ¶10 ("Draper Decl.").

55 Saw Decl. at ¶23.

56 *Id.* at ¶18, 23.

57 *Id.* at ¶22-24.

58 *See* T-Mobile, *T-Mobile Ready to Rock New Spectrum With First 600 MHz LTE Smartphone & 5G-Ready Network Gear* (Aug. 31, 2017), https://newsroom.t-mobile.com/news-and-blogs/tmobile-600mhz.htm .

59 T-Mobile, *T-Mobile Building Out 5G in 30 Cities This Year . . . and That's Just the Start* (Feb. 27, 2018), https://newsroom.t-mobile.com/news-and-blogs/mwc-2018-5g.htm .

megahertz of spectrum dedicated to 5G with [redacted] megahertz of spectrum split between LTE and 5G in 2021 and only [redacted] megahertz of spectrum dedicated to 5G with [redacted] megahertz of spectrum split between LTE and 5G by 2024, and limited amounts of millimeter wave spectrum in select markets. [60] Thereafter, T-Mobile would refarm LTE spectrum to 5G gradually to avoid network congestion, and would devote more network resources to 5G over time.

The majority of T-Mobile's spectrum holdings that would be used for 5G coverage on a standalone basis reside in the 600 MHz band. While the 600 MHz band provides superior coverage and would allow T-Mobile to extend its footprint beyond areas currently served, this spectrum band is also constrained by its relatively low bandwidth and limited ability to efficiently support applications that require high data rates. [61] As a result, this band is best suited for certain mobile and IoT applications where wide area coverage, but not the highest data rate, is needed. [62]

To complement the low-band spectrum used for 5G, T-Mobile on a standalone basis would use up to 200 megahertz of millimeter wave spectrum for 5G, [63] which today covers nearly 100 million people in most major metropolitan markets, including New York, Los Angeles, San Francisco, Boston, Dallas, and Philadelphia. [64] While T-Mobile's millimeter wave spectrum constitutes a valuable component of its 5G plan, its millimeter wave holdings are far smaller than

60 For the AWS/PCS spectrum divided between LTE and 5G, some markets will have LTE, some will have 5G. *See* Ray Decl. at ¶41.

61 *Id.* at ¶¶18, 35, 38.

62 *Id.* at ¶52.

63 In most markets, T-Mobile has 200 MHz, but in others the company has as much as 800 megahertz.

64 Ray Decl. at ¶16, 34. *See also* T-Mobile, *T-Mobile Announces Plans for Real Nationwide Mobile 5G* (May 2, 2017), https://newsroom.t-mobile.com/news-and-blogs/nationwide-5g.htm ; Neville Ray, *Setting the 5G Record Straight: Announcing Plans for Nationwide 5G from T-Mobile* (May 2, 2017), https://newsroom.t-mobile.com/news-and-blogs/nationwide-5g-blog.htm.

those of Verizon and AT&T. [65] T-Mobile, therefore, has limited overall capacity and ability in the near term to serve a large number of simultaneous customers with high bandwidth applications as compared to its competitors. [66] The millimeter wave spectrum will be used to support applications that require very high speeds but, due to the propagation properties of this spectrum, millimeter wave band coverage will be available only in limited areas. [67]

Although T-Mobile will build a nationwide 5G network, as shown in the map below, its broad coverage is based on deployment of the 600 MHz spectrum, which lacks the bandwidth to deliver upon the full data rate and capacity gains possible for 5G. [68] The map below also demonstrates that T-Mobile's lack of access to significant, unused mid-band spectrum and large amounts of high-band millimeter wave spectrum across the entire U.S. would continue to limit its ability to support the most demanding, high capacity 5G applications. [69] While the Commission has announced future auctions for millimeter wave band spectrum, and T-Mobile may participate in those auctions, such auctions do not address the need for mid-band spectrum to support many of the consumer benefits that New T-Mobile would be able to provide. [70]

---

65 The Competitive Carriers Association recently calculated that AT&T and Verizon hold "a staggering 80 percent of the MHz-POPs in the 28 GHz and 39 GHz bands"—with 850 MHz in the 28 GHz band and 1,400 MHz in the 39 GHz band, that comes to an average of 1,800 MHz between the two carriers. *See* Application for Review or, in the Alternative, Petition for Reconsideration of Competitive Carriers Association, ULS File Nos. 0007652635 and 0007652637 (filed Mar. 12, 2018).

66 In contrast, both AT&T and Verizon have substantially greater millimeter wave band spectrum holdings that are licensed on a much broader geographic basis. *See* Competitor Chart, Appx. M.

67 Ray Decl. at ¶37.

68 *Id.* at ¶18.

69 *Id.*

70 *See Auctions of Upper Microwave Flexible Use Licenses for Next-Generation Wireless Services,* AU Docket No. 18-85 (rel. April 17, 2018), https://docs.fcc.gov/public/attachments/FCC-18-43A1.pdf; Ray Decl. at ¶18.

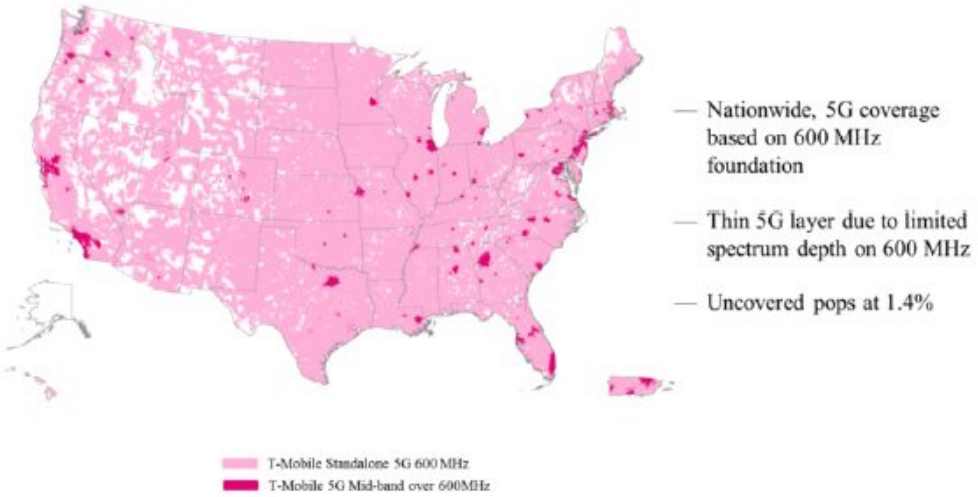


Figure 2: T-Mobile Standalone Projected 5G Coverage in 2024

b. Sprint's Standalone 5G Network Deployment Would Have Capacity But Lack Coverage

Like T-Mobile, Sprint's standalone 5G plans also face significant limitations, but whereas T-Mobile faces capacity constraints, Sprint faces coverage limitations. Sprint has announced plans to begin providing 5G commercial services and devices in the first half of 2019. [71] However, Sprint's spectrum holdings would require it to constrain 5G deployments to the 2.5 GHz band while it continues providing traditional 3G and 4G service in its other spectrum bands. [72] The majority of Sprint's spectrum holdings are in the 2.5 GHz mid-band, and this band will be the primary resource for the standalone company to develop and deploy 5G. However, by being restricted to this spectrum band, Sprint's standalone 5G network would be limited in terms of geographic reach. [73] The map below projects the extent of Sprint's 5G services in 2024.

71 Saw Decl. at ¶17.
72 *Id.* at ¶22-24.
73 *Id.* at ¶¶17-18.

Figure 3: Sprint Standalone Projected 5G Coverage in 2024

To begin offering 5G services on a standalone basis, Sprint would split its 2.5 GHz spectrum between 5G functionality and LTE. Initially, Sprint would upgrade approximately [redacted] sites to massive MIMO [74] in the 2018-19 timeframe. [75] To allow each 2.5 GHz base station site to support both LTE and 5G, Sprint would deploy split mode LTE+5G Dual Connect functionality at each site. The split mode functionality support by equipment vendors will allow Sprint initially to deploy massive MIMO sites for LTE only but then, through software changes, migrate to simulcasting LTE and 5G through a single radio at each base station site equipped in this fashion. [76]

74 Massive MIMO (multiple-in; multiple-out) is a technique that uses large antenna arrays so that multiple transmitters and receivers can simultaneously transmit to improve network coverage and capacity. In today's networks, 2x2 or 4x4 MIMO arrays are common, but massive MIMO requires a much larger antenna array. *See, e.g.* , Ericsson, *Going Massive with MIMO* (Jan. 26, 2018), https://www.ericsson.com/en/news/2018/1/massive-mimo-highlights .

75 Saw Decl. at ¶17. Sprint would roll out more than [redacted] massive MIMO sites in 2018, increasing to approximately [redacted] sites in 2019.

76 *Id.* at ¶¶20-21.

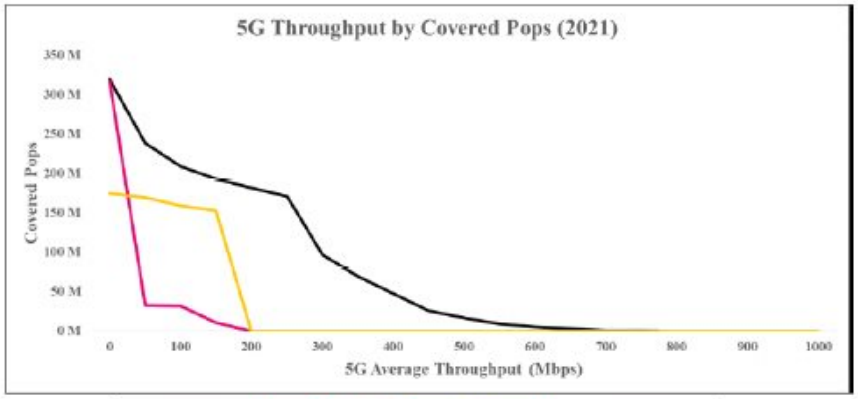
However, the performance impact of massive MIMO would occur only in the limited geographic areas where Sprint would deploy this technology on its own. Sprint expects to deploy this feature on approximately [redacted] sites by the end of 2020—and will be focused only on population-dense metropolitan areas, not ubiquitous geographic coverage. [77] Additionally, splitting 2.5 GHz spectrum between LTE and 5G significantly limits Sprint's ability to realize the full potential of this valuable spectrum resource. This is a substantial opportunity cost as compared to New T-Mobile, which can use the combined resources of both companies to deploy more of the 2.5 GHz band spectrum for 5G faster, unlocking greater performance benefits. [78] Sprint does not currently have plans to deploy 5G on its 800 MHz or 1900 MHz spectrum due to Sprint's limited available spectrum holdings in these bands and the need to continue to support 3G and 4G services with this spectrum. [79] New T-Mobile, on the other hand, would be able to deploy 5G on Sprint's PCS spectrum. [80]

In sum, while Sprint would be able to use its 2.5 GHz band spectrum resources to achieve higher data rates to meet the requirements of some new 5G applications, it would lack sufficient low-band spectrum needed to provide the robust, national 5G coverage that New T-Mobile would offer and would not be able to utilize as much 2.5 GHz spectrum for 5G.

77 *Id.* at ¶17.
78 *Id.* at ¶¶ 29, 33.
79 *Id.* at ¶¶23-24.
80 *See infra* Section III.B.2.b.

c. The Standalone Networks Cannot Deliver Data Rates Comparable to New T-Mobile

The limits of the standalone T-Mobile and Sprint network roll-outs are further highlighted by a review of the potential data rates each could provide to consumers. [81] The charts below depict the geographic distribution of data rates expected by each standalone company as compared to New T-Mobile.

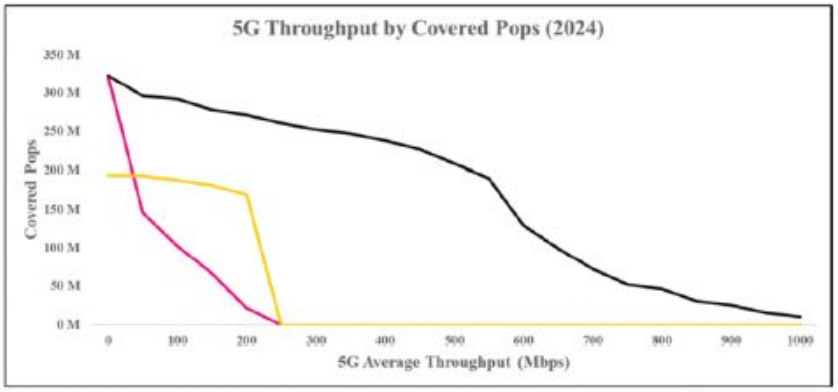


2021	T-Mobile	Sprint	New T-Mobile
Pops with > 100 Mbps	31.5 M	159.3 M	208.8 M
Pops with > 150 Mbps	10.8 M	153.1 M	193.4 M
Pops with > 300 Mbps			96.5 M
Pops with > 500 Mbps			16.2 M

Figure 4: 5G Speed vs. Covered Population Distribution (2021) [82]

81 Average data rate is not equivalent to the actual user experience. *See supra* n.48.

82 Ray Decl. at ¶18, Figure 3.



2024	T-Mobile	Sprint	New T-Mobile
Pops with > 100 Mbps	102.8 M	187.8 M	292.3 M
Pops with > 150 Mbps	66.6 M	181.4 M	278.1 M
Pops with > 300 Mbps			252.4 M
Pops with > 500 Mbps			208.7 M

Figure 5: 5G Speed vs. Covered Population Distribution (2024) [83]

The capacity constraints for standalone T-Mobile are demonstrated in the figures above. In 2021, New T-Mobile's 5G network will cover over 6.5 times the covered POPs with data rates greater than 100 Mbps and nearly 18 times the covered POPs with data rates greater than 150 Mbps as compared to the T-Mobile standalone 5G network. New T-Mobile's 5G network also will provide data rates exceeding 300 Mbps to nearly 100 million POPs and 500 Mbps to over 16 million POPs, which the T-Mobile standalone 5G network would be unable to do at all. This trend would continue in 2024, with New T-Mobile able to cover over 2.8 times the covered POPs with over 100 Mbps and over 4 times the covered POPs with more than 150 Mbps. New T-Mobile would be able to cover 252.4 million POPs at data rates greater than 300 Mbps and 208.7 million POPs at greater than 500 Mbps, while standalone T-Mobile would still be unable to cover anyone at those speeds. [84] Although the 5G network coverage supported by T-Mobile and New T-Mobile would be somewhat equivalent in terms of covered POPs, the merger would provide the network capacity and complementary spectrum resources to provide massively increased capacity and a significantly more robust mobile broadband experience for American consumers.

83 *Id.* at ¶18, Figure 4.

84 *Id.* at ¶18. The performance metrics defined here are derived by an internal T-Mobile engineering modeling effort.

The comparison to the standalone Sprint network yields a similar result. As shown in the figures above, in 2021, New T-Mobile will cover approximately 1.3 times the covered POPs with data rates greater than either 100 or 150 Mbps than standalone Sprint. Moreover, whereas New T-Mobile will provide data rates greater than 300 or 500 Mbps to a substantial portion of the covered POPs, Sprint would not be able to do so. In 2024, New T-Mobile will cover more than 1.5 times the covered POPs with data rates greater than 100 or 150 Mbps. And Sprint's standalone 5G network will still not cover any POPs with speeds greater than 300 Mbps. Therefore, the standalone Sprint 5G network will not come close to achieving the depth of service and performance that the New T-Mobile 5G network would deliver.

2. New T-Mobile Will Deploy 5G Faster and on a Much Wider and Deeper Basis, While Also Improving LTE Service

New T-Mobile will have significant advantages over both standalone networks that will allow it to create a platform for an unrivaled 5G mobile service. [85] The merger will enable the combined company to: (1) access more cell sites expeditiously than either company could do on its own, (2) deploy a unique combination of spectrum across more cell sites on a more accelerated basis than either company could do individually, (3) provide unencumbered spectrum for 5G deployment, (4) allow faster spectrum refarming that will drive better spectral efficiency, and (5) provide enhanced LTE services and a rapid, seamless migration for existing T-Mobile and Sprint customers.

85 Ray Decl. at ¶4; Saw Decl. at ¶4.

a. The Transaction Will Provide Nearly Immediate Access to More Cell Sites

New T-Mobile will be able to densify the network infrastructure nearly immediately and reuse spectrum more intensely from the natural "cell splits" occurring as a result of the deployment of both parties' spectrum on the combined network's sites. [86] A "cell" is shorthand for the coverage area surrounding the transmission from a base station. A "cell split" means that in that same coverage area, rather than a single base station, there are multiple base stations reusing the spectrum more intensely to improve network capacity. A simplified example of cell splitting is provided in the figures below:

Figure 6: Single Cell with 20 MHz of Bandwidth

Figure 7: Cell Split to 7 Cells Covering Same Area (7X improvement in capacity)

New T-Mobile will implement natural cell splitting by (1) anchoring on the T-Mobile cell site network, (2) augmenting the density of deployed cell sites by retaining a number of Sprint cell sites (approximately 11,000 retained sites), and (3) deploying both parties' spectrum across New T-Mobile's network, ultimately leading to far more 5G sites being deployed than either standalone company had planned or could practicably deploy. [87] This approach will lead to a multiplicative increase in overall network capacity, as demonstrated by the formula below. [88]

86 Ray Decl. at ¶31.

87 *Id.* at ¶32. Anchoring means that the existing T-Mobile network of cell sites and network core would be retained and supplemented with resources (cell sites, spectrum) from Sprint.

88 *Id.* at ¶23.

Number of cell sites x Spectrum (MHz) Deployed Per Site x Spectrum Efficiency = Capacity

The combined effect, as shown in the figure below, is to drive more spectrum availability at more sites for the New T-Mobile 5G network. [89]

These cell site increases would be practically and economically unattainable by T-Mobile without the transaction. To match the capacity of New T-Mobile, the T-Mobile standalone network would require approximately 162,400 cell splits. [90] In effect, standalone T-Mobile

89 *Id.* at ¶59.
90 *Id.* at ¶32.

would be required to more than double the number of existing sites in the next several years. [91] From an operational standpoint, it would not be possible to get this many sites designed and approved (through local zoning processes) in that short period of time. [92] And even if more than double the existing site base were possible, the costs associated with this exercise would be economically unachievable. [93] Having more than double the number of cell sites would more than double the operational expenditures (including cell tower rents and backhaul expenses) needed to support the network. Moreover, the capital expenditures needed to build out this many sites would be out of reach. [94]

Similarly, it would be infeasible for Sprint to match the throughput, capacity, and coverage of New T-Mobile. Sprint would face the same insurmountable challenge as standalone T-Mobile—an overwhelming increase in capital and operational expenditures that would not be supported by the cost model for the business. [95] Only through the creation of New T-Mobile can these economic barriers be overcome, enabling a rapid and substantial increase in capacity for consumers.

b. The Combined Company's Spectrum Assets Are Complementary and Span All Ranges to Create a True Nationwide 5G Network

By combining T-Mobile's and Sprint's spectrum resources, New T-Mobile will be positioned to rapidly deliver a broader and deeper 5G network and a superior, more consistent

91 *Id.*
92 *Id.*
93 *Id.*
94 *Id.*
95 Saw Decl. ¶18, 23.

user experience than either T-Mobile or Sprint could on its own. [96] The complementary spectrum assets of T-Mobile and Sprint will allow New T-Mobile to expeditiously create a nationwide, truly robust 5G network that will support a broad range of innovative 5G use cases. [97] New T-Mobile will deploy the spectrum holdings of T-Mobile and Sprint across the combined network, leading to the highest and best use of those assets, simultaneously allowing more customers access to ultra-fast speeds, and improving existing customers' LTE experience. [98] Faster refarming enabled by accelerated device deployment and New T-Mobile's unique spectrum portfolio will increase spectral efficiency.

From a spectrum standpoint, the merger yields the following key benefits:

- Access to a complementary spectrum portfolio to deploy 5G, including a combination of low-, mid-, and high-band spectrum that offers options for wide area coverage and high capacity;
- Spectrum available for 5G from Day One;
- Sufficient spectrum available to accelerate refarming of spectrum for 5G; and
- Sufficient available spectrum to accommodate existing users on legacy networks without degradation of quality while pursuing an aggressive refarming strategy.

Having a diverse mix of spectrum assets is the foundation for implementing a robust 5G network:

- Low-band spectrum (below 1 GHz) allows for better coverage in-building as well as in rural areas. These bands can support cell site operating radii of up to 18 miles, allowing for broad coverage without the need for as much capital expenditure, such as backhaul and tower rents, especially in rural areas. [99]

96 *See, e.g.* , Ray Decl. at ¶60.
97 *Id.* at ¶33.
98 *Id.*
99 *Id.* at ¶35.

- Mid-band spectrum (from 1 GHz to 6 GHz) is better suited to suburban and urban areas as it provides higher capacity but some diminishment in coverage. The mid-band has more available spectrum, meaning that more capacity can be delivered from a single cell site. However, operating areas around mid-band cell sites would be reduced to approximately 4 miles, which makes the band less optimal for rural market coverage. [100]
- Finally, high-band, millimeter wave spectrum (above 20 GHz) is preferable in dense urban markets to address extreme demand, the need for low latency, and high-speed data applications. Cell operating areas are significantly less than half a mile in the millimeter wave bands, making use of this spectrum economical only in very densely populated areas. However, the physical characteristics of millimeter wave spectrum (large bandwidth availability, ability to use very small antennas) allows for much higher data rates (multiple gigabits per second) than mid-band or low-band spectrum. [101]

By combining all these spectrum resources, New T-Mobile will be able to accommodate existing LTE users and dedicate more spectrum to 5G. The aggregate amount of spectrum available to New T-Mobile will allow it to dedicate spectrum in the 600 MHz, 2.5 GHz, and millimeter wave bands to 5G more rapidly—with a migration path to ultimately also offer 5G using the AWS and PCS bands more quickly. [102]

The spectrum refarming plans of T-Mobile, Sprint and New T-Mobile included below demonstrate the complementary spectrum holdings across the low-, mid-, and high-bands that New T-Mobile will utilize for 5G and LTE services.

100 *Id.* at ¶36.
101 *Id.* at ¶37.
102 *Id.* at ¶¶41-42.

As can be seen, the combined entity's spectrum resources will allow New T-Mobile to deploy 5G more quickly by providing the flexibility to continue offering LTE service to all customers in some bands, while focusing on building out the 5G network in others. By 2024, on average, New T-Mobile will have at least megahertz of 600 MHz spectrum, megahertz of PCS, and MHz of 2.5 GHz spectrum to deliver 5G services. [104] In sum, by 2024, New T-Mobile will have approximately megahertz of dedicated 5G low- and mid-band spectrum nationally (and

103 *Id.* at ¶40, Table 2.

104 megahertz of AWS spectrum in certain markets will also be available for 5G, but is not included in this count for New T-Mobile.

possibly more if refarming is faster than projected), while the combined standalone companies would on average only have a little over [redacted]megahertz [105] —less than half as much.

c. New T-Mobile Will Allow Faster Spectrum Refarming That Delivers Spectral Efficiency Gains

The ability to rapidly migrate consumers from LTE to 5G also provides immediate benefits because 5G has much better spectral efficiency. [106] An increase in spectral efficiency translates into a proportional increase in the number of users supported at the same load per user—or, for the same number of users, an increase in throughput available to each user. As T-Mobile's Chief Technology Officer Neville Ray describes in greater detail in his declaration, 5G delivers spectral efficiency improvements due to four main factors: (1) lean carrier design; (2) high bandwidth utilization; (3) improved massive MIMO and beamforming; and (4) inter-cell coordination. [107] Each of these improvements contributes to significant spectral efficiency benefits for 5G. Greater efficiency gains will be provided in the high-band spectrum because this spectrum has smaller wavelengths. [108] Smaller wavelengths mean that antennas optimized for that frequency can be smaller—meaning that more antenna elements can be placed in a given area or form factor. More antennas will typically improve coverage and capacity in the network. [109]

As can be seen in the table below, moving from LTE to 5G will result in low-band spectrum receiving a 19 percent improvement in average spectral efficiency (2.1 bps/Hz to 2.5

105 The combined standalone calculation for 2024 is: [redacted]megahertz of 600 MHz spectrum for T-Mobile and [redacted]megahertz of 2.5 GHz spectrum for Sprint. [redacted] megahertz of PCS and [redacted]megahertz of AWS spectrum in certain markets will also be available for 5G, but is not included in this count from standalone T-Mobile.

106 Ray Decl. at ¶43.

107 *Id.* at ¶44-49.

108 *Id.* at ¶49.

109 *Id.*

bps/Hz) and mid-band receiving a 52 percent improvement in average spectral efficiency (2.5 bps/Hz to 3.8 bps/Hz). [110] These improvements in efficiencies could not be achieved at the same pace without the transaction because neither company has the required spectrum resources to migrate users to 5G in the low- and mid-band spectrum as rapidly as New T-Mobile, nor does either company have sufficient spectrum to create the transformational speed and capacity improvements at scale that New T-Mobile will provide.

	Average Spectral Efficiency (bps/Cell)			Percentage Increase
Spectrum	**Antennas**	**LTE**	**5G**	
Low band	4x2 MIMO	2.1	2.5	19%
Mid band	4x4 MIMO	2.5	3.8	52%
mmWave	mMIMO	N/A	7	N/A

Table 2: Spectral Efficiency Comparison [111]

d. New T-Mobile Will Provide LTE Network Benefits and a Fast and Seamless Migration for Existing Customers

Because spectrum must be preserved for the existing LTE network and to serve consumers with LTE-only devices, spectrum cannot easily be re-assigned for 5G use. In fact, one of the primary barriers limiting technological advancement in wireless technology is the need to continue servicing the older technology during the transition. Repurposing existing spectrum away from LTE and other legacy services requires careful coordination and a broad and deep spectrum portfolio to avoid undermining the performance of the current predominant LTE service. New T-Mobile's broader spectrum portfolio will allow it to devote substantial spectrum resources to 5G more rapidly, while also enhancing the coverage and capabilities of the existing LTE network. This spectrum depth will allow New T-Mobile to transition subscribers to 5G much faster than either T-Mobile or Sprint could alone and will allow more spectrum (and a higher percentage of the company's spectrum) to be dedicated to 5G than either company could manage on its own. [112]

110 *Id.* at ¶50.

111 The spectral efficiency improvements are derived from equipment vendor simulations, internal T-Mobile analysis, and ITU requirements.

112 Ray Decl. at ¶40.

New T-Mobile will optimize the use of existing LTE spectrum resources (AWS, PCS, 600 MHz, 700 MHz, and 800 MHz spectrum bands) to provide enhanced LTE, while simultaneously freeing up extensive spectrum resources for 5G (using 600 MHz, PCS, AWS, 2.5 GHz, and millimeter wave band spectrum). [113] As part of this transition, Sprint customers' 2.5 GHz LTE traffic will move to T-Mobile's AWS spectrum, which could not occur but for this transaction. This refarming frees resources to implement a pure 5G network in the 2.5 GHz band as rapidly as possible. As can be seen from Table 1 above, the LTE migration for the 2.5 GHz band is projected to be complete by 2022 for the combined entity, while standalone Sprint would likely still be required to reserve at least [redacted] megahertz of 2.5 GHz spectrum for LTE through 2024 (and would reserve at least some 2.5 GHz spectrum for LTE for the foreseeable future). [114] This means that New T-Mobile will have [redacted] megahertz of 2.5 GHz spectrum dedicated nationally to 5G, as compared to the [redacted] megahertz that Sprint would have on its own—an increase of 75 percent. In addition, by 2024, the transaction will allow all [redacted] megahertz of available PCS spectrum to be dedicated nationally to 5G, whereas the standalone companies would only have [redacted] megahertz of PCS available in some markets. [115]

At the same time, during the transition to 5G, the Sprint and T-Mobile PCS and AWS spectrum will provide a dense LTE layer in combination with the Sprint 800 MHz and 2.5 GHz

113 *Id.*

114 Saw Decl. at ¶22.

115 Ray Decl. at ¶42. Sprint would [redacted] available for 5G; T-Mobile would have [redacted] megahertz of PCS available only in some markets.

and T-Mobile 600 and 700 MHz spectrum assets and allow for 5G to be deployed without degrading the LTE experience. [116] New T-Mobile's LTE network will be able to maintain LTE average data rates without any network congestion and without a need for any additional costs for cell splits. [117] In contrast, in transitioning to 5G, both standalone companies would have lower LTE average data rates with high levels of congestion, absent additional cell splits or other network investments. [118]

In addition, New T-Mobile will rely upon best practices developed during previous technology migrations to allow for the smooth migration of existing T-Mobile and Sprint customers to the new network. [119] New T-Mobile will use the existing T-Mobile network as its anchor, increase network density and coverage with selected Sprint retained sites, deploy 2.5 GHz spectrum on T-Mobile sites, and utilize the full T-Mobile spectrum portfolio on virtually all the Sprint retained sites, as needed. [120] This will enable New T-Mobile to migrate Sprint customers to the existing T-Mobile network within three years without degrading the user experience for LTE, while simultaneously allowing a more rapid introduction of a robust 5G network. [121] The New T-Mobile LTE network will maintain a consistent data throughput level, while avoiding any network congestion, during this more rapid 5G migration than would be possible for either company on a standalone basis. [122]

116 *Id.* at ¶40. Saw Decl. at ¶¶31-33.
117 Ray Decl. at ¶62.
118 *Id.*
119 *Id.* at ¶71.
120 *Id.* . at ¶¶63-65.
121 *Id.* at ¶65.
122 *Id.* at ¶¶61-62.

The transition of T-Mobile customers to New T-Mobile will be simplified because the existing T-Mobile network will be the anchor network for the combined company, allowing T-Mobile's existing subscriber base immediately to access the New T-Mobile network and enjoy the overall benefits from increased speed, capacity, and footprint in the near term. [123] In a similar fashion, Sprint subscribers with compatible devices will be able rapidly to convert to the New T-Mobile network and, almost immediately, be able to take advantage of the greater network breadth and depth. [124] About one-half of Sprint's branded customer base, or about 20 million users, have devices that are compatible with T-Mobile's network and can be integrated into the New T-Mobile network with an over-the-air software update shortly after deal close. [125] Additionally, New T-Mobile will migrate Sprint CDMA voice users to VoLTE (either through a software upgrade or handset replacement promotions). [126] Significantly, the one area of overlapping spectrum holdings—the 1900 MHz PCS band—will allow a seamless integration of Sprint's existing customers onto T-Mobile's network. [127] Finally, billing and back office system transitions will occur over time to minimize disruption to distribution, customer care, and operations.

Track Record of Successful Migration. T-Mobile has a proven track record of success in large-scale customer migration, and will use this experience to ensure the migration of Sprint customers to the New T-Mobile network is smooth, quick, and painless. After acquiring

123 *Id.* at ¶70.

124 *Id.* at ¶¶64-69.

125 *Id.* at ¶72.

126 VoLTE is an acronym for Voice over LTE networks. VoLTE is a standards-based technology that is required to allow for the delivery of voice calls over the LTE network. Sprint is beginning to deploy VoLTE on its network on a standalone basis in 2018. By moving Sprint customers to the T-Mobile network, VoLTE-capable devices of existing Sprint customers can immediately be updated through an over-the-air software upgrade. *See* Saw Decl. at ¶7.

127 Ray Decl. at ¶72.

MetroPCS, T-Mobile projected that it could complete the entire migration of approximately 9 million MetroPCS subscribers in 24 months. [128] At the time, industry experts predicted "a hugely complex and challenging migration that will take significant time and investment, and which is a major risk for derailing the benefits of the deal." [129] Indeed, the migration was complex—it involved a market-by-market transition of MetroPCS customers from an incompatible network (CDMA) that required handset changes for all existing subscribers to access the T-Mobile network. [130] However, T-Mobile's team was able to migrate 70 percent of MetroPCS subscribers within 15 months and complete the full migration within 26 months, with the majority of markets completed well ahead of this date, and well before outside predictions. [131]

After the migration, MetroPCS customers enjoyed radically expanded coverage (as T-Mobile retained more MetroPCS cell sites than its original target to increase coverage and capacity). [132] The MetroPCS customer base has doubled in the first 4.5 years since the deal closed, testifying to the success of the migration and the improved customer experience for these subscribers. [133] Refarming spectrum from MetroPCS CDMA to LTE was also expedited—70 percent of MetroPCS subscribers migrated to HSPA+ or LTE within 15 months and this enabled a more accelerated refarm of the MetroPCS spectrum to LTE (from CDMA). [134] Furthermore, the company's rapid decommissioning of the old MetroPCS equipment allowed it to realize the target synergies a year ahead of schedule and achieve 40 percent higher synergies than planned. [135]

128 *Id.* at ¶71.

129 Harro Ten Wolde and Sinead Carew, *Merged T-Mobile USA, MetroPCS to face tech challenges* , REUTERS (Oct. 3, 2012), https://www.reuters.com/article/us-deutschetelekom-tmobile/merged-t-mobile-usa-metropcs-to-face-tech-challenges-idUSBRE8920IY20121003 .

130 Ray Decl. at ¶71.

131 *Id.*

132 *Id.*

133 *Id* .

134 *Id* .

135 *Id* .

Just like the MetroPCS transaction, the migration required following the proposed transaction must be accomplished on a market-by-market basis. [136] New T-Mobile will use the same know-how, same tools, and a similar approach for migrating Sprint customers as it did for MetroPCS. [137] By carefully managing this transition process, New T-Mobile will ensure existing T-Mobile and Sprint subscribers migrate to the new network in a seamless manner without negatively affecting their day-to-day wireless experience. [138] Moreover, the current LTE performance will not only be maintained, but also improved, due to the efficiencies associated with the complementary spectrum and network assets of T-Mobile and Sprint that will be combined in one network. [139]

3. The New T-Mobile 5G Network Will Result in Substantial Customer Experience Improvements Over the Standalone Networks of Either Company

Combining the two companies' assets will boost average throughput, make greater capacity available, and increase the reliability and depth of coverage everywhere—providing benefits to consumers that would not arise but for the merger. [140] Aggregating the two companies' spectrum and site portfolios will dramatically increase capacity, reduce costs, and decrease the need to split existing spectrum between LTE and 5G. [141] This approach will

136 *Id* . at ¶72.
137 *Id* .
138 *Id* . at ¶63.
139 *Id* . at ¶62.
140 *Id.* at ¶53.
141 *Id.* at ¶40.

improve the subscriber experience by creating more spectrum dedicated solely to 5G, while keeping significant spectrum to maintain LTE quality of service. [142] Also, for both the LTE and 5G networks, the combination of fewer sites per subscriber to support the same traffic and subscriber base will cost-effectively support an increase in subscriber density per site, resulting in lower operating expenses.

a. New T-Mobile Will Dramatically Increase Overall Capacity for 5G Customers

While both T-Mobile and Sprint have standalone plans to deploy 5G networks, the combined company will make available significantly more capacity for 5G services. As seen in the tables below, the combined company provides substantial capacity improvements that will benefit consumers, both in the near term (by 2021) and in the medium term (by 2024).

Entity	2021 5G Monthly Available Capacity (Exabytes)	2024 5G Monthly Available Capacity (Exabytes)
T-Mobile	[redacted]	[redacted]
Sprint	[redacted]	[redacted]
New T-Mobile	6.8	20.3

Table 3: 5G Monthly Available Capacity (in addition to LTE) [143]

142 *Id.* at ¶33.
143 *Id.* at ¶57, Table 6.

Entity	2021 5G Monthly Carried Capacity (Exabytes)	2024 5G Monthly Carried Capacity (Exabytes)
T-Mobile	[redacted]	[redacted]
Sprint	[redacted]	[redacted]
New T-Mobile	[redacted]	[redacted]

Table 4: 5G Monthly Carried Capacity (in addition to LTE) [144]

Entity	2021 LTE Available Capacity (Exabytes)	2024 LTE Available Capacity (Exabytes)
T-Mobile	[redacted]	[redacted]
Sprint	[redacted]	[redacted]
New T-Mobile	[redacted]	[redacted]

Table 5: LTE Monthly Available Capacity [145]

Entity	2021 LTE Carried Capacity (Exabytes)	2024 LTE Carried Capacity (Exabytes)
T-Mobile	[redacted]	[redacted]
Sprint	[redacted]	[redacted]
New T-Mobile	[redacted]	[redacted]

Table 6: LTE Monthly Carried Capacity Per Month [146]

New T-Mobile's capacity and output will give it the ability to deploy broad-based 5G services rapidly without compromising the quality of services for existing subscribers. [147] It will also allow New T-Mobile to provide ever more competitive offerings in the marketplace, such as

144 *Id.* at ¶57, Table 7.
145 *Id.* at ¶57, Table 8.
146 *Id.* at ¶57, Table 9.
147 *Id.* at ¶¶39, 52.

unlimited data, at much higher data rates to the benefit of consumers. [148] Additionally, the greater available capacity will enable New T-Mobile to compete directly against other types of wired broadband providers and deliver additional consumer benefits discussed in detail below, including supporting higher quality video streaming, faster data downloads, and new and innovative applications such as augmented and virtual reality. [149] Absent this transaction, neither company alone would have the cell sites, spectrum, and spectral efficiency gains needed to drive the increased capacity available to New T-Mobile. [150]

b. New T-Mobile Will Provide Faster Data Rates for 5G

With greater spectrum resources, enhanced capacity, and a denser cell site network, New T-Mobile will be able to provide dramatic improvements in data rates to consumers. [151] The tables below demonstrate the substantially improved data rates that will occur by 2021 and 2024 due to the transaction.

Entity	Average 5G Data Rates (Mbps)	Peak 5G Data Rates (Mbps)
T-Mobile	25	900
Sprint	55	300
New T-Mobile	149	1500

Table 7: Average and Peak Data Rate Comparisons (Year 2021) [152]

148 *Id.* at ¶51.
149 *Id.* at ¶15.
150 *Id.* at ¶¶39-42.
151 Average data rate is not equivalent to the actual user experience. *See supra* n.48.
152 Ray Decl. at ¶53, Table 4.

Entity	Average 5G Data Rates (Mbps)	Peak 5G Data Rates (Mbps)
T-Mobile	76	2700
Sprint	113	700
New T-Mobile	444	4100

Table 8: Average and Peak Data Rate Comparisons (Year 2024) [153]

These marked improvements in data rates will have a direct impact on wireless consumers. Customers traditionally have relied upon wired, rather than wireless, connections to deliver average data rates in excess of 25 Mbps—and these wired connections have been extremely costly. The merger will allow New T-Mobile to deliver data rates that compete against wired data speeds (and exceed current wireless speeds) and enable the delivery of myriad new and improved services. [154]

This increased capacity results, in part, from greatly expanding the 2.5 GHz 5G geographic coverage, as the New T-Mobile 5G network infrastructure will be much denser than Sprint could deploy on a standalone basis. [155] The geographic coverage for 5G deployments for New T-Mobile and standalone Sprint are provided below.

153 Id. at ¶53, Table 5.
154 *Id* . at ¶53.
155 Saw Decl. at ¶12.

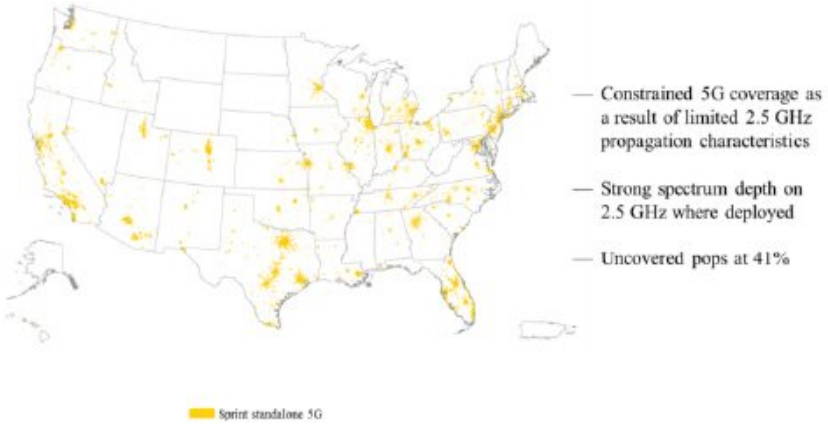


Figure 9: Sprint Standalone 5G Coverage in 2024

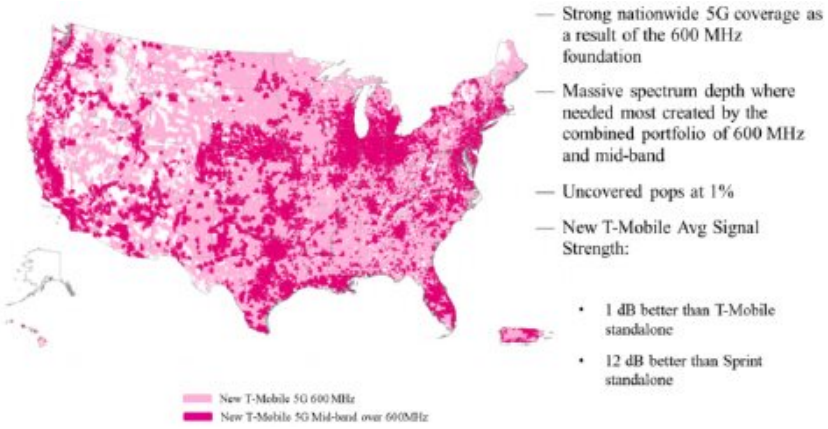


Figure 10: New T-Mobile 5G Coverage in 2024

New T-Mobile will leverage the variety of spectrum at its disposal to deploy greater quantities (more spectrum per cell site) more densely (to more cell sites throughout the network). [156] New T-Mobile will be able to deploy a capacity layer of 2.5 GHz spectrum to provide much higher 5G data rates to many more consumers than either T-Mobile or Sprint could provide alone. [157] Moreover, the combined company will be able to deploy more spectrum

156 Ray Decl. at ¶23; Saw Decl. at ¶¶ 27-28, 30.
157 Ray Decl. at ¶38.

in more cell sites, providing a much more consistent signal strength throughout the coverage area than either company could on a standalone basis. [158] Signal strength is one of the best approximations of the actual user experience—the stronger and more consistent the signal strength, the more likely the consumer will have a steady and robust connection. [159] For this reason, signal strength is directly related to the actual data rates delivered to a customer. [160] As shown in the table below, the New T-Mobile network will cover a far larger population than either T-Mobile or Sprint would on its own.

		T-Mobile	Sprint	New T-Mobile
	Network Coverage Footprint	**Covered Pops (Millions)**	**Covered Pops (Millions)**	**Covered Pops (Millions)**
Year 2021	Mid-band (PCS & 2.5GHz)	74.6 (77% uncovered)	174.7 (47% uncovered)	240.9 (26% uncovered)
	Low-band (600)	317.9 (2.9% uncovered)	0 (100% uncovered)	319.6 (2.4% uncovered)
Year 2024	Mid-band (PCS & 2.5GHz)	173.2 (47% uncovered)	194.0 (41% uncovered)	282.2 (14% uncovered)
	Low-band (600)	323.0 (1.4% uncovered)	0 (100% uncovered)	324.1 (1.0% uncovered)

Table 9: 5G Coverage Comparisons [161]

4. New T-Mobile Will Cause Verizon, AT&T, and Others to Accelerate and Increase Investment in Their 5G Networks

The scope and scale of the New T-Mobile 5G network will necessitate a competitive response from parties seeking to compete in the broadband market, including Verizon and

158 *Id.*
159 *Id.*
160 *Id.*
161 *Id.* at ¶39, Table 1.

AT&T. The capacity added by New T-Mobile's 5G network, as well as the response it will induce in its competitors, will have a significant consumer welfare benefit, both enhancing value for subscribers in the form of greater quality and decreasing prices across the board. [162] And beyond the simple increase in capacity, New T-Mobile will be able to deploy a multi-faceted 5G network that combines T-Mobile low- and high-band spectrum with Sprint mid-band spectrum to provide the full array of features and improvements that the new 5G standard promises across the country. [163]

At present, both Verizon and AT&T have announced 5G deployments that rely upon their significant millimeter wave band holdings, but are not true nationwide 5G networks because they lack coverage outside the most densely populated areas. Millimeter wave spectrum has massive bandwidth, which provides the potential for incredible capacity when deployed in high density areas. [164] Even though Verizon and AT&T also have significant low- and mid-band spectrum resources, [165] they have both concentrated on limited 5G networks built around millimeter wave spectrum—in the case of Verizon, seemingly as a fixed fiber replacement [166] and, in the case of AT&T, providing mobile broadband in very select metropolitan areas. [167] Neither carrier has yet announced plans to extend 5G to cover rural markets, which would require that they refarm low-

162 *See infra* Section III.C.1.

163 Ray Decl. at ¶52.

164 *Id.* at ¶37.

165 *See e.g.* , *Annual Report and Analysis of Competitive Market Conditions With Respect to Mobile Wireless, Including Commercial Mobile Services, Report, 32 FCC Rcd 8968, 8995-97 ¶¶40-41 (2017) ("Twentieth Mobile Wireless Competition Report").*

166 Verizon has announced plans to launch 5G residential broadband service in 3-5 markets in late 2018, but makes no commitment on offering mobile 5G services, opting to wait until more mobile devices become available. *See, e.g.* Verizon, *What it means to lead the race to 5G* (Apr 25, 2018), http://www.verizon.com/about/news/what-it-means-lead-race-5g .

167 AT&T, *AT&T to Launch Mobile 5G in 2018* (Jan. 4, 2018), http://about.att.com/story/ att_to_launch_mobile_5g_in_2018.html .

and mid-band spectrum away from 4G LTE users and potentially require cell-splitting or new investments in spectrum. Instead, Verizon and AT&T seem more intent on taking advantage of vertical assets they uniquely possess through various content and distribution acquisitions. These announced 5G plans pale in comparison to New T-Mobile's proposed deployment of 5G services to two-thirds of the U.S. population with data rates greater than 100 Mbps by 2021. [168]

As documented in the economic analysis conducted by Dr. David S. Evans, "this tepid adoption of the next generation of cellular technology [by Verizon and AT&T] will likely continue until a carrier makes a first move to accelerate deployment." [169] Dr. Evans reviewed the history of investment in the mobile market (dating back to the first generation of cellular technology) and concludes that, absent the impetus provided by New T-Mobile, neither Verizon nor AT&T will race to deploy real 5G on a nationwide basis because history demonstrates that "one carrier makes the first move to the new technology, inducing other carriers to follow. "[170] Noting that Verizon and AT&T's existing announced 5G plans are "limited" and that "[n]either Sprint nor T-Mobile have the spectrum resources, or scale as stand-alone companies, to deploy high-quality 5G networks with national coverage in the near future, "[171] Dr. Evans notes that "[t]he public data indicates that none of the carriers are on track to deploy a robust national 5G network quickly. "[172] Observing that "the Transaction will cause New T-Mobile to deploy a stronger 5G network sooner because of the substantial efficiencies described above," Dr. Evans finds that "New T-Mobile's aggressive launch would be the catalyst that would spur AT&T and Verizon along. "[173]

168 Sievert Decl. at ¶36.
169 Evans Decl. at ¶197.
170 *Id.* at ¶2.
171 *Id.* at ¶¶193-95.
172 *Id.* at ¶196.
173 *Id.* at ¶197.

Because New T-Mobile's network will leapfrog what Verizon and AT&T have announced, it must trigger a competitive response. The competitive threat from New T-Mobile's network will spur Verizon and AT&T to change their overall 5G approaches to the benefit of consumers. Verizon and AT&T have long marketed their own networks as providing superior network performance. These companies will find it imperative to make the additional network investments necessary to try to catch up with the higher quality network of New T-Mobile. Furthermore, because New T-Mobile will experience reduced operating expenses as compared to T-Mobile and Sprint on their own through access to more cell sites and deployment of more spectrum per site, it will be able to offer unlimited data at higher data rates and at reduced cost. [174] Such action will put similar pressure on Verizon and AT&T, and other entrants, to provide comparable value to their customers.

C. The Merger Will Result in Enormous Consumer Benefits that Cascade from Today's Typical Customer Services into Numerous Streams of Innovative New Offerings

New T-Mobile's broad and deep nationwide 5G network will enable the delivery of unprecedented coverage and capacity, resulting in a revolutionary consumer experience with unmatched speed. This massive capacity increase, combined with the enhanced scale of New T-Mobile, will allow consumers to get more value for their money and benefit from new competition and disruption through (1) the expansion and improvement of existing services and (2) the arrival of new, innovative services. As a result, New T-Mobile will accelerate significant industry-wide investment and propel the United States across the finish line first in the race to 5G.

174 Declaration of Peter Ewens, Executive Vice President, Corporate Strategy, T-Mobile US, Inc., at ¶7 ("Ewens Decl.").

1. The Proposed Transaction Will Result in Consumers Paying Less and Getting More

Consumers—of both New T-Mobile and the industry as a whole—will benefit from enhanced value as New T-Mobile develops the capacity to augment further T-Mobile's Un-carrier movement. As John Legere has noted, T-Mobile and Sprint "aren't merging to be like AT&T and Verizon. . . . This merger is about being able to go toe-to-toe with them and all comers to provide aggressive, disruptive competition that is anything but the 'status quo'—well into the future." [175] Indeed, the new company's business plan is centered on expanding T-Mobile's Un-carrier initiatives and providing consumers with increased capabilities at decreased prices. In the words of Mike Sievert, "New T-Mobile will use that [added] capacity and the resulting lower marginal costs per customer to deliver lower prices and to accommodate increased customer data usage at the same or lower prices." [176] If New T-Mobile were to do otherwise—for example, raise prices or reduce customer value under its rate plans—it would damage the Un-carrier brand, alienate its customer base, and leave the company with idle capacity.

Consistent with T-Mobile's past practices, New T-Mobile's network capabilities will provide the capability and incentive for the company to deliver more value at a lower cost to American subscribers. [177] As T-Mobile Executive Vice President of Corporate Strategy Peter Ewens observes, "[m]easured by revenue yield per GB on average, for the past several years T-

175 Legere Decl. at ¶24.

176 Sievert Decl. at ¶12.

177 New T-Mobile will also continue the Lifeline services currently provided by T-Mobile and Sprint.

Mobile has given its subscribers 37 percent more data each year per dollar spent on their wireless plans while at the same time lowering their package prices (a data dividend)." [178] Continuing to add capacity has been integral to T-Mobile's consumer-oriented approach, allowed T-Mobile to grow the Un-carrier brand, and eventually permitted T-Mobile to make unlimited its core offer, which forced competitive responses from Verizon and AT&T and made unlimited rate plans broadly available. [179] Mr. Ewens observes that "[o]ur demand forecasts for the next 6 years indicate that consumers are likely to continue growing their demand by over 30 percent per year," and that "[w]ith the New T-Mobile we will be able to continue offering subscribers more data each year without increasing prices." [180] But, he cautions, "[w]ithout this merger we will not be able to sustain those rates of data growth without severely degrading network performance." [181]

Dr. Evans' work also documents that the proposed merger—particularly the creation of added wireless capacity—will result in significant, tangible, and verifiable public interest benefits by increasing the value of wireless services offered to the public, while decreasing prices. The economic analysis conducted by Dr. Evans found that, based on illustrative calculations, the transaction would result in as much as a 55 percent decrease in cellular data price and an 120 percent increase in cellular data supply. [182] In order to reach this conclusion, Dr. Evans used capacity data from the network model for New T-Mobile to project that "New T-

178 Ewens Decl. at ¶5.

179 *Id.* at ¶4.

180 *Id.* at ¶14.

181 *Id* .

182 Evans Decl. at Section V.C, ¶¶220-44. Dr. Evans assumes that "AT&T and Verizon will approximately match New T-Mobile in terms of performance and the amount of data they could offer subscribers so that they remain competitive with New T-Mobile," noting that "[t]hey could not offer competitive packages if they had materially less national practical capacity available per subscriber." *Id* . at ¶227.

Mobile could provide national practical capacity of [redacted]GB per month per smartphone subscriber." [183] Based on his findings that New T-Mobile would provide a competitive impetus to Verizon and AT&T, which is discussed in Section III.B.4, *supra,* Dr. Evans determined that Verizon and AT&T would likely upgrade their networks to match New T-Mobile's [redacted]GB per month per smartphone subscriber, which is a significant increase over the average of [redacted]GB per month per smartphone subscriber he calculates in the absence of the merger. [184] Dr. Evans uses the derived capacity and estimated data ARPU to calculate prices per GB (price/GB) and other comparative criteria summarized in the table below: [185]

	Without Transaction	With Transaction	Percent Change Due to Transaction
National Practical Capacity (EB/Month)	[redacted]	[redacted]	120.25%
National Practical Capacity per Smartphone Subscriber (GB/Month)	[redacted]	[redacted]	120.25%
Price per GB	[redacted]	[redacted]	-54.60%

Source: Exhibit 14A.

Table 10: National Practical Capacity and Price per GB With and Without the Transaction

Notably, these calculations by Dr. Evans do not consider non-price dimensions, and Dr. Evans further concludes that "[t]he Transaction would also result in a decline in quality-adjusted cellular data prices due to a dramatic improvement in network performance, and induce the development of new app features that would increase the value consumers get from a given

183 *Id.* at ¶234 (also noting that "T-Mobile as a stand-alone company would provide [redacted]GB per month per smartphone subscriber, and Sprint as a stand-alone company would provide [redacted]GB per month per smartphone subscriber.").

184 *Id* . at ¶235.

185 *Id* . at ¶238, Table 17.

amount of cellular data." [186] Some of the other major benefits of the transaction, as discussed in Section III.B.3, *supra,* are improved quality and performance due to the conversion to 5G technology. This ability to improve consumer quality and value is illustrated in Figure 11 below, which shows that New T-Mobile will be able to bring a much greater percentage of its capacity on-line as 5G capacity, rather than as 4G LTE, as compared to the combined standalone case: [187]

Thus, the connection quality aspects of the New T-Mobile, including speed, latency, and configurability, among other factors, will be a substantial improvement over the combined standalone case. [188]

186 *Id.* at ¶180.

187 *Id.* at ¶185, Figure 5.

188 New T-Mobile will be able to transition more spectrum to 5G earlier, which will result in a faster migration of subscribers from 4G LTE to 5G service. Thus, while New T-Mobile has less capacity dedicated for LTE than the combined standalone companies, it will have significantly fewer customers relying on 4G LTE and therefore the connection quality of 4G LTE services should not be adversely affected. *See supra* Section III.B.2.d.

In sum, both T-Mobile's executive declarations and economic analysis confirm that the proposed transaction will have substantial consumer welfare benefits. These benefits will be derived from the added capacity New T-Mobile will create, giving it the capability and incentive to amplify T-Mobile's Un-carrier initiatives. This maverick behavior has been shown to benefit all wireless customers, as entrenched industry players are forced to respond with matching pro-consumer policies. Economic work also documents the substantial consumer benefits—more than halving unit data prices per GB and more than doubling data capacity—that will result from New T-Mobile driving a competitive response and forcing the industry to broader and deeper 5G plans.

2. Exciting and Innovative Services Will Flow from New T-Mobile's Network Speed and Capacity

Consumers will reap enormous benefits from the inherent improvements in wireless service resulting from the transition to 5G, which "will not only be an evolution of mobile broadband networks, it is also envisioned to enable new unique network and service capabilities." [189] New T-Mobile's 5G network will provide a nationwide footprint and robust capacity to enable all Americans to benefit from the full spectrum of possible 5G services and applications.

The combined company's 5G network will make possible fiber-like data speeds and enable real-time interactivity and more consistent performance and user experiences, as well as leaving plenty of capacity for unlimited data. [190] For example, the new network will support streaming of state-of-the-art 4K video straight to devices, providing consumers with the freedom

189 Ray Decl. at ¶13.
190 *Id* .

to watch content wherever and whenever they want without having to subscribe to multiple providers. [191] The new network will virtually eliminate the constraints consumers currently experience in congested environments, such as sporting events and concerts, allowing for the sharing and downloading of content nearly instantaneously from any location. [192] The 5G services provided by the new network will also fundamentally transform the way Americans live, work, travel, and play by being able to connect an enormous variety of IoT devices and sensors.

T-Mobile currently offers a small number of basic consumer IoT products, with a focus on smart and connected home and car devices, wearables, and mobile hotspots. [193] For its part, Sprint has made recent efforts to expand its IoT offerings, but has struggled to launch competitive products in part due to its lack of low-band spectrum. Because of its spectrum limitations, standalone Sprint does not have the coverage needed to successfully provide the kinds of broad-based IoT deployments contemplated in the 5G era. [194] As a result, both companies have a very low share in the emerging IoT segment as compared to other wireless providers, particularly Verizon and AT&T.

However, New T-Mobile's robust nationwide network will enable it to support and offer the full range of IoT products and services. It will also allow the combined company to extend the Un-carrier approach to IoT, helping customers take advantage of the latest products and services at lower prices. [195] Supported by New T-Mobile's nationwide 5G network, everything in the house can be connected—for example, a smart refrigerator can monitor consumer usage and

191 *Id* .
192 *Id.*
193 Sievert Decl. at ¶29.
194 Draper Decl. at ¶38.
195 Sievert Decl. at ¶¶30-34.

grocery needs, a smart range can prevent a user from overcooking or burning a meal, a smart fan and air filter can turn on automatically if needed, and a connected home security and safety system can alert authorities remotely if an issue arises. New T-Mobile's nationwide 5G network also will enable myriad uses beyond the home (e. *g.* , autonomous cars, real-time traffic data). [196]

Additionally, the broad geographic reach of New T-Mobile's 5G network will facilitate the use of advanced applications that are critically needed in small towns and rural communities. For instance, rural residents are forced to rely on only 13.1 physicians per 10,000 people, compared to residents in urban areas who have access to 31.2 physicians per 10,000 people. [197] The network's ability to transmit high-resolution video and audio to distant physicians will enable rural residents to access higher-quality medical care and to get it faster and without having to travel hundreds of miles. The New T-Mobile 5G network also will support information-enabled agriculture processes that allow farmers in rural areas to monitor crops, climates, livestock, equipment, and commodities markets. [198] Senator Deb Fischer and Commissioner Brendan Carr recently recognized, "[p]recision agriculture generates incredibly useful information for producers, helping them to be more efficient. But for producers to take advantage of these innovative processes that gather, transmit, and analyze vast amounts of data, . . . all Americans, need sufficient Internet connectivity. . . . In rural America today, the broadband needed to support precision agriculture applications isn't always available." [199] The complementary spectrum and network assets brought together in the merged company will provide the high-speed broadband needed to support these types of beneficial applications and bring them to rural areas and small towns that would otherwise go without them.

196 *Id.* at ¶¶28-34.

197 National Rural Health Association, *About Rural Health Care* , https://www.ruralhealthweb.org/about-nrha/about-rural-health-care (last visited June 16, 2018).

198 Dusty Weis, *How Smart Farms Are Making the Case for Rural Broadband* , AEM (Oct. 19, 2017), https://www.aem.org/news/october-2017/how-smart-farms-are-making-the-case-for-rural-broadband/ .

199 Senator Deb Fischer and Commissioner Brendan Carr, *Agriculture and Connectivity* , NORFOLK DAILY NEWS (May 29, 2018), http://norfolkdailynews.com/blogs/agriculture-and-connectivity/article_313f71d0-633c-11e8-91f1-f725de833061.html .

3. Consumers Will Have a New Lower Priced and Higher Quality Competitive Option for In-Home Broadband

Commissioner Michael O'Rielly recently observed that wireless broadband service, both mobile and fixed, should no longer be considered a "complement" to wired broadband, as it has become a viable "substitute" in many instances. [200] That is T-Mobile's view as it already considers itself a broadband company today. Indeed, a significant number of T-Mobile's existing customers utilize their T-Mobile device as their sole broadband connection. Yet, while the services offered currently by T-Mobile, Sprint, and other wireless companies are sufficient for many data uses, they are not on par with the speeds of wired in-home broadband connections offered to many Americans.

With the merger, however, that will all change. New T-Mobile's robust nationwide 5G network will close the speed differential between mobile and wired broadband and have the capacity to handle the diverse needs of in-home broadband customers in many areas. The combined company intends to directly and aggressively compete against conventional in-home wired broadband products, providing consumers with an attractive high-speed broadband alternative to the wired incumbent—some for the first time. [201] The new 5G network's performance and low prices will incentivize consumers to "cut the cord," pocketing the savings from eliminating their wired broadband bill month after month. [202]

---

200 Statement of Commissioner Michael O'Rielly, *Inquiry Concerning Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion* , GN Docket No. 17-199, https://apps.fcc.gov/edocs_public/attachmatch/FCC-18-10A4.pdf .

201 Sievert Decl. at ¶¶36-37.

202 *Id.* at ¶38.

New T-Mobile's In-Home Offering Will Provide Meaningful Competition to Wired Broadband Incumbents. Consumers will benefit from the introduction of a supercharged Un-carrier into the in-home broadband delivery business. The in-home broadband segment today is not competitive. According to a study based on FCC data, 48 percent of U.S. households lack any competitive choice for in-home broadband service exceeding 25 Mbps. [203] Of that group, 9 percent are unable to receive any broadband service at all. [204] Moreover, approximately 79 percent of U.S. households lack a competitive choice in service providers delivering high-speed broadband with speeds exceeding 100 Mbps. [205] New T-Mobile will change this dynamic.

As described above, New T-Mobile's 5G network will deliver high-speed wireless broadband with speeds in excess of 100 Mbps to nearly two-thirds of the U.S. population by 2021 and to almost 90 percent of the U.S. population by 2024. [206] These speeds are sufficient to support HD and 4K video streaming to screens of the customer's choosing. The network will also have improved signal strength, which will enhance in-building service. New T-Mobile will utilize this network performance and coverage to shake up the in-home broadband marketplace and offer consumers a new and very attractive competitive option for in-home broadband service. With New T-Mobile, many consumers would be enjoying a choice for their in-home provider for the first time.

---

203 Hal Singer, Economists Incorporated, and Ed Naef and Alex King, CMA Strategy Consulting, *Assessing the Impact of Removing Regulatory Barriers on Next Generation Wireless and Wireline Broadband Infrastructure Investment* , at 10-11 (June 2017), http://ei.com/wp-content/uploads/2017/06/SingerAssessingImpact6.17.pdf (based on FCC Form 477 data from June 2016).

204 *Id.*

205 *Id* .

206 *See supra* Section III.B.1.c. *See also* Sievert Decl. at ¶36.

Specifically, the merger enables New T-Mobile to offer in some areas a robust wireless broadband solution for residential use that will have equipment, service packages, and products matching or exceeding those of traditional, subscription-based—and often costly—in-home wired broadband providers. Given the lack of competition in the in-home market, this offering should be well-received, and the combined company plans to market it aggressively, particularly in rural areas. By 2024, the Applicants expect New T-Mobile to provide high-speed, in-home broadband service to approximately 9.5 million subscriber households, equating to approximately 7 percent market penetration, and making New T-Mobile the fourth largest in-home Internet service provider ("ISP") in the United States based on current subscriber counts. [207] Of particular importance, T-Mobile estimates that 20-25 percent of these new subscribers for in-home broadband service will be located in rural areas. [208]

New T-Mobile's 5G network will provide speeds and capacity, as well as enhanced in-building quality, sufficient to support consumers' evolving in-home broadband needs, and will do so without compromising the quality of its core wireless service offerings. [209] This would not be possible without the merger as neither T-Mobile nor Sprint on its own has the spectrum assets, scale, or other resources necessary to deploy networks with the capabilities required to support the quality of streaming HD and 4K video and other key applications in-home broadband customers will demand. T-Mobile's standalone plan contemplates the deployment of only a thin

207 These estimates assume that the average monthly mobile subscriber data consumption would increase ten-fold from today's 9.8 GB to 80 GB by 2024, and that the capacity needed for providing in-home broadband, would be approximately 500 GB per month per household. *See* Sievert Decl. at ¶37.

208 *Id* .

209 Ray Decl. at ¶¶15, 61-62.

layer of 5G services that will not have the speed or capacity to justify aggressive entry into the in-home broadband market. While Sprint's 5G network will have substantial capacity, it will lack the broad, ubiquitous coverage of New T-Mobile's 5G network, particularly in areas outside of major urban and suburban areas that want for high-speed broadband options today. However, by combining the two companies' assets, the transaction will enable a true competitor in the in-home broadband space and will alter the fundamental dynamics that have left millions of customers lacking an alternative option for residential wired high-speed broadband.

New T-Mobile's 5G Service Will Spur Mobile Substitution for In-home Broadband. The term "cord cutting" is typically used to refer to cable TV subscribers who elect to cancel their subscriptions entirely or in favor of alternative video content distribution providers (*e . g.* , over-the-top viewing options such as Netflix or Amazon). The trend towards "cord cutting" is now emerging for in-home wired broadband as well. Increasingly, consumers are choosing to rely solely on mobile wireless subscriptions for their Internet needs and are dropping their in-home broadband service entirely. Today, 19 percent of households could eliminate their home broadband subscription entirely by tethering on a T-Mobile two-line plan. New T-Mobile will accelerate this trend by providing an increasingly viable alternative to in-home broadband. By 2024, 35 to 45 percent of households could completely eliminate their home broadband subscription and rely on New T-Mobile for all their broadband needs.

According to the National Telecommunications and Information Administration's review of Census Bureau data in 2016, "mobile Internet service appears to be competing more directly with wired Internet connections." [210] Last year, Deloitte estimated that in 2018, one-fifth (20

210 Giulia McHenry, *Evolving Technologies Change the Nature of Internet Use* , NTIA (Apr. 19, 2016), https://www.ntia.doc.gov/blog/2016/evolving-technologies-change-nature-Internet-use .

percent) of North Americans with Internet access would get all of their in-home Internet access via cellular mobile networks. [211] A good indicator that this trend will continue is that the shift from wired to wireless Internet use is particularly strong among young adults. One report found that 95 percent of American teens have smartphones, and that 45 percent of U.S. teens who say they use the Internet, either on a computer or a cellphone, are connected to the Internet almost constantly. [212] But it's not just the young: another report found that a full one-fifth (20 percent) of all American adults are "smartphone only" users at home. [213]

Just as many consumers terminated their landline telephone service when cellphone service became an effective substitute, many will see the mobile wireless services provided by the New T-Mobile 5G network as an extremely attractive and effective substitute for in-home broadband, allowing them to cut the cord and terminate their residential broadband subscription completely. Customers who do so will experience performance equivalent to the available wired broadband option in many areas. More importantly, such customers will pocket the savings from terminating their costly wired subscription—and continue to do so month after month.

Cost Savings for Broadband Consumers. The combined company will be a robust and disruptive competitor in the in-home broadband marketplace, which will result in lower prices for consumers. New T-Mobile will price its own in-home offering aggressively to gain market share and utilize its expansive network capacity. However, the cost savings will extend beyond New T-Mobile's in-home broadband customers.

---

211 *Mobile-only: wireless home Internet is bigger than you think* , at 1, D ELOITTE (2017), https://www2.deloitte.com/content/dam/Deloitte/global/Images/infographics/technologymediatelecommunications/g x-deloitte-tmt-2018-mobile-home-Internet-report.pdf .

212 Monica Anderson and Jingjing Jiang, *Teens, Social Media, and Technology 2018* , at 7-8, P EW R ESEARCH C ENTER (May 31, 2018), http://assets.pewresearch.org/wp-content/uploads/sites/14/2018/05/31102617/PI_2018.05.31_TeensTech_FINAL.pdf .

213 Aaron Smith and Kenneth Olmstead, *Declining Majority of Adults Say the Internet Has Been Good for Society* , at 3, P EW R ESEARCH C ENTER (Apr. 30, 2018), http://assets.pewresearch.org/wp-content/uploads/sites/14/2018/04/27165144/PI_2018.04.30_Internet-Good-Bad_FINAL.pdf .

Today, the median cost of residential wired broadband in the United States is approximately $80 per month, [214] with nearly all subscribers of such services also paying a separate monthly charge for mobile wireless service. As the FCC has recognized, just one additional competitor entering the in-home broadband marketplace would lead to lower prices and higher data rate services for all consumers. [215] In fact, prices for in-home high-speed broadband service are projected to drop by more than 25 percent with the entry of a faster competitor to the market. [216] And, when that new entrant is the Un-carrier, consumers will benefit even more through the introduction of New T-Mobile's innovative and lower priced plans. Accordingly, all consumers of in-home broadband service are likely to enjoy cost savings as a result of New T-Mobile's entry into this business.

However, consumers who choose to cut the in-home wired broadband cord and utilize New T-Mobile's 5G mobile wireless service to meet their in-home broadband needs will see the most savings. By way of example, today such a consumer might pay $80 per month for their wired in-home broadband service and $60 per month for mobile wireless service, for a total of $140 per month. Once New T-Mobile deploys its broad and deep nationwide 5G network that

214 Carl Weinschenk, *Report: U.S. Median Broadband Price is $80 Monthly,* T ELECOMPETITOR (Aug. 8, 2017), http://www.telecompetitor.com/report-u-s-median-broadband-price-is-80-monthly . *See also International Comparison Requirements Pursuant to the Broadband Data Improvement Act* , Sixth Report, DA 18-99, Appx. C, at 59, Table 3 (2018) (finding mean cost of residential wired broadband to be approximately $62).

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

216 Fiber to the Home Council, *Broadband Competition Helps to Drive Lower Prices and Faster Download Speeds for U.S. Residential Consumers* (2016) (finding that the presence of a gigabit service in a market decreases prices of 100+Mbps plans by 25 percent).

will deliver service approximating or exceeding the speed and quality of wired broadband offerings, this same consumer may find it desirable to terminate his or her wired broadband subscription and rely exclusively on New T-Mobile's 5G mobile offering. That consumer would now pay only $60 per month for equivalent services that previously cost $140—pocketing an $80 savings every month. That's $960 per year that the consumer can now put toward other priorities. This will be particularly beneficial to low-income and cost-conscious consumers, helping to close the digital divide, as the transaction will allow them to enjoy equivalent or better service for much less.

4. Rural Consumers Will Get Improved Broadband and Retail Service

Approximately 14 million Americans remain without access to mobile LTE broadband at download speeds of 10 Mbps. [217] While urban areas saw a 10.5 percent increase in mobile LTE deployments capable of 10 Mbps downloads between 2014 and 2016, rising to nearly 91 percent deployment, access to these speeds in rural areas remained flat at about 70 percent over the entire period. [218] Further, almost 10 million rural Americans lack access to at least three LTE providers. [219] As a result, millions of rural Americans are deprived of the consumer benefits of a robustly competitive LTE marketplace.

After the merger, New T-Mobile will be positioned to accelerate and expand T-Mobile's plans to bring real broadband and broadband competition to rural Americans for the first time. There are several business drivers for doing so. First, New T-Mobile's 5G network will have enormous capacity, providing the company with strong incentives to reach out and maximize the

217 *See Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion* , 2018 Broadband Deployment Report, 33 FCC Rcd 1660, 1682-83 ¶52, Table 2b (2018).

218 *Id.*

219 *See Twentieth Mobile Wireless Competition Report* , 32 FCC Rcd at 9028 ¶ 83, Chart III.D.11.

number of customers. In this industry, excess capacity means lost revenue and wasted resources. As Peter Ewens explains, a significant customer growth opportunity for the merged company is potential new rural customers. [220] Second, T-Mobile already has demonstrated a commitment to rural America by building out its 600 MHz spectrum to small towns and rural communities. Combining this build-out with Sprint's 2.5 GHz spectrum, however, will allow New T-Mobile to deliver improved, broader services to these areas. Indeed, small towns and rural communities will experience greater coverage and quality of service, increased capacity, and faster speeds not only for mobile broadband service, but also as a result of New T-Mobile's in-home wireless broadband service offering. As a result, consumers in these areas will have access to services that are more commensurate with those available to urban consumers, helping to bridge the digital divide.

But rural deployment is about more than simple coverage, and the enhanced scale of New T-Mobile will permit it to invest in a more robust rural network. In the simplest terms, the economic justification for a new cell site or splitting an existing site—or deploying mid-band or millimeter wave spectrum on a tower—is based on whether the anticipated usage offsets the cost. With more subscribers and more scale, New T-Mobile's investments in rural areas will be spread across a broader base of subscribers, and therefore will be easier to justify. The direct effect of scale will mean New T-Mobile can rationalize more investment in rural America than either T-Mobile or Sprint could on a standalone basis.

New T-Mobile will leverage its spectrum resources and merger synergies to deliver the following broadband benefits to Americans living in small towns and rural communities across the country:

220 Ewens Decl. at ¶27.

- **Coverage:** increasing outdoor wireless coverage to reach 59.4 million rural residents, or 95.8 percent of the estimated 62 million rural residents, and indoor wireless coverage to reach 31 million rural residents;
- **Quality:** improving signal quality and reliability and increasing network capacity to enable data intensive services and improve the overall consumer experience;
- **Speeds:** delivering mobile broadband service with download speeds of at least 10 Mbps or greater to 45.9 million rural residents over two million square miles, accounting for 74 percent of rural residents; and
- **In-Home Service:** providing fixed in-home broadband service of at least 25/3 Mbps to 52.2 million rural residents over 2.4 million square miles, approximately 84.2 percent of rural residents.

Rural consumers will also benefit from the additional competition New T-Mobile will bring to the market. New T-Mobile will compete toe-to-toe with Verizon, AT&T, and other competitors, forcing new deployments, upgraded services, and lower prices from all providers in rural areas.

Because of the limited geographic footprint of Sprint's network, its current customers are forced to rely on roaming agreements for service coverage in rural areas where they cannot access Sprint's network. [221] However, Sprint customers often receive an inferior subscriber network experience as a result of these agreements. [222] For example, Sprint's roaming agreement with its largest partner, [redacted], provides customers with voice roaming and 3G data roaming, but no LTE data roaming and data speeds of only 64 kbps. [223]

On its own, Sprint would not be able to attain ubiquitous nationwide 5G coverage, as its lack of sufficient low-band spectrum inhibits its ability to provide widespread geographic coverage. [224] The limitations of Sprint's current coverage compared to other carriers is particularly stark in rural areas where it is difficult to justify incremental network investment due

221 Saw Decl. at ¶14.
222 *Id.*
223 *Id.*
224 *Id.* at ¶31.

to limited population density and challenges associated with building out 2.5 GHz spectrum. [225] Thus, moving forward on its own, Sprint would not become a major competitor in small towns and rural communities. [226] By 2024, as demonstrated by the below map, standalone Sprint anticipates providing 5G wireless service to only limited rural areas. [227]

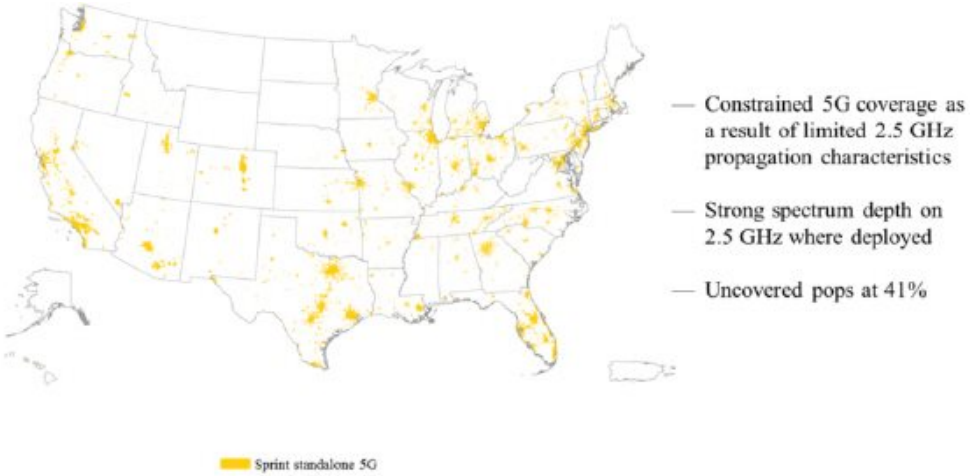


Figure 12: Sprint Standalone Projected 5G Coverage in 2024

Sprint also has no current plans to launch in-home fixed wireless broadband services and lacks the rural presence needed to become an independent provider for rural broadband subscribers. [228]

While T-Mobile has already begun deploying mobile broadband services in rural America using its 600 MHz spectrum, the utility of its 5G rural coverage would be limited absent the combined spectrum enabled by the transaction. Adding Sprint's 2.5 GHz spectrum (that otherwise won't be used for rural service) to T-Mobile's spectrum portfolio will enable New T-Mobile to increase coverage to additional rural residents, and to provide mobile and in-home broadband service at greater speeds and more consistent signal levels. Thus, a critical benefit of the transaction, particularly for Sprint subscribers, will be the dramatic increase in rural 5G coverage due to the combined company's 600 MHz spectrum. [229]

225 *Id.*
226 Saw Decl. at ¶31; Draper Decl. at ¶10.
227 Saw Decl. at ¶18.
228 Draper Decl. at ¶¶10, 35.

New T-Mobile also will make a significant economic investment in the future of rural America as a result of the transaction, expanding retail and sales operations to serve small towns and rural communities. Specifically, New T-Mobile plans to open 600 or more new stores to serve small towns and rural areas—at least 500 dealer stores and 100 corporate stores—directly resulting in approximately 5,000 new retail jobs. [230] New T-Mobile also anticipates creating approximately 1,800 new jobs dedicated to transitioning the T-Mobile and Sprint networks in rural areas and expanding rural coverage. [231]

New T-Mobile also expects to substantially increase its domestic customer care workforce to ensure it maintains T-Mobile's industry-leading standard of customer care. For example, the combined company anticipates opening up to five new technologically advanced Customer Experience Centers in small towns and rural communities to implement the company's innovative "Team of Experts" customer care and business model, directly employing approximately 5,600 professionals with career-boosting jobs. [232] Employees at these centers will benefit from significant management preparation experience, as well as qualify for college tuition reimbursement. [233] In total, New T-Mobile expects to create over 12,000 new jobs to serve small towns and rural communities as a direct result of the transaction. [234]

229 Saw Decl. at ¶31.
230 Sievert Decl. at ¶17.
231 *Id* .
232 *Id* . at ¶18.

Aside from its corporate commitment to rural America, New T-Mobile will continue the long history of T-Mobile and Sprint partnering with rural carriers to further wireless deployments in rural areas. Specifically, New T-Mobile will offer to become the Preferred Roaming Partner for rural carriers, providing long-term roaming access to the robust New T-Mobile network at industry-leading terms. This will include a roaming program that offers carriers with existing roaming rates with either T-Mobile or Sprint to determine which rates will govern their relationship with New T-Mobile after the transaction closes. [235] Moreover, New T-Mobile will cooperate with rural partners on their 5G roll-out, including providing technical assistance and advice on 5G deployments. [236]

5. Accelerated 5G Deployment Will Help the United States to Continue to Lead the World

New T-Mobile's aggressive deployment will help promote U.S. leadership in 5G in the face of concerted efforts by others, including China, Japan, South Korea, the U.K., and other European countries to lead the world in this new technology. As Chairman Pai has stated, the United States should "be the best country for innovating and investing in 5G networks." [237]

233 *Id* .
234 *Id* .
235 *Id* . at ¶17.
236 *Id* .
237 Chairman Ajit Pai, Remarks at Mobile World Congress, Barcelona, Spain (Feb. 26, 2018), https://apps.fcc.gov/edocs_public/attachmatch/DOC-349432A1.pdf.

U.S. leadership in 4G accounted for a nearly $100 billion increase in annual GDP by 2016 as the wireless industry's contribution to U.S. GDP shifted from a projected $350.3 billion in 2016 to a realized $445.0 billion. [238] The launch of 4G in the United States increased total wireless-related jobs by 84 percent from 2011 to 2014 and U.S. 4G leadership also meant roughly $125 billion in revenue to American companies that could have gone elsewhere if the country had not led the world in 4G development and deployment. [239] In sum, 4G leadership enabled the United States to set the pace for global innovation for mobile broadband services and applications for the last decade.

As many nations now seek to replicate that success, the United States finds itself in a race to similarly lead the world in the development and deployment of 5G networks. With the combined spectrum, sites, and resources of T-Mobile and Sprint, and the concomitant pressure on Verizon and AT&T to accelerate investment, the United States will be well-positioned to lead in the global race to 5G, allowing consumers and the country as a whole to reap the benefits of the new applications that will be delivered over the most advanced nationwide telecommunications network anywhere. By accelerating nationwide 5G in the United States, the merger will help ensure America's economy, industries, and consumers are among the early beneficiaries of the enormous transformative technological and economic benefits that 5G services will create for the country.

D. The Merger Will Produce Improved Services and Expanded Choices for Enterprise and Video Customers

In addition to transforming the mobile wireless experience and stimulating the creation of new capabilities and choices for consumers, the merger also will boost competition and lower prices for other service customers. New T-Mobile will have the scale, spectrum, and financial

238 *How America's 4G Leadership Propelled the U.S. Economy* , R ECON A NALYTICS (Apr. 16, 2018) https://api.ctia.org/wp-content/uploads/2018/04/Recon-Analytics_How-Americas-4G-Leadership-Propelled-US-Economy_2018.pdf.

239 *Id* .

strength to disrupt the enterprise and video markets with innovative products and services that will bring much-needed competition and price discipline to these segments. New T-Mobile will leverage its 5G network to provide new and better competitive options and capabilities than either T-Mobile or Sprint could achieve on its own.

1. New T-Mobile Will Bring Disruptive Un-carrier Choices for Enterprise Business Customers

Verizon and AT&T currently enjoy extremely strong positions with enterprise customers. T-Mobile and Sprint collectively serve only a very small portion of the enterprise segment today. [240] As standalone companies, neither T-Mobile nor Sprint has the scale, network, or financial resources to compete in a meaningful way against Verizon and AT&T for enterprise customers:

- Historically, T-Mobile has focused on delivering quality wireless products and services to consumers and has not been a major player in the enterprise marketplace. This was due, in large part, to the limitations of the old T-Mobile network, which often failed to meet certain technical requirements demanded by enterprise and government clients (*e . g.,* specific standards for network performance, reliability, and coverage). [241] Thanks to significant network improvements and an aggressive pricing strategy, T-Mobile has made modest gains in the enterprise segment in recent years, but it still lags far behind Verizon and AT&T in market share.
- Sprint has also lagged behind Verizon and AT&T in the enterprise segment. Limited by its lack of scale, perceived inferior network quality, and limited ability to invest in its network compared to large carriers, Sprint has been unable to compete effectively with Verizon and AT&T. [242] Sprint—like T-Mobile—will be unable independently to improve its network such that it could meet the demanding requirements of enterprise customers.

240 T-Mobile estimates that it accounts for only very small share of the business market segment and only four percent of the large enterprise and government portion of the segment. Sievert Decl. at ¶43. Sprint estimates that it has a low single digit share of this segment. Draper Decl. at ¶31.

241 Sievert Decl. at ¶43.

242 Draper Decl. at ¶31-33.

The enterprise services segment has traditionally been characterized by low customer churn, resulting from the typically longer contractual terms, high transactional costs of changing providers, institutional inertia, and other factors. Accordingly, to draw enterprise customers away from Verizon or AT&T, New T-Mobile will need to offer higher quality services at a substantially better value. And it will.

Better Network Quality and Coverage. New T-Mobile's 5G network will be able to meet or exceed enterprise and government customers' technical and operational requirements, as well as surpass the performance of both the Verizon and AT&T networks. As discussed above, New T-Mobile's 5G network will, on average, be approximately four to six times faster than either T-Mobile's or Sprint's standalone 5G network by 2024. [243] It will be the highest capacity mobile network in U.S. history, capable of supporting more devices with more data than ever before. These advantages, furthered by the network's truly nationwide coverage, will allow New T-Mobile's 5G network to meet the network quality needs of even the most demanding enterprise clients.

Lower Prices. New T-Mobile will bring the Un-carrier strategy to enterprise, offering flexible and inventive plans and pricing to business and government customers. T-Mobile currently uses innovative approaches to pricing to compete in this market segment, offering terms like free international roaming, no overages, and unlimited data plans. New T-Mobile will be well-positioned to continue and expand this approach. The increased capacity and lower costs per unit provided by New T-Mobile's 5G network will allow the combined company to offer lower prices—and thus, greater value—to enterprise customers, and therefore exert downward pricing pressure in this segment. [244] Moreover, lower prices will enable New T-Mobile to counteract the ability of Verizon and AT&T to cross-sell between services (*e . g.,* bundled service packages) to entice large enterprise and government buyers.

243 *See supra* Section III.B.1.c.

Larger Sales Force. In addition, funded by significant synergies, the transaction will enable New T-Mobile to have the scale and resources to greatly expand its enterprise sales force—a key component to successfully competing in this space. The enterprise segment is highly dependent on direct client contact and relationships, and providers typically utilize large teams of direct sellers to market enterprise services to potential customers. After the merger, New T-Mobile will have the resources necessary to greatly enlarge the combined company's enterprise sales force, which will in turn allow it to more effectively target enterprise customers. [245] The greater financial resources available to New T-Mobile will also enable it to invest more in internal business tools and processes, employee expertise, and other elements that can be leveraged to improve the enterprise customer experience.

Larger Product Portfolio. New T-Mobile's superior network will also allow it to develop an expanded portfolio of innovative enterprise solutions. As an initial matter, the combined company will be able to integrate the Sprint wireline assets to diversify its enterprise offerings and make available fixed broadband products, cloud computing services, network security offerings, or other complementary business lines. Further, New T-Mobile will be able to support competitive wireless alternatives to legacy wired enterprise devices and services (*e.g.* , landline desk phones and SDLANs), while still offering a full suite of enterprise-grade platforms and services. [246]

244 Sievert Decl. at ¶44.

245 *Id.*

In addition, with its world-class 5G network, New T-Mobile will be able to support and spur the broad spectrum of commercial IoT applications of the future. For example, large enterprises and government and educational institutions are likely to be at the leading edge of the IoT adoption and integration curve and therefore may serve as points of entry into IoT business lines for which there are no current incumbents. [247] Put differently, large enterprise clients will likely be first in adopting IoT solutions designed for businesses, and the service providers supporting them will enjoy early entry into the nascent IoT market that will provide broad economic benefits for the entire U.S. economy well into the future. New T-Mobile's network will be able to support these new IoT and enterprise services—and thereby enhance competition in the enterprise market segment—in the near term.

Enhanced Commercial IoT. New T-Mobile's broad and deep 5G network will create opportunities for better products and services across a range of commercial IoT applications. Some applications, such as connectivity for autonomous vehicles, are possible only with a network that provides reliability, speed, and low latency. Other applications, such as smart city lighting, sensors, or meter reading, are not latency-sensitive and do not require much speed, but do need a network that can handle a very large number of devices over a wide area. Unlike T-Mobile's and Sprint's standalone networks, New T-Mobile's 5G network will meet the needs of IoT use cases at both ends of this spectrum and at all points in between. Three particular areas where New T-Mobile will focus are:

246 *Id.*
247 *Id.* at ¶45.

- ***Smart Mobility.*** "Smart mobility" refers to IoT solutions that will help Americans transport themselves, and/or their goods, in a faster, safer, more efficient, and more cost-effective manner. For New T-Mobile, this translates into leveraging its new 5G network to provide reliable high-speed and low-latency connectivity for autonomous and connected vehicles, including unmanned aerial vehicles, to compete for a share of the growing vehicular connectivity market. Smart mobility also means using the New T-Mobile 5G network's superior nationwide coverage to offer better logistics management and asset tracking services and, because of the network's vast capacity, to provide these services at a lower cost. [248]
- ***Smart Communities.*** "Smart communities" refer to IoT solutions that will help connect, manage, and optimize community infrastructure. New T-Mobile's IoT solutions can achieve positive results for enterprise customers while also making American communities safer, healthier, more efficient, and generally nicer places to live, visit and work in the process. This may translate into partnerships with cities to provide targeted products, such as lighting optimization, traffic management, utilities, and public safety. Smart communities also entail similar solutions produced for a smaller scale, such as smart campuses and even smart buildings. [249]
- ***Other Key Commercial IoT Applications.*** New T-Mobile's 5G network will also provide IoT solutions for numerous other applications for which high-speed, high capacity, low latency, and coverage characteristics will be particularly well-suited. For example, to preserve food safety and integrity, sensors can be deployed throughout a field to monitor plant growth and soil moisture, and asset tracking can be applied to agricultural shipments to ensure that proper food safety precautions are taken. Other applications like private wireless networks and distributed computing applications, telemedicine, and backup connectivity will also be enabled by New T-Mobile's 5G network. [250]

In sum, the speeds, coverage, and unprecedented capacity of New T-Mobile's 5G network will enable it to offer an expanded suite of high-value enterprise products and service offerings, thereby benefiting enterprise and government customers and putting meaningful competitive pressure on leading players Verizon and AT&T. It will also open the door to a whole new world of innovation for business communications, out of which will grow unimaginable new services and products for consumers and businesses.

[248] *Id.* at ¶31.
[249] *Id.* at ¶32.
[250] *Id.* at ¶33.

2. New T-Mobile Will Disrupt the Video Distribution Marketplace by Bringing Added Choice, Lower Costs, and Innovative Services

New T-Mobile will leverage the benefits of scale in network, costs, and financial resources to disrupt the video market by offering TV packages that will allow customers to forego traditional multi-channel video programming distributors ("MVPDs") in favor of broadband-delivered video offerings. [251] The company's 5G network will provide mobile and fixed video services to consumers in all markets, including rural areas, and deliver high quality—including 4K video—service offerings with lower prices than traditional options. [252] This will exert tremendous competitive pressure on legacy cable providers and other MVPDs, forcing them to lower prices and invest and innovate to keep up with New T-Mobile. The transaction thus will greatly improve consumer welfare as consumers reap the benefits of competition in video delivery across the country.

a. Rapidly Shifting Consumer Demand for Content Has Facilitated New and Innovative Content Delivery Models, but Incumbent Providers Still Dominate the Video Distribution Marketplace, Particularly Pay Television

The cable and satellite television marketplace is rapidly changing and converging with wired broadband and wireless services. Consumers are increasingly demanding access to video content wherever they are located and on whatever device they have available. Despite these rapid changes, the in-home video distribution marketplace, particularly with respect to pay television, is still dominated by traditional wireline and satellite MVPDs. Most consumers

[251] *Id* . at ¶32.
[252] *Id* . at ¶42.

continue to receive their in-home, pay television services from incumbent cable operators. [253] The Commission has recognized in numerous instances that the in-home pay television sector is not fully competitive. Indeed, the Commission has acknowledged that "cable MVPDs exist in non-overlapping franchise areas and as a result generally do not compete directly with one another for the same subscriber, so most consumers have access to only one cable MVPD." [254]

The lack of more than one option for in-home cable television services—for most Americans—is reflected in the poor customer satisfaction rates for these services. The sector ranks the lowest out of 43 industries for customer satisfaction as most consumers remain extremely dissatisfied with its high prices and terrible customer service. [255] As *Consumer Reports* recently noted, "[m]ost pay TV providers continue to do a poor job of leaving their customers feeling like their service is worth the money." [256] They are especially frustrated by their inability to take, watch, and enjoy all of their favorite content wherever they go.

b. T-Mobile Entered the Pay-Television Marketplace With its Layer3 Acquisition, but Challenges Hinder Broad Expansion of the Layer3 Business

T-Mobile entered the content delivery marketplace earlier this year when it acquired Layer3 TV ("Layer3"). Layer3 currently offers customers a baseline package priced at $89 per month, providing more than 275 HD channels and an in-home digital video recorder with the ability to record up to eight programs at once. Layer3's service is currently available in five markets.

---

253 Dade Hayes, *U.S. Pay-TV Providers Lost Nearly 1.5M Video Subscribers In 2017, Double The 2016 Drop: Survey* , D EADLINE (Mar. 12, 2018), https://deadline.com/2018/03/u-s-pay-tv-providers-cord-cutting-lost-1-5-million-subscribers-in-2017-1202336334/ (citing a study of approximately 92 million subscribers (95 percent of the market) finding that the top six cable operators account for more than half of the total subscribers (48.1 million)).

254 *Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming* , Eighteenth Report, 32 FCC Rcd 568, ¶21 (2017).

255 *See* Aaron Pressman, *The Cable TV Industry is Getting Even Less Popular* , F ORTUNE (May 25, 2017), http://fortune.com/2017/05/25/cable-tv-comcast-verizon .

256 *See Dissatisfaction with Cable TV Remains High as Cord-Cutters Gain Intriguing New Options* , C ONSUMER R EPORTS (June 20, 2017), https://www.consumerreports.org/media-room/press-releases/2017/06/consumer_reports_dissatisfaction_with_cable_tv_remains_high_as_cord-cutters_gain_intriguing_new_options .

The acquisition of Layer3 provided T-Mobile with a foothold in the video distribution marketplace, while positioning the company to leverage its national distribution footprint for expansion of the business going forward. However, further expansion of the business will be limited for T-Mobile on a standalone basis. In particular, Layer3 faces higher costs, especially for licensing content, than its major MVPD rivals because its smaller customer base does not provide the scale needed to leverage volume discounts. Indeed, T-Mobile estimates that Layer3's content acquisition costs are 20-30 percent higher than its larger rivals for accessing the same programming. Expansion of the Layer3 business on a standalone basis is further hindered by customers' dependence on the in-home broadband service offerings of incumbent cable operators. Without these offerings, which are expensive and often contain monthly usage caps, Layer3 customers cannot access the company's services.

T-Mobile's current spectrum assets and relatively thin 5G deployment also restrict its ability to expand Layer3's service to include mobile video services over 5G. Even prior to the Layer3 acquisition, consumers' daily use of mobile video services was significantly increasing, with each T-Mobile Unlimited customer now viewing approximately [redacted] of data content per day while on the T-Mobile network. Currently, approximately [redacted] percent of T-Mobile's total network traffic is mobile video. Given this rapidly rising trend, T-Mobile's standalone network will not have the capacity to handle projected future consumer demand for mobile video absent the transaction. [257]

[257] Sievert Decl. at ¶40.

As a standalone company, Sprint does not have the spectrum, assets, scale or other resources necessary to deploy the network it needs to expand its currently limited video offerings to offer significant competition to AT&T and Verizon, let alone traditional cable providers and MVPDs. [258] Sprint has had some one-off video partnerships, largely focused on combining its wireless services with video content, but these have not driven meaningful share for Sprint or shifted customer perception of the company's offerings. [259]

c. The Transaction Will Provide the New T-Mobile With the Customer Scale and Spectrum Resources to Bring Innovative and Disruptive Video Services to Consumers

In the near term, the customer and retail scale created by the transaction will enable New T-Mobile to more rapidly expand the current Layer3 model than possible without the transaction. This scale should allow the company to acquire content at lower rates and on better terms than T-Mobile and Layer3 can do on their own. Layer3 estimates that its content acquisition costs will decrease by [redacted]percent as a direct result of the transaction and accompanying increased customer scale, allowing the company to price its service offerings to provide more affordable options for consumers. [260] Competitive pressures in the marketplace will demand that Layer3 pass these cost savings on to consumers through lower prices and more flexible rate offerings.

Over the longer term, New T-Mobile's 5G network will allow the company to offer the nation's first 5G-delivered in-home and mobile video services. This will include high-quality video content—including HD and 4K—to in-home and mobile locations across the country. The Applicants are confident that New T-Mobile will add significant customers and rapidly grow share in the pay television marketplace in the years following the merger. These customer

[258] Draper Decl. at ¶36.
[259] *Id.* at ¶37.
[260] Sievert Decl. at ¶41.

additions and market share gains will lead to significant revenue growth for New T-Mobile, with the company growing its video distribution business into a multi-billion-dollar enterprise. [261] This contrasts with T-Mobile's consolidated revenues, EBITDA, net income, and cash flows which remain just a fraction of those financials at the much larger AT&T or Verizon. [262]

While the merger will produce quantifiable benefits and opportunities for those consumers who New T-Mobile will serve with its video distribution services, it will also help other consumers as it will spur competition and lower prices from incumbent video delivery providers. New T-Mobile's in-home and mobile 5G video offerings will force competitors to respond with lower prices and more innovative services to retain customers and market share. The disruptive 5G video services provided by New T-Mobile will also offer transformative benefits for other innovators, who seek to build upon T-Mobile's extensive investment to offer video, content, and applications to in-home and mobile consumers and devices.

E. The Merger Will Result in Thousands of Additional American Jobs

The merger will create jobs on New T-Mobile's first day and going forward. [263] In its initial three years, New T-Mobile will invest significantly more in network infrastructure than the standalone firms combined to build a world-leading nationwide 5G network. This investment will translate into thousands of additional American jobs, as New T-Mobile will need to hire employees to build the new network; extend the Un-carrier customer care model to a wider subscriber base; and support growing services like in-home broadband and IoT. The result is that New T-Mobile will be jobs positive from its first year and beyond, with an initial increase relative to the combined companies standalone of more than 3,000 jobs that increases to 11,000 jobs by 2024.

261 *Id.* at ¶42.
262 *Id* at ¶8.
263 *Id.* at ¶19.

In order to evaluate the broader merger specific jobs effects, Dr. Jeffrey A. Eisenach of NERA Economic Consulting performed an analysis of how the transaction will affect overall employment in the United States. Dr. Eisenach estimates that the proposed transaction will contribute an annual average of approximately 24,960 jobs, or a total of 124,800 job-years, from 2019-2023. The NERA showings are consistent with and complement the jobs estimates performed by T-Mobile for its direct internal jobs analysis.

New T-Mobile's increased investment and rapid growth—and resultant accelerated roll-out of 5G services—seem likely to produce thousands of additional jobs throughout the U.S. economy. CTIA recently estimated that the deployment of 5G would stimulate $275 billion in investment, create millions of new U.S. jobs, and result in $500 billion in economic growth. [264] New T-Mobile will be a critical part of the engine driving job growth throughout the mobile ecosystem during 5G deployment and beyond.

1. The Merger Will Result in Job Gains, Not Losses at New T-Mobile

To evaluate the transaction's positive effect on jobs, T-Mobile conducted an internal analysis of the direct effects on employment resulting from the merger, as compared to the business plans of the standalone companies. It found that within a year of closing, New T-Mobile is expected to employ 3,600 more direct internal employees than the two standalone companies would have absent the merger. [265] It also showed that New T-Mobile's number of

264 *See e.g* ., David Abecassis, et al., *Global Race to 5G—Spectrum Infrastructure Plans and Priorities* , at 7, A NALYSYS M ASON (Apr. 2018), https://api.ctia.org/wp-content/uploads/2018/04/Analysys-Mason-Global-Race-To- 5G_2018.pdf .

265 Sievert Decl. at ¶19. "Direct internal" employees are on-payroll jobs (*e.g* ., a badge-carrying employee who would receive a W-2 from the New T-Mobile).

direct internal jobs will continue to increase—relative to what the standalone companies' combined employee base would have been for the foreseeable future. [266] As described in the table below, the incremental job increases relative to the standalone companies' baselines are, or will be, at or above the combined employer baselines:

	2019	2020	2021	2022	2023	2024
Direct Internal Incremental Jobs	3,625	3,755	5,045	5,010	8,115	11,060

In addition, the incremental increases for the combined direct internal and external employees will be 9,600 more jobs relative to the standalone companies' baselines for 2021. [267]

These estimates are conservative and likely to understate the ultimate effects of the merger on company employment. Indeed, T-Mobile has a track record of significant job creation in connection with mergers. In 2013, T-Mobile acquired MetroPCS, then the fifth-largest mobile provider in the United States. At the time, T-Mobile conservatively projected that MetroPCS would employ roughly the same number of people after the merger. [268] But, since the date of closing, MetroPCS has expanded into new markets and more than tripled the number of employees and contractors who support the MetroPCS brand. [269]

266 *Id* .

267 *Id.* These projections were developed using a model that starts with a detailed assessment of the New T-Mobile business plan, which incorporates an analysis of internal as well as contractor and dealer employment across the full range of employment functions, including engineering; retail; back-office and other administrative functions; customer care; enterprise support; and infrastructure installation, operations, repair and maintenance.

268 *Id.* at ¶20.

269 *Id. See also* Aaron Pressman, *How T-Mobile Turned a Tough Merger Into an Industry Success,* FORTUNE (May 5, 2017), http://fortune.com/2017/05/05/t-mobile-metropcs-merger/ (describing the MetroPCS acquisition as "one of the more surprisingly successful mergers in telecommunications history").

2. NERA's Economic Analysis Confirms that the Merger Will Result in Tens of Thousands of New Jobs in the U.S. Economy

In addition to T-Mobile's internal projections for post-merger employment, Dr. Jeffrey A. Eisenach performed an analysis of how the transaction will affect overall employment in the United States. Dr. Eisenach evaluated the combined effects of transaction-specific changes in both operating and capital expenditures at New T-Mobile (including anticipated post-merger cost savings and other efficiencies); changes in net output; and accelerated deployment and adoption of 5G infrastructure and services.

Dr. Eisenach estimates that the direct, indirect, and induced employment effects of the changes in spending and output resulting from the merger will contribute 51,200 additional "job-years" [270] to the U.S. economy between 2019 and 2023. [271] He further estimates that accelerated 5G deployment and adoption will result in an additional 73,600 job-years. [272] Taken together, the transaction should contribute 124,800 additional job-years to the U.S. economy in the five years following consummation. [273] In terms of job increases, this represents an annual average of 24,960 new American jobs.

---

270 Economists measure employment in terms of "job-years" to reflect the fact that the level of employment is constantly changing. One job for one year is one job-year. If that job continues for another year, the employment effect is considered to be two job-years.

271 Declaration of Dr. Jeffery A. Eisenach, Managing Director, NERA Economic Consulting, Appx. I, at ¶34 ("Eisenach Decl."). NERA's estimate of the employment effects of the merger includes not only the effects of hiring more people to work at the New T-Mobile as badged and contract employees, but also (a) the indirect employment effects as T-Mobile's suppliers and business partners hire more workers, and (b) the induced effects resulting from increased labor income and higher consumer spending.

272 *Id.* at ¶56.

273 *Id.*

Dr. Eisenach's analysis of the effects of transaction-specific changes in spending and output rely on the IMPLAN model, which calculates net employment effects resulting from changes in economic activity across a variety of business and policy applications. [274] NERA's application of the IMPLAN model considered both merger-specific employment losses and employment gains associated with increased capital and operational expenditures following the merger. Applying the IMPLAN multipliers to the net expenditures of the combined company allowed NERA to calculate the employment effects of the transaction over time. Ultimately, Dr. Eisenach's analysis helps to show that increased expenditures and output resulting from New T-Mobile's investments—along with the effects of accelerated 5G—will create significant net positive employment effects across the United States.

IV. THE MERGER WILL INTENSIFY, NOT HARM, COMPETITION

The approval of the merger and launch of New T-Mobile's 5G network will send competitive shockwaves throughout the mobile wireless marketplace, as well as adjacent market segments. New T-Mobile will have strong business incentives to engage in disruptive competition. Verizon, AT&T, and others will have to react to the threat with aggressive investments in their own 5G networks along with pricing and innovation responses throughout their product offerings. Once this cycle of network investment and competitive responses is underway, there is no recall button. The prospect of the competitors coordinating with each other to increase prices or restrict output is not a realistic threat.

As documented in the declarations of the Applicants' executives and supported by studies of leading economists, the merger of T-Mobile and Sprint will promote competition and enhance consumer welfare. As also detailed below, the pro-competitive effects of the merger have to be

[274] *Id.* at ¶7. *See generally* Implan Group, http://www.implan.com/ (last visited June 16, 2018). In using the IMPLAN model, Dr. Eisenach identified the incremental changes in economic activity specific to the proposed merger and classified these changes per the economic sectors that comprise IMPLAN's model of the U.S economy. He then applied employment multipliers to the incremental transaction-specific expenditures and output to estimate job creation by sector. The resulting multiplier effects are consistent with prior economic studies of the employment effects of changes in telecommunications sector expenditures.

evaluated against the competitive consequences in the absence of the merger. The reality is that Sprint and T-Mobile both face significant challenges; even T-Mobile's successful Un-carrier campaign has not advanced the company beyond the rear view mirrors of Verizon and AT&T. The delta between today without the merger and tomorrow with the merger confirms the significant increases in consumer welfare following approval of the merger.

A. Verizon and AT&T are Two Large, Entrenched Nationwide Carriers and the Wireless Marketplace Needs a Disruptive Rival of Similar Scale to Drive Competition and Innovation

Despite aggressive competitive efforts by T-Mobile and Sprint, Verizon and AT&T have held consistently leading positions in the wireless industry for well over a decade. Verizon and AT&T are bigger, better-capitalized wireless companies that also have expanded into horizontally or vertically-related businesses. The two companies' scale, spectrum, vast financial resources, and stable leading positions in the wireless industry have enabled them to leverage their positions to expand into the provision of other services, diversify their offerings for consumers and businesses, and become more firmly and comfortably entrenched.

Market Share. A review of the Commission's wireless competition reports of the last decade makes clear that Verizon and AT&T have long maintained leading positions in the wireless industry, accounting collectively for about two-thirds of the market. As of the end of 2016, Verizon maintained a 36.8 percent share of mobile wireless service revenues and AT&T maintained a 32.8 percent market share. [275] In comparison, at the same time, T-Mobile and Sprint held a 15.4 percent share and 13.4 percent share, respectively. [276] As described in greater detail below, Verizon and AT&T account for the vast majority of subscribers and revenue in the industry, have significant network advantages, and are well positioned to continue to hold onto their steady market share.

---

275 *Twentieth Mobile Wireless Competition Report,* 32 FCC Rcd at 8988, Table II.C.1.

276 *Id.*

Network Advantages. Verizon and AT&T have nationwide networks that claim to provide customers with the coverage and depth of capacity to experience consistently fast upload and download LTE speeds, regardless of location. These networks, which were built on Verizon and AT&T's early low-band spectrum advantages, enabled them to establish a strong nationwide footprint and customer relationships before either T-Mobile or Sprint was able to compete as effectively through network quality or coverage. Verizon's LTE Network covers an estimated 303 million POPs, [277] while AT&T's LTE network covers an estimated 305 million POPs. [278] Verizon's and AT&T's LTE networks each also cover more area than either T-Mobile's or Sprint's networks, [279] which puts the two smaller carriers at a significant disadvantage when trying to compete at a national level.

Capital Advantages. Verizon and AT&T each have access to far more capital than T-Mobile and Sprint. Verizon and AT&T each have market capitalizations that are more than double the market capitalizations of T-Mobile and Sprint combined, significantly greater cash flow, and much higher earnings before interest, taxes, and depreciation ("EBITDA"). With respect to market capitalization, Verizon's stands at $198.58 billion [280] and AT&T's at $203.57 billion. [281] T-Mobile's and Sprint's market capitalizations of $50.82 billion282 and $22.02

277 *Id.* at 9049, Appx. III, Table III.D.vi.
278 *Id.*
279 *Id.*
280 *See* Verizon Communications, Inc., W ALL S TREET J OURNAL , https://quotes.wsj.com/VZ (last visited June 16, 2018).
281 *See* AT&T, Inc., W ALL S TREET J OURNAL , https://quotes.wsj.com/T (last visited June 16, 2018).
282 *See* T-Mobile US, Inc., W ALL S TREET J OURNAL , https://quotes.wsj.com/TMUS (last visited June 16, 2018).

billion, [283] respectively, are small by comparison. Verizon and AT&T finished 2017 with adjusted free cash flow of $8.1 billion [284] and $17.6 billion, [285] respectively. For the same period, T-Mobile and Sprint had adjusted free cash flow of $2.7 billion [286] and $945 million, [287] respectively. In 2017, Verizon and AT&T had adjusted EBITDA of $45.1 billion [288] and $45.3 billion, [289] respectively. T-Mobile and Sprint finished 2017 with adjusted EBITDA of $11.7 billion [290] and $11.1 billion, [291] respectively, which is one-fourth that of the larger companies.

Compounding Competitive Advantages. Greater scale and access to capital provide Verizon and AT&T with greater capacity to invest in critical wireless business inputs, including spectrum and network infrastructure. These investments themselves compound to further reinforce Verizon's and AT&T's leading positions:

- *Spectrum Investments:* The scale and capitalization of Verizon and AT&T have enabled them to aggressively acquire spectrum. Both companies moved quickly to accumulate the majority of the available millimeter wave spectrum in the secondary market, a band

283 *See* Sprint Corporation, W ALL S TREET J OURNAL , https://quotes.wsj.com /S (last visited June 16, 2018).

284 Verizon, *Fourth Quarter 2017 Earnings Results,* at 10 (Jan. 23, 2018), https://www.verizon.com/about/file/25853/download?token=jlF8vBIT .

285 AT&T, *AT&T Reports Fourth-Quarter and Full-Year Results* (Jan. 31, 2018), http://about.att.com/story/att_fourth_quarter_earnings_2017.html .

286 T-Mobile, *T-Mobile Reports Record Financial Results Across the Board for FY 2017, Issues Strong Guidance for 2018 and Beyond* (Feb.7, 2018), https://www.t-mobile.com/news/tmus-q4-2017-earnings.htm .

287 Sprint, *Sprint Delivers Best Financial Results in Company History with Highest Ever Net Income and Operating Income in Fiscal Year 2017* (May 2, 2018), http://investors.sprint.com/news-and-events/press-releases/press-release-details/2018/Sprint-Delivers-Best-Financial-Results-In-Company-History-With-Highest-Ever-Net-Income-And-Operating-Income-In-Fiscal-Year-2017/default.aspx .

288 Verizon, *Fourth Quarter 2017 Earnings Results,* at 5 (Jan. 23, 2018), https://www.verizon.com/about/file/25853/download?token=jlF8vBIT .

289 AT&T, 2017 Annual Report, at 59, https://investors.att.com/~/media/Files/A/ATT-IR/financial-reports/annual-reports/2017/complete-2017-annual-report.pdf .

290 T-Mobile, *T-Mobile Reports Record Financial Results Across the Board for FY 2017, Issues Strong Guidance for 2018 and Beyond* (Feb.7, 2018), https://www.t-mobile.com/news/tmus-q4-2017-earnings.htm .

291 Sprint, *Sprint Delivers Best Financial Results in Company History with Highest Ever Net Income and Operating Income in Fiscal Year 2017* (May 2, 2018), http://investors.sprint.com/news-and-events/press-releases/press-release-details/2018/Sprint-Delivers-Best-Financial-Results-In-Company-History-With-Highest-Ever-Net-Income-And-Operating-Income-In-Fiscal-Year-2017/default.aspx .

that is an important component of the spectrum stack needed to provide next-generation 5G technology. [292] Indeed, T-Mobile was very interested in acquiring some of this spectrum to complement its low-band spectrum, but was outbid by these larger rivals. [293]

- *Business Investments:* Greater scale and access to capital also provide Verizon and AT&T with an increased ability to invest in existing and new business lines. Verizon and AT&T have leveraged these advantages to: (1) establish superior positions in important segments, including enterprise, government, and rural wireless services; and (2) grow larger and more diverse business portfolios including through the acquisition of vertically integrated assets. Developing a footprint in these segments often involves major acquisitions that neither T-Mobile nor Sprint, currently could afford or fully capitalize on given limited scale and lack of complimentary assets. For example, in 2014, AT&T acquired DirecTV for approximately $48 billion, which is approximately the total market capitalization of T-Mobile today. [294]
- *Bundling:* Acquisitions of vertically integrated and complementary assets and businesses have helped to entrench the significant competitive advantages that Verizon and AT&T hold over T-Mobile and Sprint, as they can offer a greater diversity of services and products to customers and provide attractive bundled packages of services. As noted above, the convergence of industries has resulted from fundamental shifts in consumer expectations and consumption patterns. Consumers today are interested in obtaining content and services wherever they are and are increasingly cost-conscious. These consumers value bundled content and services and Verizon and AT&T compete more effectively by providing bundled packages that match consumer preferences.
- *Subsidization:* Verizon and AT&T can subsidize less profitable business lines with more profitable ones, providing flexibility in diversifying their services. Moreover, Verizon and AT&T are in an excellent position to leverage their vertically related wireline assets in negotiations with content distributors and Internet companies. As noted by GSMA, "[AT&T] and [Verizon] are driving the current phase of telecoms and media convergence as the operators look to diversify away from core mobile services and compete more effectively with the Internet players." [295]

---

292 *See, e.g.* , *Application of Verizon Communications Inc. and Straight Path Communications, Inc.* , Memorandum Opinion and Order, 33 FCC Rcd 188 (2018); *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).

293 For example, Verizon acquired Straight Path and its spectrum holdings for $3.1 billion after a bidding war with AT&T. T-Mobile's top bid was approximately [redacted] percent lower than the eventual sale price. *See* Verizon Communications, Inc., Amendment No. 1 to Form S-4 Registration Statement, at 52-54 (June 23, 2017), https://www.sec.gov/Archives/edgar/data/732712/000119312517211750/d406130ds4a.htm#rom406130_2 .

294 AT&T, *AT&T Completes Acquisition of DIRECTV* (July 24, 2015), http://about.att.com/story/att_completes_acquisition_of_directv.html .

295 GSMA, *The Mobile Economy North America 2017,* at 4 (Sept. 2017).

Convergence-Driven Business Models. The most successful wireless companies of today recognize that the boundaries between "wireless" and "wireline" are rapidly dissolving and that, to succeed in a converged market, they must compete in the expanding "broadband" market. Both Verizon and AT&T have adopted convergence-driven business strategies that are aligned with the business realities of tomorrow, and those strategies are paying off.

For example, AT&T says it aims to become "the world's premier technology, media, and telecommunications (TMT) provider," [296] and it is consistently leveraging its position as a wireline and content distributor to compete in wireless. AT&T's CEO has acknowledged that its bundling efforts, including combining its wireless products with DIRECTV, landline phone services, U-Verse MVPD offerings and broadband wired Internet access, have reduced churn. [297] AT&T also: (1) offers Data Free TV, which allows subscribers to stream AT&T's U-verse and DIRECTV content without incurring data charges; [298] (2) provides a streaming-only DIRECTV Now service; [299] and (3) includes HBO in its lower-end Unlimited Plus and AT&T Unlimited Choice plans. [300] In the first quarter of 2018, AT&T reported 312,000 additional DIRECTV Now subscribers and a total of 1.5 million DIRECTV Now subscribers, offsetting its traditional pay-

296 David Alton Clark, *AT&T Is Dead Money? I Beg To Differ,* SEEKING ALPHA (Jul. 12, 2017), https://seekingalpha.com/article/4087053-t-dead-money-beg-differ .

297 Sean Buckley, *AT&T's Stephenson: Multiproduct wireless, video households have dramatically lower churn,* F IERCE W IRELESS (Sep. 12, 2017), http://www.fiercewireless.com/wireless/at-t-s-stephenson-multi-product-wireless-video-households-have-dramatically-lower-churn .

298 AT&T, *About Data Free TV,* https://www.att.com/esupport/article.html#!/wireless/KM1131836 (last visited June 16, 2018).

299 AT&T, *About TV,* https://www.att.com/directv-now/ (last visited June 16, 2018).

300 AT&T, *HBO channels included with AT&T unlimited plans,* https://www.att.com/esupport/article.html#!/directv/KM1199253 (last visited June 16, 2018).

TV subscriber losses and helping its total U.S. video base to rebound to the same level it reached in the first quarter of 2017. [301]

AT&T's acquisition of Time Warner will enable the low-cost integration of a vast collection of content, provide valuable advertising efficiencies, and supply numerous distribution conduits. AT&T previously stated that the acquisition will "give us the scale, resources and ability to deploy video content more efficiently to more customers than otherwise possible and to provide very attractive integrated offerings of video, broadband and wireless services; compete more effectively against other video providers as well as other technology, media and communications companies; and produce cost savings and other potential synergies." [302] AT&T's CEO recently noted that the Time Warner acquisition will allow the company to "us[e] video as a key differentiator in the marketplace and driv[e] share by virtue of integrating video and different experiences with video." [303] This aligns with AT&T's goal to provide content to any customer in any location on any device, meeting future demand for mobile video. [304] As AT&T contends, "the future of video lies in its wireless network, and the future of its wireless network lies in video." [305]

---

301 Todd Spangler, *AT&T Misses Q1 Targets, as DirecTV Now Streaming Service Hits 1.46 Million Subscribers* , V ARIETY (Apr. 25, 2018), http://variety.com/2018/biz/news/att-q1-2018-directv-now-subscribers-1202786896 .

302 AT&T, Inc., *Financial Review 2016,* at 42 (2017) https://www.att.com/Investor/ATT_Annual/2016/downloads/att_ar2016_mda_consolidatedtables.pdf .

303 *AT&T Presents at JPMorgan Global Technology, Media and Communications Broker Conference,* S EEKING A LPHA (May 15, 2018), https://seekingalpha.com/article/4174200-ts-t-presents-jpmorgan-global-technology-media-communications-broker-conference-transcript?part=single .

304 Jennifer M. Fritzsche, Caleb Stein, and Eric Luebchow, *AT&T: Getting Ready For Hollywood (& NYC!)* , at 1, W ELLS F ARGO S ECURITIES (Oct. 10, 2017). *See also United States v. AT&T Inc.* , No. 17-2511, Memorandum Opnion at 36 (D.C. Cir. June 12, 2018) ("At trial, the evidence showed that defendants view the proposed merger as an essential response to the industry dynamics described above—that is, the increasing importance of web- and mobile-based content offerings; the explosion in targeted, digital advertising; and the limitations attendant with AT&T's and Time Warner's respective business models. The proposed merger would do so, defendants' executives asserted, through vertical integration of the companies' complementary assets: Time Warner's popular content and significant advertising inventory, and AT&T's consumer relationships, customer data, and large wireless business.").

Verizon's actions similarly demonstrate the importance of a convergence-driven strategy. Verizon has long bridged both wireless and wireline and used the advantages of each to expand both businesses. However, Verizon's convergence-driven diversification extends much further than its legacy properties. For example, its strategic acquisitions of AOL and Yahoo broadened Verizon's subscriber reach and allowed it to branch into the content and digital media businesses. [306] Verizon combined the media and technology assets of AOL and Yahoo into a new company called Oath and plans to leverage the content of its Oath properties with premium third-party content to offer an OTT streaming service. [307] Verizon already has entered into alliances with Vice Media for OTT content, [308] and Verizon recently entered into a $2.5 billion agreement with the National Football League to stream live games to its subscribers, further augmenting its video offerings. [309]

As a result of the above, Verizon and AT&T are growing their market footprints, are better able to bundle and offer more innovative services and packages to their customers, and are

305 *United States v. AT&T, Inc., DirectTV Group Holdings, LLC, and Time Warner, Inc.* , Pretrial Brief of Defendants, at 22 (Mar. 9, 2018), https://www.courtlistener.com/recap/gov.uscourts.dcd.191339/gov.uscourts.dcd.191339.77.0_1.pdf .

306 Majit Kavithia, *Verizon Wireless head looks to AI for transformation,* M OBILE W ORLD L IVE (Aug. 9, 2017), https://www.mobileworldlive.com/featured-content/home-banner/dunne-details-vision-of-verizon-as-information-provider/ .

307 Chaim Gartenberg, *Verizon's streaming TV service might have standalone app 'channels',* T HE V ERGE (Jan. 16, 2018), https://www.theverge.com/2018/1/16/16892512/verizon-streaming-tv-service-standalone-app-channels-ott-new-details .

308 Sarah Perez, *Verizon Signs Up VICE To Deliver Original Content For Its Upcoming Mobile Video Service,* T ECH C RUNCH (Jul. 14, 2015), https://techcrunch.com/2015/07/14/verizon-signs-up-vice-to-deliver-original-content-for-its-upcoming-mobile-video-service/ .

309 Darren Rovell, *Verizon, NFL agree to new 5-year deal worth nearly $2.5 billion,* ESPN.com (Dec. 11, 2017), http://www.espn.com/nfl/story/_/id/21737823/verizon-nfl-agree-new-5-year-deal-worth-nearly-25-billion ("'Media is one of the major pillars for us now,' said Brian Angiolet, Verizon's global chief media and content officer.").

better at retaining subscribers. Indeed, the two companies have extremely low rates of costly customer churn. In 2017, Verizon and AT&T had postpaid phone churn rates of 0.78 percent [310] and 0.85 percent, [311] respectively, while T-Mobile and Sprint had corresponding rates of 1.18 percent [312] and 1.60 percent, [313] respectively.

Foundations for Continued Stability and Success. Verizon and AT&T are well-positioned for continued success in the wireless space and adjacent markets. Verizon's extensive fiber backhaul network, combined with its strengthened dark fiber backhaul as a result of its acquisition of XO Communications for $1.8 billion, [314] supports its existing 4G LTE network and provides an optimal starting point for its forthcoming 5G wireless network. [315] Additionally, Verizon's recently approved transaction with Straight Path Communications, [316] combined with its purchase of XO, provides the company with increased millimeter wave spectrum holdings that position it to launch 5G in various metropolitan areas.

AT&T's CFO has lauded the advantages of scale that make AT&T a "fully integrated network carrier," including its expansive wireless holdings and capabilities, massive fiber

310 Verizon, 2017 Annual Report, at 4, https://www.verizon.com/about/sites/default/files/2017VerizonAnnualReport.pdf .

311 AT&T, 2017 Annual Report, at 26, https://investors.att.com/~/media/Files/A/ATT-IR/financial-reports/annual-reports/2017/complete-2017-annual-report.pdf .

312 T-Mobile, *T-Mobile Reports Record Financial Results Across the Board for FY 2017, Issues Strong Guidance for 2018 and Beyond* (Feb.7, 2018), https://www.t-mobile.com/news/tmus-q4-2017-earnings.htm .

313 Sprint, *Sprint Reports Highest Retail Net Additions in Nearly Three Years and Raises Adjusted Free Cash Flow Guidance with Fiscal 2017 Third Quarter Results* (Feb. 2, 2018), http://investors.sprint.com/news-and-events/press-releases/press-release-details/2018/Sprint-Reports-Highest-Retail-Net-Additions-In-Nearly-Three-Years-And-Raises-Adjusted-Free-Cash-Flow-Guidance-With-Fiscal-2017-Third-Quarter-Results/default.aspx .

314 *See Application of Cellco Partnership d/b/a Verizon Wireless and XO Holdings,* Memorandum Opinion and Order, 32 FCC Rcd 10125 (2017).

315 Sean Buckley, *After delay, Verizon wraps $1.8B XO acquisition, deepening metro fiber density in 45 markets,* F IERCE W IRELESS (Feb. 1, 2017), https://www.fiercetelecom.com/telecom/after-delay-verizon-wraps-1-8b-xo-acquisition-deepens-metro-fiber-density-45-markets .

316 *See Application of Verizon Communications Inc. and Straight Path Communications, Inc.* , Memorandum Opinion and Order, 33 FCC Rcd 188 (2018).

footprint, extensive traditional wireline network, and satellite distribution. [317] AT&T recently added to these advantages by acquiring FiberTower Corporation, giving the company a significant footprint in the 39 GHz band, with average holdings of more than 375 megahertz in the top 100 markets, and facilitating AT&T's deployment of 5G services in many metropolitan areas. [318] Further, AT&T recently launched a "controlled introduction" of the core of the FirstNet nationwide public safety network. [319] Though focused on enabling communications between first responders and other emergency personnel, AT&T will be able to leverage excess FirstNet capacity to provide additional services to non-public safety customers.

Competition is Needed to Hasten, Expand, and Enhance 5G Deployment. Both Verizon and AT&T have adopted a restrained approach to 5G deployment that focuses only on deploying millimeter wave spectrum in high-density urban areas. Because of their scale, stable market positions, high-performing LTE networks, strong brands, and perceived network quality and advantage, Verizon and AT&T can afford to be conservative in their 5G efforts and still maintain their large customer bases. As Dr. Evans' economic analysis has shown, Verizon and AT&T's "tepid adoption" of 5G will likely continue absent a carrier moving to accelerate deployment. Neither T-Mobile nor Sprint can accelerate deployment without the merger and, therefore, absent the additional competition in the 5G arena that would be created by New T- Mobile, Verizon and AT&T have little incentive to more aggressively invest in a robust, nationwide 5G networks. However, New T-Mobile will drive Verizon and AT&T to hasten, expand, and enhance their 5G deployment plans.

---

317 *AT&T's Management Presents at 4th Annual MoffettNathanson Media & Communications Summit Results* , S EEKING A LPHA (May 17, 2017), https://seekingalpha.com/article/4074190-ts-t-management-presents-4th-annual-moffettnathanson-media-and-communications-summit-results?part=single .

318 *See 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). *See also* AT&T, *AT&T Completes Acquisition of FiberTower Corporation* (Feb. 9, 2018) http://about.att.com/story/att_completes_acquisition_of_fibertower_corporation.html .

319 FirstNet is the nation's first broadband network dedicated to police, firefighters and emergency medical services. Built and managed by AT&T in a public-private partnership with the federal government, the FirstNet network will cover all 50 states, 5 U.S. territories and the District of Columbia, including rural communities and Tribal lands in those states and territories. *See* Jon Fingas, *AT&T launches the base of its FirstNet public safety network,* E NGADGET (Mar. 27, 2018), https://www.engadget.com/2018/03/27/att-firstnet-network-core-live/ .

B. Unlike the Two Standalone Companies, New T-Mobile Will Be a Strengthened Maverick with the Incentives and Ability to Go Toe-to-Toe with Verizon and AT&T

Despite aggressive competitive efforts by T-Mobile and Sprint, including network investments, innovations, marketing and lower pricing, neither company has been able to loosen Verizon and AT&T's grip on about two-thirds of the wireless marketplace. Yet, following the merger, New T-Mobile will have the network, scale, and incentives to finally make inroads into Verizon's and AT&T's leading market shares, spurring even greater competition.

1. Sprint Faces Serious Challenges for the Future

Scale. Sprint has lost share despite its aggressive competitive actions and price moves. While Sprint held a 15.5 percent share of mobile wireless service sales in 2013, its share had dropped to 13.4 percent by 2016. [320] These decreases have a very real practical impact on Sprint's competitive strength. Sprint's loss of subscribers has steadily dwindled the base of customers across which it could distribute costs, exacerbating its scale disadvantages compared to larger competitors. As John Saw states in his declaration, "[b]ecause we lack the scale of our larger competitors, we do not have as many subscribers over which to spread out our network costs, particularly compared to AT&T and Verizon." [321]

320 *Twentieth Mobile Wireless Competition Report,* 32 FCC Rcd at 8988, Table II.C.1.
321 Saw Decl. at ¶9.

Spectrum and Network. Sprint's present challenges and the challenges it will face in transitioning to 5G stem from the limitations inherent in its mix of spectrum and network assets and its below-scale subscriber base. Sprint's LTE network footprint covers far less geography (particularly in rural areas) and fewer POPs than Verizon's, AT&T's, or T-Mobile's networks. [322] Sprint must rely on costly roaming agreements to provide services to its customers when they travel outside of its network footprint. Those roaming agreements typically provide Sprint customers with an inferior user experience to what Sprint provides on its own network.

Even within Sprint's network footprint the propagation limitations of its 2.5 GHz spectrum, coupled with an inadequate density of cell cites equipped with 2.5 GHz radios, result in significant coverage gaps in the 2.5 GHz layer. [323] As a result, Sprint's user experience is often diminished in buildings and in suburban, exurban, and rural locations. Sprint's in-building POPs coverage for 2.5 GHz is much lower than its total LTE coverage. [324]

These spectrum and network challenges will carry forward into the 5G era and multiply. All nationwide wireless competitors have identified 5G as the critical path to their future competitiveness in the industry. However, on a standalone basis, Sprint's 5G plans also face limitations. Sprint's spectrum holdings restrict its 5G deployment to the 2.5 GHz band while Sprint continues to provide traditional 3G and 4G services in its other spectrum. It would not be economically practical for Sprint to deploy 5G outside of high population density areas given Sprint's limited standalone subscriber scale. This constraint would dramatically limit the reach of Sprint's 5G deployment during a critical competitive period for attracting and retaining new customers with innovative 5G capabilities. Further complicating Sprint's 5G competitiveness is the fact that tower prioritization for massive MIMO deployment—Sprint's stepping stone to 5G deployment—will largely be driven by capacity demands on Sprint's existing 4G LTE

322 *See* Saw Decl. at ¶12; Draper Decl. at ¶11.
323 Saw Decl. at ¶15.
324 *See* Draper Dec. at ¶11; Saw at ¶13.

network. [325] This means that Sprint's 5G network will not be contiguous. Sprint's lack of low-band spectrum sufficient to provide a robust 5G coverage layer also precludes it from providing ubiquitous, nationwide service. Absent the merger, the company will not be a major competitor in most of rural America in the foreseeable future.

Consumer Perception and Satisfaction. Sprint's historically poor perceived network performance and other challenges have led to high levels of customer churn and will continue to make it difficult for Sprint to attract and retain customers as a standalone company. [326] The negative perception of the Sprint network has been extremely difficult for the company to overcome, and gives even further competitive advantage to AT&T and Verizon. [327] Data show that Sprint has the highest churn rate among major carriers. [328] In 2017, Sprint's postpaid phone churn rate was around twice that of AT&T's and Verizon's. [329] In fact, Sprint is the only major carrier with a rising churn rate. [330]

Finances. Finally, Sprint faces serious, mutually reinforcing challenges that limit its ability to improve its competitive prospects. To attract and retain customers, it must invest heavily in its network and other capabilities. Yet to support those investments it must throttle back on the aggressiveness of its promotions, which failed to achieve a fundamental shift in Sprint's ability to attract and retain customers. Indeed, Sprint's declining share and persistently high churn occurred *despite* Sprint's aggressive attempts to add subscribers and thereby gain scale. [331]

325 Saw Decl. at ¶15.
326 Draper Decl. at ¶14.
327 *Id.* at ¶20.
328 *Id.* at ¶14.
329 *Id.*
330 *Id.* at ¶20.
331 *Id.* at ¶¶18-20.

Reflecting these patterns, Sprint's service revenue and ARPU have been declining for at least five years, with total service revenue falling around 25 percent from 2013 to 2018, and postpaid ARPU falling approximately 30 percent. Sprint also has a current net debt of approximately $32 billion and is the most highly leveraged company in the S&P 500. [332] As previously mentioned, Verizon and AT&T both dwarf Sprint in terms of adjusted EBITDA and free cash flow, leaving Sprint as a standalone company at a severe disadvantage with respect to the cash necessary to invest in improving its network and business.

Sprint plans to spend $5-6 billion a year over the next three years to build a 5G network and, even with that spending, Sprint's 5G footprint would be geographically limited as noted above. [333] And though Sprint's massive cost reductions have stabilized the company's finances and yielded positive free cash flow for the first time in many years, the company achieved that result only by shrinking the company and reducing network investment to historically low levels. [334] Put simply, Sprint lacks the scale and resources to expand its network capital spending (as required to avoid falling further behind in network quality and to begin deploying 5G network technologies) and continue its aggressive spending (in the form of promotional pricing and other incentives) on customer acquisition. [335]

332 *See* Sprint Corporation, W ALL S TREET J OURNAL , https://quotes.wsj.com/S (last visited June 16, 2018).
333 Draper Decl. at ¶5.
334 *Id.* at ¶4.
335 *Id.* at ¶¶5, 22.

As a result, Sprint's standalone future will not be one that allows it to be an effective competitor to Verizon and AT&T on a nationwide basis. And while Sprint has planned network investment over the next several years, such investments will be difficult for Sprint to manage and Verizon and AT&T have announced their intentions to spend nearly as much in CapEx this year alone. [336] Even with accelerated investment, Sprint is still unable to "catch up" from previous underinvestment, much less build a network that achieves parity with Verizon and AT&T (based on Network CapEx per subscriber). [337]

2. T-Mobile, as a Standalone Company, Has Had Some Success But Will Not Be Able to Continue Competing as Well Without the Merger

T-Mobile's Un-carrier strategy has worked, but it alone is not enough to overcome the scale and spectrum advantages of Verizon and AT&T. While T-Mobile has gained some market share, those gains have amounted to only a few percentage points after five years of continuous aggressive implementation of its Un-carrier strategy. And, much of that gain is attributable to its successful acquisition and integration of MetroPCS, rather than taking share through organic gains in the marketplace. [338] In 2013, T-Mobile accounted for 10.9 percent (*pro forma* T-Mobile and MetroPCS) of mobile wireless sales; despite its Un-carrier efforts, by 2016 that number had grown only to 15.4 percent, including the 9.3 million acquired MetroPCS customers (MetroPCS had a 3.84 percent market share in 2016, therefore, without MetroPCS, T-Mobile would only have held an 11.56 percent market share in 2016). [339]

336 AT&T has announced plans to spend approximately $23 billion in capex, with significant spending to lay the foundations of their 5G network. *See AT&T to Spend Trump Tax Bump on Fiber, 5G 'Foundation',* L IGHT R EADING (Jan. 31, 2018), https://www.lightreading.com/mobile/5g/atandt-to-spend-trump-tax-bump-on-fiber-5g-foundation/d/d-id/740215 . Verizon has announced plans to spend nearly $18 billion in capex in 2018 in preparing for 5G. *See Verizon to spend $18 billion on Capex including 5G in 2018,* T ELECOM LEAD (Jan. 23, 2018), http://www.telecomlead.com/5g/verizon-to-spend-18-billion-on-capex-including-5g-in-2018-81685 .

337 Draper Decl. at ¶5.

338 Legere Decl. at ¶7.

339 *Twentieth Mobile Wireless Competition Report,* 32 FCC Rcd at 8988, Table II.C.1.

Scale. Though T-Mobile has gained some subscriber share in recent years, Verizon and AT&T's scale advantages enable them to realize greater scale efficiencies than T-Mobile. "AT&T and Verizon Wireless have higher asset utilization measured by the number of customers supported per unit of fixed cost network (e. *g.* , cell towers)." [340] Additionally, "T-Mobile must instead allocate the largely fixed costs of its network over less than half of the subscriber base of AT&T or Verizon, so T-Mobile's costs-per-subscriber are substantially higher." [341] This scale better enables the two larger rivals to invest in new businesses and acquire assets with which to enhance or expand their networks, such as the millimeter wave spectrum that will be critical to future 5G deployments. [342]

Scale differentials, such as the gap between T-Mobile and the much larger Verizon and AT&T, are compounding. Lacking sufficient scale to spread costs, T-Mobile will fall farther behind, and Verizon and AT&T will continue to be positioned to capitalize on new spectrum acquisition opportunities, whether at auction or in the secondary market. As Mike Sievert states, "without a large and well-resourced challenger, [Verizon and AT&T] will remain unchecked and able to further distance themselves from any meaningful competition in the 5G era." [343]

340 Sievert Decl. at ¶9.
341 *Id.*
342 *Id.*
343 *Id.*

Spectrum and Network. As discussed in greater detail above, as a standalone company, T-Mobile does not have the spectrum portfolio required to launch a competitive, broad, and deep nationwide 5G network during the next few years. T-Mobile's thin layer of 600 MHz spectrum provides excellent coverage, but is inadequate for purposes of providing target 5G speeds, low latency, or robust capacity. [344] Greater capacity is the most important component for achieving cost reductions and, in turn, price reductions for consumers. Without this capacity, not only is T-Mobile less able to compete with Verizon and AT&T in terms of network capability, but it also is limited in its ability to continue driving down prices to increase consumer benefit. T-Mobile's capacity challenges will intensify as customer demand for mobile data continues to grow and more subscribers seek unlimited data plans. [345] As Mike Sievert notes, "[w]ithout the proposed transaction, T-Mobile's ability to continue exerting competitive pressure on Verizon and AT&T is likely to plateau because of its smaller subscriber share, revenue base, and longer-term spectrum constraints." [346]

3. New T-Mobile Will Have the Incentive and Ability to Compete with Verizon and AT&T

New T-Mobile's business incentives will be no different than those of any for-profit corporation—to maximize profitability and shareholder value. But T-Mobile has consistently shown, since it adopted the Un-carrier approach in 2013, that a consumer-first approach that gives customers better service for a lower price is not just compatible with maximizing profitability and shareholder value. It is the most profitable and value-accretive way to do business and it has been central to T-Mobile's business strategy. Over the last five years as the Un-carrier, T-Mobile has significantly improved performance and created value for

344 *See supra* Section III.B.1.a.

345 Sievert Decl. at ¶11.

346 *Id.*

consumers. [347] The merger will give New T-Mobile the tools to take the Un-carrier model to new levels, enabling it to compete more aggressively against the market leaders and escalating competition to the benefit of consumers. Here is how New T-Mobile will make the competitive leap:

- ***Spectrum and Network.*** With the world-leading nationwide 5G network described in Section III, New T-Mobile will have strong incentives to use its new capabilities and capacity to seize previously unattainable market share in multiple segments of the converging wireless market (*e . g.,* consumer, commercial IoT, enterprise, and video) as well as to challenge entrenched incumbents in the in-home broadband market. And, with broader 5G coverage, New T-Mobile will be able to provide services that Verizon and AT&T cannot currently match in places that they cannot reach, particularly in rural America. [348]
- ***Scale.*** New T-Mobile will be able to match Verizon and AT&T in scale and, for the first time, force them to compete with an aggressive competitor that can leverage comparable scale efficiencies to invest on par with them and engage in even more aggressive price competition.
- ***Broadband-Focused Plan.*** Finally, while Verizon and AT&T have pursued a wide range of divergent businesses, billions of merger-related synergies will be reinvested into improving broadband connectivity for consumers, providing new broadband services, and lowering prices.

Indeed, New T-Mobile will have significant incentives to compete aggressively for customers. The combined company's 5G network will have more capacity than any network in history—more than three times the available capacity of the standalone T-Mobile and Sprint 5G networks combined in 2024. [349] Once it has that capacity, New T-Mobile will be compelled to fill it by vigorously competing for consumers to maximize the value of that network investment. Further, since this additional capacity will decrease the marginal cost of each gigabyte of data,

347 Legere Declaration at ¶¶4, 16.

348 New T-Mobile would also be able to leverage the benefits of Sprint's wireline assets to supplement its network capabilities.

349 *See supra* Sec. III.B.3.a.

New T-Mobile will be able to lower prices while increasing quality and value. [350] The company will also be incentivized to leverage the network's enhanced capabilities to cross-sell new services. Furthermore, as described in greater detail below, New T-Mobile will be compelled to initiate this aggressive price reduction quickly and even before full deployment of its 5G network.

While New T-Mobile's aggressive efforts alone will drive benefits to consumers, consumer welfare will be enhanced further by Verizon's and AT&T's inevitable competitive response to this new strong competitor in the marketplace. Both Verizon and AT&T have announced plans for limited 5G deployments that rely heavily on their millimeter wave spectrum. Because of the propagation characteristics of this spectrum, Verizon's and AT&T's planned deployments are focused on high density areas, such as urban cores. However, New T-Mobile's nationwide 5G network will enable it to offer true 5G service to far more potential customers across a much larger geographic area than either Verizon or AT&T could plausibly muster using only millimeter wave spectrum. Also, New T-Mobile's lower pricing will provide those potential customers a greater value for their dollar. The pressure of being outperformed in terms of both price and network quality will force Verizon and AT&T to drastically accelerate and expand their 5G deployment plans and quickly lower prices, enhancing—not harming—competition to the benefit of consumers.

C. Convergence of Industries to Create a Singular Broadband Marketplace is Enabling New Entrants in Wireless to Have Increasing Competitive Relevance, Particularly in 5G Services

350 Evans Decl. ¶¶212-13.

Unleashing fierce competition between New T-Mobile, Verizon, and AT&T is enough to justify approving the merger on its own. However, advances in technology and new innovations are causing previously separate and distinct businesses to converge. This convergence is changing the wireless marketplace and attracting well-capitalized and aggressive new entrants that are now able to compete at a high level. In this new competitive landscape, it is implausible that the merger will reduce competition.

The Commission has recognized that the wireless space has entered an especially dynamic period and "is on the brink of a major technological transformation that is likely to be both competitively disruptive and transformative." [351] Moreover, Chairman Pai has noted that "the lines between wireless and wireline service will continue to blur as technology advances and the former becomes a more reliable way to connect." [352] The marketplace for wireless services already looks substantially different today than it did a decade ago. Consumers' increased reliance on wireless connectivity is changing the way today's wireless businesses operate. As these changes continue, it is important for the Commission to take that shift into account when considering wireless transactions.

Commissioner O'Rielly has observe that "the traditional mobile sector is likely to experience more, not less, competition from new 5G services, next generation satellites and other innovations," and such "competition must be considered not only as we contemplate imposing regulations—or more appropriately—enacting deregulations, but as we consider the convergence of industries and merger activity." [353] Consistent with Commissioner O'Rielly's observations, the wireless industry is being transformed today by major new entrants that fit squarely within the Commission's definition of "market participants," as they exert clear and economically significant competitive pressures on wireless incumbents even today.

351 *Twentieth Mobile Wireless Competition Report,* 32 FCC Rcd 8968, 8974 ¶10.

352 Diana Goovaerts, *FCC's Pai Won't Rule Out Wireless Consolidation,* Wireless Week (May 8, 2017), https://www.wirelessweek.com/news/2017/05/fccs-pai-wont-rule-out-wireless-consolidation .

353 Remarks of Commissioner Michael O'Rielly, International Institute of Communications' International Regulators Forum (Oct. 10, 2017), https://www.fcc.gov/document/comm-oriellys-remarks-iic-intl-regulators-forum-2017 .

The wireless space is increasingly populated by competitors beyond the traditionally recognized four nationwide wireless providers. Comcast is now offering a wireless service in partnership with Charter (expected to launch in June 2018), and DISH has announced near-term plans for both a narrowband IoT network and a 5G network (DISH has license obligations to build out much of its spectrum by 2020). These facilities-based companies have common characteristics that are the hallmarks of what the Commission has defined as a nationwide market participant, as they: (1) operate and advertise nationally, serving customers across the United States; (2) have millions of customers for their traditional cable and satellite services, positioning them well to cross-sell wireless services; (3) have access to spectrum, equipment, network facilities, and programming; and (4) engage in the full range of non-price rivalry activities, such as creating capacity through "network investments, network upgrades, or network coverage. "[354] Indeed, these competitors are investing heavily in their existing networks and assets today to better compete in the 5G world. [355] Additionally, other competitors, such as TracFone and Google, also bring resources, scale, brand recognition, technological capabilities, and customer bases that cannot be ignored in the Commission's assessment of competitive effects.

354 *See, e.g.* , *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,* Sixteenth Report, 28 FCC Rcd 3700, 3741 ¶36 (distinguishing facilities-based providers from non-facilities-based providers as full market participants on the basis that the former "engage in the full range of non-price rivalry.") (" *Sixteenth Mobile Wireless Competition Report") .*

355 *See, e.g.* , Mari Sibley, *Comcast: Our Network's Ready for 5G,* L IGHT R EADING (Mar. 6, 2017), https://www.lightreading.com/mobile/5g/comcast-our-networks-ready-for-5g/d/d-id/730854 (citing Comcast Cable Chief Executive Officer Neil Smit stating "[o]ur overlay with the 5G overlay, the network similarities are just uncanny…and the ability of our network to service the 5G needs, we feel very confident with.").

The recognition that the wireless industry has a deep field of new players further reinforces the conclusion that the wireless space will continue to be competitive and vibrant following the merger. Though none of these new entrants presently rival Verizon and AT&T, these new competitors are already having a meaningful impact on competition in the wireless market. Also, as discussed by Prof. Salop in his declaration, these new entrants diminish the possibility of coordinated effects in the market because the emergent entrants will seek to take share in the wireless marketplace, thereby destabilizing any coordinated equilibrium that today's players could achieve. [356]

Below, the Applicants examine in greater detail the major players that have expanded, or will soon expand, the available wireless options. Based on their current and expected contributions to competition, these competitors should be included in an assessment of the transaction's implications for competition.

1. Comcast and Charter Are Aggressively Entering Wireless

Major wireless players have recognized the competitive pressure exerted by cable providers, noting that the cable providers are expected to "invest heavily in . . . terms of wireless" and are "being very targeted, being very smart." [357] Comcast and Charter are two of these major new entrants.

356 Salop/Sarafidis Decl. at ¶84-87.

357 AT&T, *AT&T Chief Executive Officer Provides an Update at JP Morgan Conference* (May 15, 2018), http://about.att.com/story/att_ceo_provides_update_at_jp_morgan_conference.html ; *AT&T Presents at JPMorgan Global Technology, Media and Communications Broker Conference,* SEEKING ALPHA (May 15, 2018), https://seekingalpha.com/article/4174200-ts-t-presents-jpmorgan-global-technology-media-communications-broker-conference-transcript?part=single .

Comcast is the nation's largest cable and in-home broadband provider with more than 29 million total customers (approximately 26 million of whom receive high-speed Internet through Comcast) . [358] Charter is the nation's second largest cable and in-home broadband provider with more than 27 million total customers (and approximately 24 million of whom receive high-speed Internet through Charter). [359] Together, the two companies account for approximately 50 million cable broadband subscribers and have vast wireline telecommunications networks, which serve as the backbone for wireless network operations.

Comcast has launched and Charter will soon launch their own wireless services, Xfinity Mobile and Spectrum Mobile, respectively. [360] These services leverage a valuable combination of access to spectrum, scale, distribution infrastructure, backhaul, and programming. The cable giants have spectrum resources through their millions of Wi-Fi hotspots (Comcast alone has 18 million hotspots in its network), [361] their favorable MVNO agreements with Verizon that give them access to Verizon's spectrum, and licensed 600 MHz spectrum across the country. Like other facilities-based wireless carriers, Comcast and Charter use their own facilities that are integrated into their differentiated wireless offerings, directly affecting capacity, coverage, quality of service, and price.

Cable networks are well suited for 5G, as they have large footprints and already support millions of Wi-Fi nodes in places where combined share is highest. As Charter's CEO recently observed, the company's strength as a wireless competitor "comes from [its] powerful easy to

358 Comcast Corporation, 2017 Form 10-K, at 2 (Feb. 1, 2018) https://www.cmcsa.com/static-files/111ba611-eb85-4edc-9000-3907c84697d8 .

359 Charter Communications, *Charter Announces First Quarter 2018 Results* (Apr. 27, 2018), http://ir.charter.com/phoenix.zhtml?c=112298&p=irol-earnings .

360 *See* Karl Bode, *Exclusive: Charter Wireless Launches June 30* , DSL Reports, (May 4, 2018), https://www.dslreports.com/shownews/Scoop-Charter-Wireless-Drops-June-30-Mirrors-Comcast-Pricing-141756 (reporting that Charter will launch Spectrum Mobile by June 2018).

361 Comcast, *Xfinity Mobile has over 18 million Wi-Fi hotspots, areas where you can save on data by accessing free Wi-Fi* , https://www.xfinity.com/mobile/support/article/221762167/what-are-xfinity-wifi-hotspots-and-how-do-i-connect .

upgrade network. Its unique design allows for the most cost-effective deployment of new technologies, which should drive massive increases in the amount of data we drive through that network." [362] These networks also have high capacity for both access and backhaul, are highly reliable, and have low intrinsic latency because they are based on optical fiber that penetrates deep into the access network before feeding wideband coaxial cables that reach all the way to the end-user premises. Finally, cable networks have a multi-node, remotely powered access topology that is ideally suited to support the connection of a large number of small cells close to homes and businesses that will be needed for 5G. Fortunately for cable providers, recent research supports their immediate viability as competitors in the traditional wireless space, with 40 percent of respondents already indicating they would consider switching from their existing wireless provider to wireless service offered by their cable provider. [363]

Building upon their vast underlying networks, Comcast and Charter have committed to pursuing mobile wireless business opportunities and have invested in doing so. Both companies have negotiated arrangements enabling them to resell Verizon's network capacity on very favorable terms. [364] Both companies have also undertaken their own experimentation with providing future wireless service using 3.5 GHz CBRS spectrum. [365] And Comcast recently acquired 10 megahertz of 600 MHz spectrum for $1.7 billion. [366] This spectrum covers approximately 145 million POPs across the country, mostly in major markets within Comcast's existing footprint, including Chicago, San Francisco, and Philadelphia. [367]

362 *Charter Communications' CEO Tom Rutledge on Q1 2018 Results,* SEEKING ALPHA (Apr. 27, 2018), https://seekingalpha.com/article/4167080-charter-communications-chtr-ceo-tom-rutledge-q1-2018-results-earnings-call-transcript?page=3 .

363 Mike Dano, *40% of Americans would consider buying wireless from their cable provider,* FIERCE WIRELESS (May 4, 2018), https://www.fiercewireless.com/wireless/40-americans-would-consider-buying-wireless-from-their-cable-provider .

364 David Lieberman, *Comcast Unveils Plan To Sell Mobile Services That Harness Its Wi-Fi Network,* DEADLINE (Apr. 6, 2017), http://deadline.com/2017/04/comcast-unveils-plan-sell-mobile-service-harness-wifi-network-1202063357/.

365 Mike Dano, *Comcast eyes 3.5 GHz CBRS for both fixed and mobile applications, including commercial handsets,* FIERCE WIRELESS (Feb. 15, 2018), https://www.fiercewireless.com/wireless/comcast-eyes-3-5-ghz-cbrs-for-both-fixed-and-mobile-applications-including-commercial . *See* also, Comcast Application for Experimental Authorization in 3650–3700 MHz Citizens Broadband Radio Service, https://apps.fcc.gov/els/GetAtt.html?id=204745&x .

366 Colin Gibbs, *Mapping T-Mobile, Dish, Comcast and AT&T: Who got how much 600 MHz spectrum and where?* , FIERCE WIRELESS (Apr. 18, 2017), https://www.fiercewireless.com/wireless/mapping-t-mobile-dish-comcast-and-at- t-who-got-how-much-600-mhz-spectrum-and-where .

367 Dan Meyer, *T-Mobile US, Dish, Comcast dominate 600 MHz incentive auction, Verizon a no-show* , RCR WIRELESS NEWS (Apr. 13, 2017), https://www.rcrwireless.com/20170413/policy/t-mobile-us-dish-comcast- dominate-600-mhz-incentive-auction-verizon-a-no-show-tag2 .

As shown in the maps below, Comcast and Charter's wireless resources span the country.

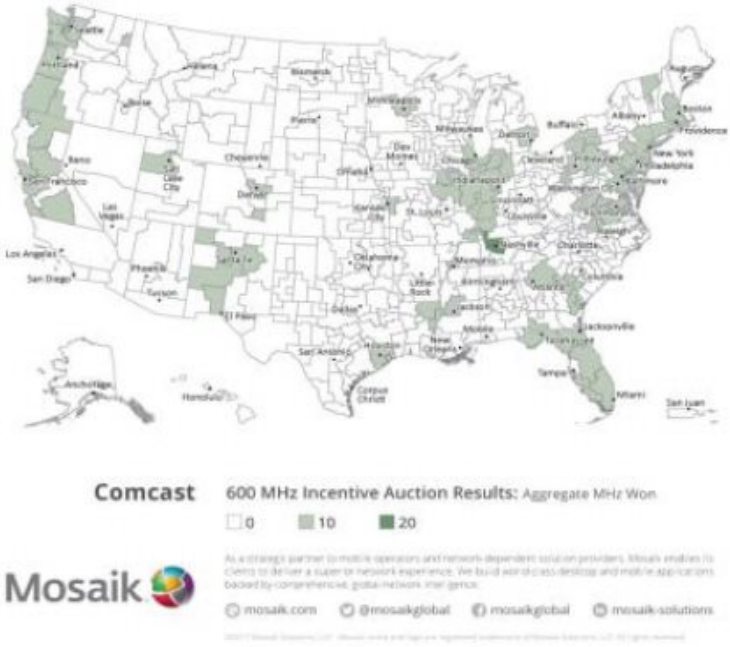


Figure 13: Comcast 600 MHz Licenses

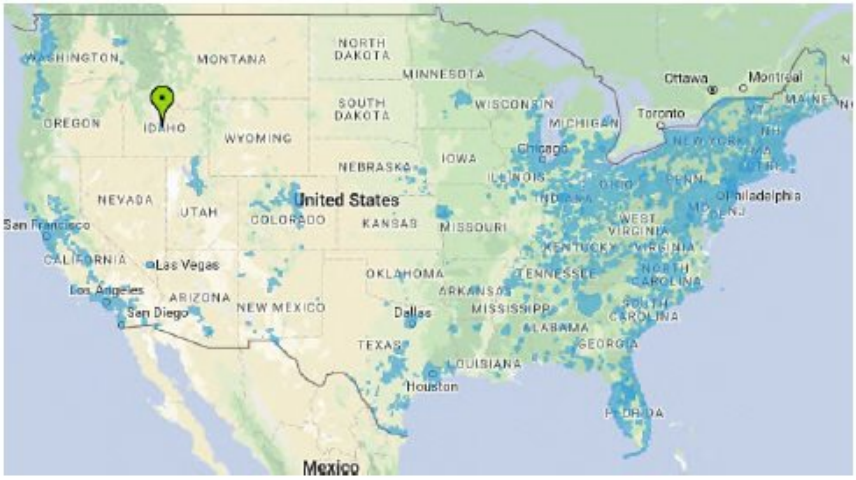


Figure 14: Comcast Hotspots [368]

Figure 15: Charter Hotspots [369]

368 Xfinity Mobile, *How do I check for Xfinity Mobile coverage?,* https://www.xfinity.com/mobile/ (last visited June 16, 2018) .

369 Charter Communications, *Search for Hotspots,* https://www.spectrum.com/wifi-hotspots.html (last visited June 16, 2018).

Charter has said it views itself as "already a wireless operator today with over 250 million authenticated wireless devices connected to our deployed small cell network." [370] Charter also recently explained that it is "in the process of transitioning its wireless network from a nomadic Wi-Fi network to one that supports full mobility by combining its existing Wi-Fi assets with multiple 4G and 5G access technologies." [371] Deployment in the 3.5 GHz band or on 600 MHz spectrum will effectively untether Comcast and Charter from Wi-Fi and carrier reliance as they expand their wireless offerings in the future.

Strong Early Performance. Comcast is already making significant early gains in the market. Recently, Comcast announced that Xfinity Mobile added 196,000 new subscribers in the first quarter of 2018, bringing its total wireless subscribership to 577,000 customers. [372] Comcast achieved this impressive start despite initially choosing to market only to existing Comcast broadband subscribers. [373] Coupled with Comcast's other strengths, these figures show the potential for even faster growth in the near future as Comcast more aggressively markets its wireless services as part of a bundle to new customers, and its partnership with Charter comes to fruition. Among those with Xfinity Mobile as their primary wireless carrier, almost 50 percent have switched from either Verizon or AT&T, demonstrating that Comcast already is having a competitive impact on the leading wireless incumbents. [374] Almost 30 percent of these subscribers indicated that the ability to purchase bundles of television, Internet, and wireless services on one bill contributed to their switch to Xfinity Mobile, indicating that Comcast's scale and ability to offer multiple services make it a strong wireless competitor. [375]

---

370 *Charter Communications' CEO Tom Rutledge on Q1 2018 Results,* SEEKING ALPHA (Apr. 27, 2018), https://seekingalpha.com/article/4167080-charter-communications-chtr-ceo-tom-rutledge-q1-2018-results-earnings-call-transcript?page=2.

371 Comments of Charter Communications, Inc., GN Docket No. 17-258, at 1 (filed Dec. 28, 2017).

372 Andy Szal, *Comcast Enrolls 577,000 Xfinity Mobile Subscribers Through Q1,* WIRELESS WEEK (Apr. 26, 2018), https://www.wirelessweek.com/news/2018/04/comcast-enrolls-577000-xfinity-mobile-subscribers-through-q1 .

373 *See* Comcast, *The Xfinity Mobile Plan,* https://www.xfinity.com/mobile/plan (last visited June 16, 2018) (identifying availability to current Comcast Internet customers).

374 Phil Britt, *Report Declares Comcast Quad Play 'Firmly Rooted,' With Verizon Being the Biggest Loser,* TELECOMPETITOR (May 2, 2018), http://www.telecompetitor.com/report-declares-comcast-quad-play-firmly-rooted-with-verizon-being-the-biggest-loser/.

375 Jeffrey T. Johnson, *The Xfinity Mobile Effect,* MARKET STRATEGIES INTERNATIONAL (2018), https://landing.marketstrategies.com/hubfs/Research-Reports/The-Xfinity-Mobile-Effect.pdf .

The Comcast/Charter Partnership. Independently, Comcast and Charter are formidable competitors. However, the two cable giants have also formed a wireless cooperative arrangement to compete together in wireless. [376] The cooperative agreement provides that the arrangement's stated purpose is "to compete with national wireless operators and to respond to changes in technology and the marketplace." [377] Under the agreement's terms, the companies committed to "explore working together in a number of potential operational areas in the wireless space, including: creating common operating platforms; technical standards development and harmonization; device forward and reverse logistics; and emerging wireless technology platforms." [378] The companies also agreed to a one-year period of exclusive partnership with respect to nationwide wireless business endeavors with a restriction on discussing mergers, acquisitions, or other such transactions with any national mobile wireless carriers. [379] By collaborating to compete in mobile wireless on a nationwide scale and combining their assets, resources, and expertise under a new partnership, Comcast and Charter have multiplied their individual competitive strengths to become an even more formidable new force in the industry.

376 Wireless Operational Cooperation Agreement by and between Comcast Corporation and Charter Communications, Inc. (May 5, 2017), https://www.cmcsa.com/node/25396/html .

377 *Id.*

378 Comcast Corporation, *Comcast and Charter to Explore Operational Efficiencies to Speed Entry Into Wireless Market* (May 8, 2017), https://corporate.comcast.com/news-information/news-feed/comcast-charter-wireless-efficiencies.

379 *Id.*

2. DISH Is on the Cusp of Entering the Wireless Space with Nationwide IoT and 5G Networks

DISH Network Corporation is the nation's fourth largest pay-TV provider, offering service through substantial spectrum holdings, satellite systems, and extensive nationwide operations. DISH has a total of 13.2 million television subscribers (2.3 million of whom are attributed to DISH's online streaming service Sling TV) and approximately 590,000 broadband customers. [380]

DISH has the resources and spectrum to compete effectively in offering 5G wireless broadband services. Estimates indicate that DISH's spectrum holdings already are worth approximately $30 billion, [381] giving the company roughly the same potential wireless capacity and coverage capabilities as Verizon, AT&T, and T-Mobile. DISH also purchased $6.2 billion of spectrum in the Commission's 600 MHz auction, acquiring a total of 486 licenses that cover 416 Partial Economic Areas ("PEAs"). [382] Further, the Commission recently initiated a proceeding that may allow two DISH designated entity affiliates to recoup an additional 200 spectrum licenses—valued at approximately $3 billion—as well as a $515 million forfeiture related to an eligibility issue regarding the 2015 AWS-3 auction. [383] Once deployed, DISH's spectrum assets—plus the company's considerable financial resources, large customer base, and potential access to valuable content—will enable DISH to be a major player in the wireless space.

---

380 Scott Moritz, *Dish's 2.2 Million Sling Customers Stem Pay-TV Losses* , B LOOMBERG T ECHNOLOGY (Feb. 21, 2018), https://www.bloomberg.com/news/articles/2018-02-21/dish-says-it-has-2-2-million-sling-customers-boosting-tv-gains ; DISH Network Corporation, 2017 10-K Filing, http://dish.client.shareholder.com/secfiling.cfm?filingID=1558370-18-826 . DISH expects to lose broadband subscribers as it transitions its focus from wholesale to authorized rep arrangements.

381 Kendra Chamberlain, *Dish's 'undervalued' spectrum assets worth $30.2B* , F IERCE W IRELESS (Mar. 27, 2018), https://www.fiercewireless.com/wireless/dish-s-undervalued-spectrum-assets-worth-30-2b-analyst .

382 *See* Colin Gibbs, *Mapping T-Mobile, Dish, Comcast and AT&T: Who got how much 600 MHz spectrum and where* ?, F IERCE W IRELESS (Apr. 18, 2017), https://www.fiercewireless.com/wireless/mapping-t-mobile-dish-comcast-and-at-t-who-got-how-much-600-mhz-spectrum-and-where .

383 Mike Dano, *Dish Network sees path to nab around $3B worth of spectrum* , F IERCE W IRELESS (Jan. 26, 2018), https://www.fiercewireless.com/wireless/dish-network-sees-path-to-nab-around-3b-worth-spectrum ; Mike Dano, *Dish works to rescue $3.3B spectrum discount on AWS-3 licenses* , F IERCE W IRELESS (Apr. 5, 2018), https://www.fiercewireless.com/iot/dish-works-to-rescue-3-3b-spectrum-discount-aws-3-licenses .

DISH is required under the terms of its AWS-4 and 700 MHz E-Block spectrum licenses to use these licenses to build out a wireless network to at least 70 percent of its licensed territories by March 2020—less than two years from now. [384] DISH has announced plans to use its spectrum and other resources to start competing in wireless with a focus on IoT followed by 5G wireless service. [385] In fact, recent reports suggest DISH may be constructing its IoT network for Amazon using 10 MHz of spectrum and 40,000 towers. [386] According to DISH, this narrowband IoT ("NB-IoT") network will provide a stepping stone for Phase Two of its plans, which involve using its 600 MHz spectrum to support a 5G deployment. [387]

Underscoring the importance of wireless to DISH's business, DISH co-founder and former CEO, Charlie Ergen, recently stepped aside to focus on building out the company's wireless business. [388] Mr. Ergen also recently indicated that the company has begun entering into key partnerships and plans to invest up to $10 billion to build out its nationwide 5G network "to

384 Trefis Team, *Why Dish Network Needs To Roll Out Services For Its Spectrum Holdings* , F ORBES (Dec. 13, 2017), https://www.forbes.com/sites/greatspeculations/2017/12/13/why-dish-network-needs-to-roll-out-services-for-its-spectrum-holdings/#4a53cc102f85 .

385 Scott Moritz, *Dish's Ergen Seeks Partners For 2020 Wireless Service Launch* , B LOOMBERG BNA (Jul. 1, 2017), http://telecomlaw.bna.com/terc/1513/split_display.adp?fedfid=112671622&vname=wrlsnotallissues&jd=a0m5f8p9 m1&split=0 .

386 Mike Dano, *Dish's Ergen on NB-IoT network: 'You shouldn't expect that we would make big profits on that on Day One'* , F IERCE W IRELESS (May 8, 2018), https://www.fiercewireless.com/iot/dish-s-ergen-nb-iot-network-you-shouldn-t-expect-we-would-make-big-profits-day-one .

387 Colin Gibbs, *Mapping T-Mobile, Dish, Comcast and AT&T: Who got how much 600 MHz spectrum and where?* , F IERCE W IRELESS (Apr. 18, 2017), http://www.fiercewireless.com/wireless/mapping-t-mobile-dish-comcast-and-at-t-who-got-how-much-600-mhz-spectrum-and-where .

388 Drew FitzGerald and Imani Moise, *Charlie Ergen Steps Down as Dish CEO to Focus on Wireless Business* , The W ALL S TREET J OURNAL (Dec. 5, 2017), https://www.wsj.com/articles/dish-network-ceo-steps-down-to-focus-on-wireless-business-1512485856 .

power the next generation of technologies that will rely on wireless connections." [389] This investment of up to $10 billion comes in addition to the $1 billion that Mr. Ergen previously committed for building out DISH's AWS-4 and 700 MHz E-Block spectrum. [390] DISH's large and diverse spectrum holdings will further the company's competitive abilities and, given looming FCC deadlines to build out its spectrum, DISH's entry into the wireless market is expected imminently.

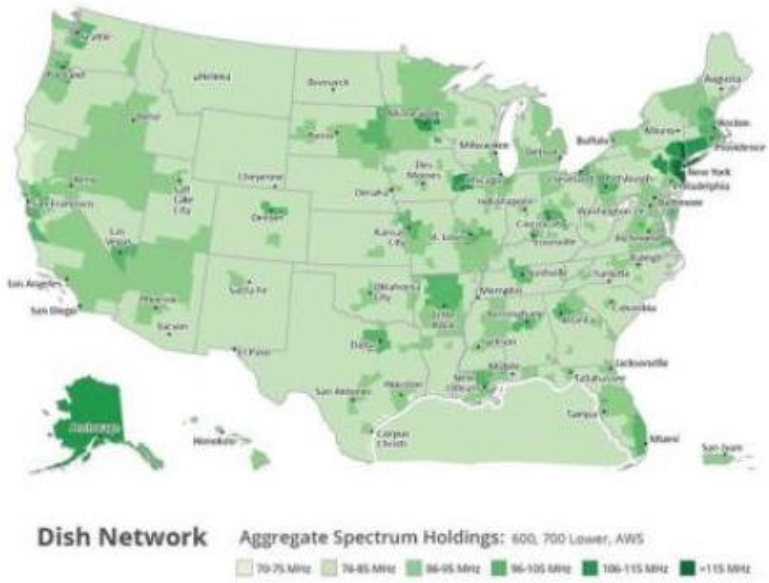


Figure 16: DISH Spectrum Licenses

3. TracFone Is a Nationwide Wireless Provider with 23 Million Subscribers

389 Andy Szal, *Dish Could Spend Up to $1B on NB-IoT Network, $10B on Nationwide 5G,* W IRELESS W EEK (May 24, 2018), https://www.wirelessweek.com/news/2018/05/dish-could-spend-1b-nb-iot-network-10b-nationwide-5g .

390 Michael Farrell, *Dish Will Spend $1B on First Phase of Wireless Buildout,* B ROADCASTING & C ABLE (Feb. 21, 2018), https://www.broadcastingcable.com/news/dish-will-spend-1b-first-phase-wireless-buildout-171936 .

TracFone is exerting huge competitive pressure on traditional wireless competitors. With approximately 23 million subscribers, [391] it remains the largest MVNO in the United States and the fifth largest wireless carrier by subscribership. TracFone operates under numerous brands that include its main TracFone product line, plus Net10 Wireless, Total Wireless, Straight Talk, SafeLink Wireless, Telcel America, Simple Mobile, Page Plus Cellular, and Walmart Family Mobile. [392] TracFone services are widely available in 90,000 retail locations across the United States, Puerto Rico, and the Virgin Islands, including national distribution through major retailers like Walmart, as well as in TracFone standalone retail stores.

TracFone's initial success was driven by its ability to develop service plans that approximate those of Verizon, AT&T, T-Mobile and Sprint, but at a lower price point. These plans have appealed to consumers. Across its brands, TracFone provides nationwide coverage and service availability.

Figure 17: TracFone Service Coverage

In 2017, the company had $7.8 billion in revenues from its provision of wireless services. [393] That TracFone is an MVNO does not diminish the significance of its competitive impact. As the Commission has recognized, "[t]he strategic partnerships between MVNOs and facilities-based

391 Carlos García-Moreno and Daniela Lecuona Torras, América Móvil's first quarter of 2018 financial and operating report (Apr. 24, 2018), http://www.americamovil.com/sites/default/files/2018-04/1Q18.pdf .

392 TracFone Wireless, *Brands,* http://www.tracfonewirelessinc.com/en/brands/ (last visited June 16, 2018).

393 Carlos García-Moreno and Daniela Lecuona Torras, América Móvil's first quarter of 2018 financial and operating report (Apr. 24, 2018), http://www.americamovil.com/sites/default/files/2018-04/1Q18.pdf .

providers increase competition and consumer welfare by providing service to various market segments using the capacity of the hosting facilities-based provider and the marketing strategy and distribution network of the MVNO." [394] TracFone and other MVNOs will continue to exert competitive pressures following the merger and, with its greatly expanded capacity and incentives to fill it, New T-Mobile will continue to host MVNOs that serve valuable consumer segments.

4. Competitive Pressures Also Come from Other Sources

The wireless industry is increasingly seeing competition from a growing number of companies. Although some of these companies have a background in providing wireless service to consumers, many other non-traditional entrants view the provision of wireless service as essential to sustaining their core businesses as consumers increasingly demand mobility. A number of these new entrants have novel business models that bring a new approach to offering wireless service. And several have the scale and significant resources to compete fiercely and effectively.

For example, Google has launched Project Fi, providing "Fi-ready phones [that] can intelligently shift among mobile networks and Wi-Fi to give you clear calls and fast data—at home and around the world." [395] The combination of these networks gives Project Fi nationwide coverage:

394 *Sixteenth Wireless Competition Report,* 28 FCC Rcd at 3741 ¶ 35.

395 Google Project Fi, *About Phones,* https://fi.google.com/about/phones (last visited June 16, 2018).

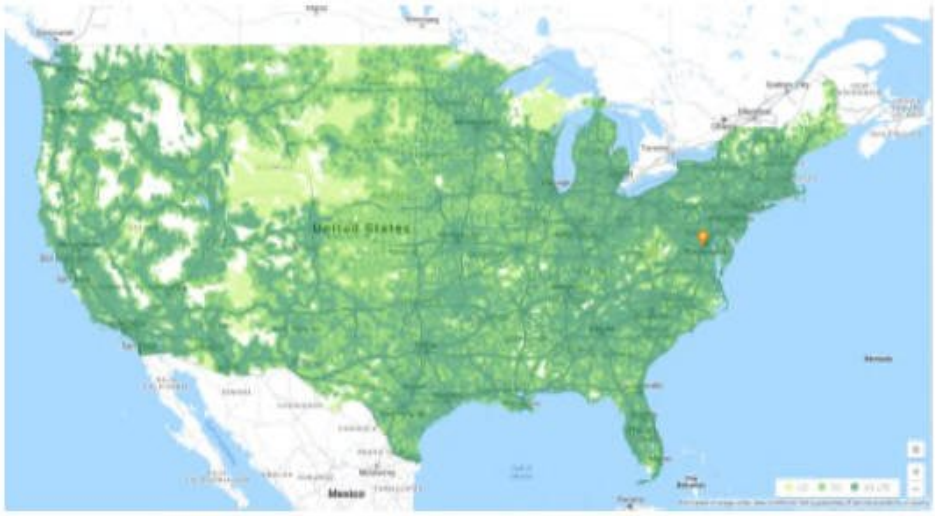


Figure 18: Google Project Fi Service Coverage

Google promotes its service as giving subscribers access to three leading national carriers, two million Wi-Fi hotspots, and more than 170 countries and territories. [396] Most attractive to many users is that Project Fi allows subscribers flexibility in selecting from a range of pricing options including an unlimited plan. [397] Recently, Google's Project Fi ranked higher than Verizon, AT&T, T-Mobile, or Sprint in a Readers' Choice survey. [398]

* * * * *

Verizon and AT&T have distinct advantages that underscore the need for a super maverick with the scale, spectrum, network, and incentives to challenge them and force them to compete. New T-Mobile will go toe-to-toe with these long-time market leaders in every part of the wireless market and bring T-Mobile's disruptive Un-carrier approach into new market segments. Plainly, the clash between Verizon, AT&T, and New T-Mobile will enhance—not harm—competition in the wireless marketplace. However, a realistic assessment of today's wireless marketplace must also recognize the competitive pressures increasingly exerted by the large and diversified new players entering the market.

396 *Id.*

397 Aaron Pressman, *Google's Fi Low-Cost Wireless Service Adds Unlimited Data. Here's How Much It Costs,* FORTUNE, (Jan. 17, 2018), http://fortune.com/2018/01/17/google-fi-unlimited-wireless/.

398 Daniel Fuller, *Tech Crowd Prefers Google Project Fi Over The Big Four: Data,* ANDROID HEADLINES (Mar. 22, 2018), https://www.androidheadlines.com/2018/03/tech-crowd-prefers-google-project-fi-over-the-big-four-data.html.

D. There Is No Significant Likelihood of Harmful Unilateral Effects or Coordinated Interaction

In its prior merger reviews, the Commission has considered whether "the proposed transaction may result in a significant likelihood of successful unilateral effects and/or coordinated interaction." [399] Unilateral effects arise "when the merged firm finds it profitable to alter its behavior following the merger by 'elevating price and suppressing output,'" which in the case of mobile services might take the form of "delaying improvements in service quality or adversely adjusting plan features without changing the plan price." [400] Coordinated effects, on the other hand, occur when "firms may be able to exercise market power by either explicitly or tacitly coordinating their actions," and the factors that impact the potential for coordinated activity typically involve "the availability of information about market conditions, the extent of firm and product homogeneity, and the presence of maverick providers in the market," as well as the ability to detect and punish defectors from a common understanding. [401]

As discussed in this section, the facts and analyses corroborate that prices will not go up, outputs will not be constrained, and coordination will not result:

- Section IV.D.1 discusses New T-Mobile's market position and its clear incentives post-merger to compete aggressively with its 5G network. New T-Mobile's 5G network will add considerable capacity, and it would be irrational for New T-Mobile to hold idle capacity with a low marginal cost of use instead of using maverick Un-carrier behavior to seize market share.

399 *Verizon Wireless-ALLTEL Order,* 23 FCC Rcd at 17491 ¶101.
400 *Verizon ALLTEL Order,* 23 FCC Rcd at 17485 ¶84.
401 *Id.* at 17486-87, ¶¶88, 90.

- Section IV.D.2 discusses the incentives on New T-Mobile during the transition to 5G, and in particular, the industry factors that make pursuing long term, incremental growth through aggressive competition the predictable and logical outcome. New T-Mobile will have every incentive to grow its customer base in the short term so that it can cross-sell additional services, such as in-home broadband and pay television services, that will be made possible by New T-Mobile's robust 5G network. Increasing prices post-merger "would be economically irrational and contrary to shareholder interests." [402]
- Section IV.D.3 provides an overview of the impact of the 5G transition on competitive incentives, and specifically addresses why coordination in that environment would be difficult, but also irrational, for a company in New T-Mobile's position.

As the declarations supporting this Application make clear, economic analyses of this transaction demonstrates no significant likelihood of anticompetitive harm.

1. New T-Mobile Will Compete Aggressively with Its 5G Network and Will Lack Incentives to Engage in Competitively Harmful Unilateral Conduct

New T-Mobile's economic incentives will flow from the vastly improved mobile network that the merger will create. Neville Ray's declaration highlights the impact of the massive capacity and increased speed that comes from adding Sprint's spectrum (and, in particular, its mid-band spectrum), sites, and assets to T-Mobile's network to create a world-leading 5G network. [403] And, as Peter Ewens discusses in his declaration, this added capacity also comes with significant cost synergies—which creates a huge incentive for New T-Mobile to compete aggressively to "fill up" the network. [404] This increased pressure to make use of added capacity appears in New T-Mobile's financial plan, which calls for the company to provide a combination of greater value and lower cost for conventional data services and to continue offering subscribers more data each year without increasing prices.

402 Sievert Decl. at ¶26.
403 *See* Ray Decl. at ¶4.
404 Ewens Decl. at ¶14.

The Applicants have already described how the added network capacity created by New T-Mobile's 5G network will impact the market, citing work done by Dr. Evans. Dr. Evans showed that the direct economic impact of the New T-Mobile 5G network would be to increase capacity and he concludes that the transaction would result in as much as a 55 percent decrease in cellular data prices and an 120 percent increase in cellular data supply. [405] Dr. Evans' work also found substantial benefits in quality-adjusted price, recognizing that the increased investment in 5G, and the resultant increase in 5G coverage means the connection quality aspects of New T-Mobile, including speed, latency, and configurability will be a substantial improvement over the combined standalone case.

With additional and higher quality capacity, New T-Mobile will be able to compete more aggressively. New T-Mobile's continuation of T-Mobile's disruptive presence in the mobile market, and its ability to bring that same disruption to new markets in the future, are documented in the company's financial planning documents. As he has done for other new ventures undertaken by T-Mobile in the ordinary course of business, Mr. Ewens and his team developed a financial plan for New T-Mobile, a plan that models key performance metrics—factors such as ARPU, churn, and share of gross adds ("SOGA")—to allow the company to project revenues and costs through 2024. The financial plan for the merged company identifies major cost synergies that will enhance the company's ability to compete. Mr. Ewens notes that the transaction will result in "an estimated $43.6 billion in total net present value cost synergies, mainly reflecting reductions from the avoided duplication of network costs, like sites and backhaul, and non-network costs like retail and advertising savings and integration savings from combining and de-

405 Evans Decl. at Section V.C., ¶¶220-44.

duplicating information technology systems." [406] The financial plan also shows that the company plans to pass these savings on to subscribers—New T-Mobile "projects passing scale benefits on to customers in the form of an over 6 percent reduction in ARPU, going from [redacted] to [redacted] by 2026," all the while providing vastly superior speed, throughput and latency on its new 5G network. [407]

The business declarations also demonstrate that the merger provides New T-Mobile with the ability and incentive to supercharge T-Mobile's Un-carrier movement, which has historically provided significant price and non-price benefits to the public. [408] As Mr. Ewens notes, "there are many aspects of the Un-carrier movement that everyone can identify—no service contract (service plans without lock-in service contracts), Binge On (video streaming without data charges), Simple Global (allowing the use of data abroad without extra charges), Music Freedom (music streaming without data charges), and T-Mobile ONE (elimination of tiered data plans in favor of unlimited)," but "one of the most important tenets of being the Un-carrier is continuing to deliver more value and more data, year over year, without increasing plan rates." [409] As Mr. Ewens documents, "[m]easured by revenue yield per GB on average, for the past several years T-Mobile has given its subscribers 37 percent more data each year per dollar spent on their wireless plans while at the same time lowering their package prices (a data dividend), thereby passing on the benefits of capacity upgrades the company makes to its network at no added cost

406 Ewens Decl. at ¶7. *See also* Sievert Decl. at ¶13.

407 Ewens Decl. at ¶8.

408 The Un-carrier benefits are not restricted to T-Mobile customers—as Mr. Ewens notes, T-Mobile had a "leadership [role] in driving unlimited rate plans," and "[a]s it became apparent that HSPA+ and later 4GLTE network upgrades would drive huge increases in capacity, T-Mobile moved to make Unlimited its core offer," which, in turn, "eventually forc[ed] AT&T and Verizon to make unlimited rate plans broadly available." *Id.* at ¶4.

409 *Id.*

to subscribers." [410] Another tangible example of this practice was T-Mobile's decision to keep more than its original target of MetroPCS sites following the merger so that it would have more capacity—a benefit passed on to subscribers without increasing rates. [411] Because of these types of consumer-centric policies, T-Mobile's unlimited subscribers use, on average, over [redacted] as much data as industry estimated norms (over [redacted] GB/mo versus [redacted] GB/mo). [412] But, as Mr. Ewens discusses, "T-Mobile does not have the capacity, resources, or capital to sustain that added annual data dividend indefinitely." [413] The proposed transaction gives New T-Mobile the capacity to continue providing that value in an era where data usage is predicted to compound at over 30 percent annually. [414]

Importantly, Mr. Ewens also notes that the data dividend "benefit extends to all customers," emphasizing the practical social welfare benefits for value subscribers. [415] T-Mobile has observed that cost-conscious customers, in particular, continue to use their data plans extensively, even if they exceed usage limits and their traffic is limited to 3G network speeds during periods of congestion. He observes that "on average, value subscribers on unlimited plans use [redacted] GB/mo., more than the [redacted] GB/mo. used by other unlimited customers." [416] In fact, the data dividend may matter the most for value customers, since "[d]ecreased data costs (and other initiatives to help customers manage data costs, such as Binge On and Music Freedom) are especially impactful and tangible to cost-conscious customers, since many such users' smartphones are their exclusive lifeline to the Internet." [417]

410 *Id.* at ¶5.
411 *Id.* at ¶25.
412 *Id.* at ¶5; Evans Decl. at ¶93 (citing Ericsson, *Ericsson Mobility Report* at 8, 12 (Nov. 2017), https://www.ericsson.com/assets/local/mobility-report/documents/2017/ericsson-mobility-report-november-2017.pdf).
413 Ewens Decl. at ¶5.
414 *Id.* at ¶14.
415 *Id.* at ¶5.
416 *Id.*
417 *Id.*

In addition to supercharging T-Mobile's Un-carrier initiatives for wireless consumers, the added capacity and capabilities of the combined network create the opportunity and capability for New T-Mobile to enter, disrupt, and deliver additional consumer benefits in adjacent lines of business, as discussed in the Declaration of Mike Sievert. [418] For example:

- The speed and capacity of New T-Mobile's network will have vast ramifications for in-home broadband services, including consumer distribution of video and audio content;
- New T-Mobile's network will enable a variety of new consumer uses, including Augmented/Virtual Reality applications, in-car entertainment, and online gaming;
- New T-Mobile intends to aggressively pursue opportunities in enterprise and commercial areas, including "smart mobility" applications (autonomous and connected vehicles, asset tracking and fleet management) and "smart community" applications (automation and security applications for buildings, campuses, and municipalities); and
- New T-Mobile expects to support other 5G use areas that are still evolving, such as drone control and payload communications, support for utilities, private networks, telemedicine and health applications, back up connectivity, and other industrial uses.

These industries have many customer "pain points" and are ripe for Un-carrier disruption.

Notably, New T-Mobile has the same competitive incentives with respect to, and will bring the same network benefits to, its relationships with MVNOs. As an initial matter, MVNOs operate with long term contracts that will allow them to continue to flourish post-merger, because the contracts are generally at wholesale rates and provide for added capacity that will allow MVNOs to compete and expand their subscriber bases. As Mr. Ewens notes, T-Mobile has historically been supportive of its MVNO partners, because, among other reasons, "MVNOs

418 Sievert Decl. at ¶¶27-43.

have marketing and distribution advantages in attracting and reaching customers from particular segments." [419] Moreover, New T-Mobile will have significant added network capacity, and therefore will have no incentive to impair MVNOs' ability to put subscribers on New T-Mobile's network. Indeed, New T-Mobile will encourage the launch of new MVNOs that can offer unique value propositions or better reach unique customer segments. Moreover, the Applicants believe the transaction will allow New T-Mobile to enhance the value proposition of MVNOs that use its network—the benefits that accrue from the new, advanced network to New T-Mobile's subscribers are advantages that New T-Mobile's MVNO partners can also use to compete more effectively.

In sum, this proposed merger and the powerful 5G network it creates will provide New T-Mobile with substantial added network capacity and significant cost-savings over what would be possible for T-Mobile and Sprint to achieve on their own. As Dr. Evans substantiates, added capacity has historically reduced unit prices for consumers, and it will do so here. [420] Armed with added capacity and low average costs, as well as a qualitatively superior network, New T-Mobile has every incentive not only to continue T-Mobile's disruptive conduct in the mobile industry, but to extend that maverick behavior to a variety of adjacent services. Based on New T-Mobile's financial plan, that is exactly what the Applicants intend to do.

2. New T-Mobile Will Be a Maverick While Its 5G Network Is Being Deployed, and There Is No Credible Short-Term Threat of Harmful Unilateral Conduct

Many of the incentives for New T-Mobile to compete aggressively in a 5G era also give New T-Mobile an incentive to compete aggressively today. The combination of T-Mobile and

419 Ewens Decl. at ¶28.
420 Evans Decl. at ¶¶66-71.

Sprint's spectrum and sites will immediately provide New T-Mobile with more capacity for 4G LTE while simultaneously freeing up more spectrum for 5G. [421] New T-Mobile's incentive will be to use that 4G LTE capacity, rather than let it sit idle. In addition, New T-Mobile's costs to serve 4G LTE subscribers will be subject to the same synergies identified for 5G, as many of those savings are technology-agnostic, non-network savings that "will start to accrue in the first year after close, lowering our cost structure even before full deployment of the 5G network." [422] As a result, New T-Mobile will be a stronger competitor for 4G LTE subscribers, a benefit that emerges in the near term, even in advance of 5G deployment.

Beyond that, Peter Ewens' declaration also documents that New T-Mobile will have, during the 5G deployment, compelling business incentives to compete aggressively to grow its customer base in anticipation of cross-selling 5G services to existing customers. New T-Mobile is projecting it will invest nearly $40 billion over the next three years to bring the company into the 5G era. New T-Mobile has incentives to monetize the added capacity of that network through the broadest possible base of subscribers, spreading what will be substantial sunk network investment costs. [423] A plan predicated on offering low prices to consumers during the 5G transition, so that New T-Mobile will continue to increase the size of its customer base, thus advances New T-Mobile's long-term financial interests.

In economic terms, as noted in the declaration of Prof. Salop and Dr. Sarafidis, mobile demand is "dynamic." [424] "A wireless carrier's demand in a particular period depends upon the carrier's subscriber base in previous periods," which means that when "a firm
. . . expects to

421 Ray Decl. at ¶62.
422 Ewens Decl. at ¶7.
423 *Id.* at ¶20.
424 Salop/Sarafidis Decl. at ¶55.

have lower marginal costs in the future (and hence a higher margin) [the firm] will have an incentive to reduce its prices in the present as well as the future. "[425] Prof. Salop and Dr. Sarafidis also discuss how "a carrier's success in growing its subscriber base can create momentum and become self-reinforcing for a period of time, thus leading to more subscriber gains in a virtuous cycle," because, among other reasons, "[s]ubscribers are imperfectly informed about the relative network quality of each carrier (or, more generally, the desirability of each brand) and may look at the choices of other consumers as a guide." [426] When demand is dynamic, "a firm has an incentive to set its price below short-term profit-maximizing level" on the basis that "[t]he profits earned on the higher future output demand more than offset the initial decrease in short-term profits," a strategy commonly referred to as "penetration pricing." [427] In other words, "[t]he anticipation of future cost and quality efficiencies reduces the opportunity cost of expanding output and lowering price even before actually realizing those efficiencies." [428]

Mr. Ewens reinforces Prof. Salop and Dr. Sarafidis when he notes that "[h]aving scale, both nationally and locally, is a benefit in attracting new subscribers." [429] In this regard, Mr. Ewens discusses word-of-mouth effects and general customer perceptions that occur with broad scale. He notes that "[t]he first individual to get T-Mobile service in a group of peers is a risk taker, since they have no one to corroborate advertising claims with real-world performance," but with "every new T-Mobile subscriber in that peer group, the risk is less and less, because the

425 *Id.*
426 *Id.* at ¶67.
427 *Id.* at ¶56.
428 *Id.* at ¶51.
429 Ewens Decl. at ¶23.

advertising message is anecdotally reinforced by trusted sources." [430] He further notes that retail presence in a market has a similar effect, in that "the number of retail stores in a market, and the number of times potential customers see those stores, reinforces the perception that the provider has a committed presence in the market, which also legitimizes their advertising message." [431]

The economics of dynamic demand discussed by Prof. Salop and Dr. Sarafidis are borne out by other aspects of Mr. Ewens' declaration. New T-Mobile will have an incentive to maximize its customer base for the 5G transition because "those who are most likely to adopt new value-added services, like the potential offerings enabled by 5G technology (*e.g.,* home broadband replacement or substitution, or new consumer-oriented IoT offerings), are existing customers." [432] Mr. Ewens continues, noting that "[c]onvincing a customer who is already happy with network quality and value to adopt a new offering will always be easier than attracting a customer from another provider who is likely to fear the unknown." [433] The process of maximizing subscribers before the transition requires that "New T-Mobile . . . incrementally add subscribers—starting the day after the merger is completed." [434]

The requirement to add incrementally is underscored by the cost per gross add ("CPGA") metric, which "reflects incentives, promotions, sales commissions, and other costs" and which "rises with every new subscriber." [435] In other words, as Mr. Ewens states, "the CPGA of the marginal net additional customer rises." [436] As a practical matter, this means that "New T-Mobile

430 *Id.*
431 *Id.*
432 *Id.* at ¶21.
433 *Id.*
434 *Id.* at ¶22.
435 *Id.*
436 *Id.*

cannot simply forego growth today and expect to make up that growth at some arbitrary date in the future once the 5G network is deemed 'complete.'" [437] Beyond these factors, competitors will take advantage of merger implementation and the post-merger transition period to attempt to take market share, which New T-Mobile will have to offset with aggressive competition. Lowell McAdam, Verizon's Chief Executive Officer, has already publicly stated that Verizon intends to "make the most" of New T-Mobile's integration period. [438] While New T-Mobile's long-term incentives to compete aggressively are evident, because unaddressed declines in SOGA will result in loss of subscriber share, New T-Mobile will be highly incentivized to compete aggressively in the short term as well to combat any attempt by competitors to take advantage of any potential customer apprehension about merger implementation. In urban areas and established markets where market shares are more evenly distributed, New T-Mobile will seek to use merger efficiencies to allow it to create further competitive inducements for potential customers by delivering more value for less money. New T-Mobile will also be incentivized to use merger efficiencies to enhance its ability to compete in areas where it has a lower customer share and greater SOGA growth is possible, such as rural areas and with enterprise customers. In both cases, New T-Mobile will be a more aggressive competitor.

3. There Is No Credible Threat of Coordinated Action in Today's Mobile Marketplace, Particularly Given New T-Mobile's Network Plans

As demonstrated in the Declaration of Prof. Salop and Dr. Sarafidis, there is no credible threat that the merger would increase the risk of coordination in the mobile broadband marketplace, given its structure and dynamics. [439] Prof. Salop and Dr. Sarafidis reach this conclusion after examining the potential for coordination with respect to both investment and price/quality.

---

437 *Id.*

438 Todd Bishop, *Q&A: Verizon CEO Lowell McAdam on 5G wireless, T-Mobile/Sprint, net neutrality and acquisitions,* GEEKWIRE (May 4, 2018), https://www.geekwire.com/2018/interview-verizon-ceo-lowell-mcadam-on-5g-wireless-t-mobile-sprint-and-net-neutrality/ .

439 Salop/Sarafidis Decl. at ¶9.

Coordinated action with respect to 5G network investment is implausible because there are massive benefits to defecting from a tacit agreement, defection is very difficult to detect, and, even if detected, defection would be difficult to punish. Carriers have different spectrum portfolios, both in terms of licensed bands and in terms of geographic areas of licensing, which produce different capacity outcomes for a given level of investment and therefore "translation from dollars invested to network performance levels is difficult and cannot be easily or rapidly monitored." [440] In fact, deploying added spectrum and sites for 5G has a multiplicative effect on network capacity, which magnifies the benefits from defection. These factors are further aggravated by the different non-network assets that competitors bring to the table—competitors may have asymmetric incentives because of motivations to leverage existing infrastructure (*e.g.,* cable fiber network) differently, or even to package content or use wireless to support related lines of business.

Even if carriers were not highly incentivized to defect, there are additional dynamics that make coordination exceptionally difficult. Defection, for example, would be very difficult to detect. Some high-level network investment data may be publicly available, but such data are not specific or local. As a result, the difficulty in monitoring increases the incentives to defect. [441] And, as Prof. Salop and Dr. Sarafidis observe, network investments are an irreversible

440 *Id.* at ¶38.

441 *Id* . at ¶37-38 (also noting "[t]hese impediments to successful coordination would apply both to coordination through common understanding and coordinated parallel accommodating conduct.").

arms race. Even if there were a tacit agreement to limit investment, there would be no effective way to punish defectors—a critical element of any coordinated conduct—because the facilities cannot pragmatically be deconstructed. And beyond destroying any possibility of collusion, competitive dynamics in the wireless arena would leave the other competitors no choice but to respond with investment of their own. [442] Indeed, the DOJ Merger Guidelines note that "[f]irms are also less likely to be deterred by whatever responses occur if competition in the relevant market is marked by leapfrogging technological innovation, so that responses by competitors leave the gains from successful innovation largely intact." [443] This is especially true here, where there are other new entrants that are leveraging different assets in an effort to make a substantial impact on the market.

Relatedly, there are also many reasons why there is "not a credible basis to conclude that the merger would increase the likelihood of coordination in pricing and quality after 5G technology becomes established." [444] As noted in the declaration of Prof. Salop and Dr. Sarafidis:

- ***New T-Mobile Will Have Massive Network Capacity Available at a Low Marginal Cost, Which Incentivizes It to Compete Rather than Capitulate.*** Given the capacity and quality of the New T-Mobile network, New T-Mobile "will have the incentive to use this additional capacity to gain subscribers (thus also reinforcing its reputation as a disruptive competitor), rather than settle into a coordinated effects outcome at a lower market share." [445]
- ***New T-Mobile's 5G Deployment Will Create Market Instability that Will Make Coordinated Action Unprofitable.*** As documented in the Declaration of Neville Ray, New T-Mobile will rapidly be deploying a 5G network with capabilities that

442 *Id.* at ¶¶38.

443 U.S. Department of Justice and Federal Trade Commission, *Horizontal Merger Guidelines,* at 26 (Aug. 19, 2010), http://www.justice.gov/atr/public/guidelines/hmg-2010.pdf .

444 Salop/Sarafidis Decl. at ¶13.

445 *Id.* at ¶42.

are superior to other market participants at a time when its market share is relatively low. "This asymmetry between [New T-Mobile's] superior network quality and lower profitability will give [New T-Mobile] an incentive to grow its market share, rather than coordinate in a way that maintains the status quo." [446]

- ***The Introduction of 5G Will Create Widely Diverse Service Packages that Will Make Coordination Difficult.*** With the deployment of 5G, carriers are ploughing new ground in terms of creating new service offerings for the public, since 5G offers the ability to vary connection characteristics like latency and guaranteed bandwidth. At a minimum, "competitors likely will offer differentiated service packages that involve differences in throttling thresholds and properties, zero rating content, and bundled packages, as well as prices, as they search for the right combination to fit their network properties and competitive positioning," which "will make it more difficult to reach a common understanding and deter defections." [447] Notably, the divergent strategies among carriers and new entrants go well beyond pure network factors—they include the ability to offer content (*e.g.,* AT&T and DirecTV/Time Warner) or to package wireless as part of larger dual-play, triple-play, or quad-play offerings.
- ***National Pricing and Localized Variations in Service Will Make Coordination Difficult.*** Even though firms use national pricing for mobile services, there will be service quality differentiation (capacity, throughput, and latency) on a local basis due to variations in licensed spectrum and network density. This will make it exceedingly difficult to achieve a common understanding and coordinate activities [448] —barriers that would be even more insurmountable if competitors did price locally.
- ***Substantial Emergent Competitors, Such as Comcast, Charter and DISH, Would Make Coordination Difficult.*** There are credible, emergent entrants with substantial scale that are already aspiring to take share in the mobile market, which completely destabilizes any coordinated equilibrium that today's players could achieve. [449] Not only would coordinated action implicate more players, but entrants like Comcast, Charter and DISH would have even more incentive to defect if included or to take advantage of market complacency by traditional carriers if not included.

446 *Id* . at ¶43.
447 *Id* . at ¶44.
448 *Id* . at ¶45.
449 *Id* . at ¶46.

Thus, "a conclusion that there will be higher risk of coordination after this merger cannot be supported." [450] New T-Mobile will have compelling incentives, given its current market position and the potential of its new network, to compete aggressively and grow its customer base to utilize the full extent of its network and position itself to cross-sell new services, especially since established players would not be able to punish New T-Mobile for doing so.

* * * * *

In sum, New T-Mobile will have significant incentives advance highly competitive, maverick behavior in a post-merger environment for the short-, medium- and long-term. While the Commission's traditional analyses consider whether carriers might delay investment because of unilateral market power, New T-Mobile is already planning massive, industry-leading network investments and upgrades that will unlock huge customer benefits. In addition, the need to maintain the broadest possible subscriber base in order to make the massive investments in network infrastructure will drive New T-Mobile to reduce prices, compete effectively, and live up to the Un-carrier brand promise.

E. The Transaction Will Not Harm Competition in Local Markets

The proposed transaction will also not harm competition at the local level. In the merger context, the FCC has used a series of "screens" to determine the extent of competitive review. These preliminary screens, if triggered, do not create a presumption of competitive harm, but rather the opposite—the purpose of the screens is "to identify those local markets in which no competitive harm clearly arises from the transaction." [451] The screens currently employed for transaction review include: (i) a spectrum screen that assesses whether the transaction would

450 *Id.* at ¶9.

451 *AT&T-Centennial Order,* 24 FCC Rcd at 13931 ¶34.

result in the aggregation of more than one-third of the available spectrum for mobile broadband services; (ii) a screen based on the Herfindahl-Hirschman index ("HHI") that is triggered if the transaction results in a post-closing HHI of 2800 or more with a change of 100 or more points or a change of 250 or more points, regardless of the post-closing index; and (iii) a millimeter wave screen that is triggered if the applicants aggregate more than one-third of the available millimeter wave spectrum. Relatedly, the FCC has also indicated that it will "treat certain further concentration of below-1-GHz spectrum as an enhanced factor in our case-by-case analysis of the potential competitive harms posed by individual transactions." [452]

When reviewing competition in local markets for a transaction, the FCC has generally taken the opportunity to consider whether adjustments are needed to what the agency has considered the input market for spectrum .[453] Most recently, the FCC formally adjusted the spectrum screen in the *Mobile Spectrum Holdings Order.* [454] Since that time the FCC has conducted its 600 MHz auction, and further time has elapsed in the progress of clearing the AWS-3 band. The input market for spectrum should thus include:

452 *Policies Regarding Mobile Spectrum Holdings* , 29 FCC Rcd 6133, 6239 ¶283 (2014) (" *Mobile Spectrum Holdings Order* ").

453 Specifically with respect to the AWS-3 band, the FCC noted that "in the context of the Commission's competitive review of a proposed spectrum acquisition, the applicants or interested parties can make arguments regarding how the status of coordination with non-relocating Federal incumbents in a particular market should affect the Commission's case-by-case review of the proposed acquisition in that market." *Id.* at 6178 n.322.

454 *See generally id.*

Band	MHz
600 MHz Band	70
Lower 700 MHz Band	48
Upper 700 MHz Band	22
800 MHz Cellular	50
800 MHz ESMR	14
AWS-1/AWS-3	155
2.1 GHz PCS	120
G Block	10
H Block	10
AWS-4	40
2.3 GHz WCS	20
2.5 GHz BRS	67.5
2.5 GHz EBS	89
Total:	715.5
One-Third of Total:	238.5

Table 11: Input Market for Spectrum

The FCC previously stated it would "count the 1755-1780 MHz and 1695-1710 MHz [part of AWS-3] bands in the spectrum screen in a particular market once all relocating Federal incumbent systems in that market are within three years of completing relocation, according to the Transition Plans." [455] Based on NTIA's most recent transition status data, the overwhelming majority of Federal systems will have completed their transition within the next three years. [456] At this point, however, these few remaining operations do not warrant separate analyses, and the band should uniformly be considered available for use.

455 *Id.* at 6178 ¶102.

456 The remaining operations (and then operating in only the uplink portion of the AWS-3 band) are limited to certain Department of Defense telemetry and "other" operations in California, Florida, and Maryland. *See* NTIA, Status of Transition (as of Apr. 18, 2018), https://www.ntia.doc.gov/files/ntia/publications/transition_status_1755-1780_mhz_band_18-apr-18.xlsx (last visited June 16, 2018).

The Applicants have provided, in Appendix L, aggregation data for the spectrum screen analysis, but do not have the data to conduct the related HHI analysis.[457] The combination of these complementary assets is central to the merger. The aggregation of this spectrum, when combined with New T-Mobile's increased scale and resources, will result in consumer benefits; a world-class, high-capacity, nationwide 5G network; enhanced service in rural areas; more American jobs; and intensified competition among wireline and wireless broadband providers. New T-Mobile will not be able to ignite that competition and other public interest benefits without the combined spectrum assets of both T-Mobile and Sprint. Moreover, post-transaction, competitors to New T-Mobile will continue to have access to sufficient spectrum to compete. At the same time, as the Applicants have demonstrated at length above, the transaction will result in no competitive harm. Thus, there is no concern with the issue at the core of the Commission's post-screen analysis.

The Applicants also have provided, in Appendix M, charts showing the carriers licensed in each county for each band. After analyzing the CMAs involved in a proposed transaction under the screen, the FCC's competitive review then typically considers the number of "genuine" competitors in each CMA where competitive review is triggered. For such purposes, the FCC has taken a narrow view of what is a "genuine competitor," which is somewhat inconsistent with its statement that it will consider, for example, MVNOs and adopt a forward-looking view of the marketplace. Even under a restrictive view, however, where a "genuine competitor" is defined as a carrier that owns the physical infrastructure used to provide service and has at least 50

457 The FCC has traditionally used Number Resource Utilization Forecast ("NRUF") data to calculate HHIs for purposes of the HHI screen. That data is usually only made available to applicants pursuant to a protective order after the filing of the proposed Transaction.

percent geographic market coverage, [458] the transaction should not raise significant competitive concerns. Based on the FCC Form 477 mobile coverage data for the end of 2016, Applicants calculated the number of competitors in each CMA. With only one exception, Applicants found that there were no markets where both T-Mobile and Sprint were considered competitors, but where Verizon and AT&T were not also both considered competitors. That one exception was in Puerto Rico, where Verizon does not have a presence but the Puerto Rico Telephone Company is a strong competitor. Accordingly, the transaction would not cause the number of genuine competitors to be reduced below three in any local market.

Applicants have also provided, as Appendix J, an analysis of the markets where they will hold more than one-third of the available low-band spectrum (68 MHz). In past transactions, the low-band enhanced review was necessary because "low-band spectrum is less costly to deploy and provides higher quality coverage than higher-band spectrum, and the two leading nationwide providers hold most of the low-band spectrum available today." [459] The Commission has further opined that if Verizon and AT&T "were to acquire all, or substantially all, of the remaining low-band spectrum, they would benefit, independently of any deployment, to the extent that rival service providers are denied its use." [460] Thus, enhanced review was initially a tool to provide extra scrutiny to transactions involving "the two leading nationwide providers," not companies like Sprint or T-Mobile. Nonetheless, the FCC's *Mobile Spectrum Holdings Order* requires that applicants proposing to acquire more than one-third of the available low-band spectrum in a market provide "a detailed demonstration regarding why the public interest benefits outweigh harms." [461]

458 The Commission typically requires a "genuine competitor" also to cover at least 70 percent of the population in the CMA and to have a market share of at least 2 percent. The FCC Form 477, however, does not contain that information. In the absence of that information, in the Applicants' view, it is reasonable to rely on the 50 percent coverage test as a proxy for the population and market share criteria. It appears likely that any carrier that covers at least 50 percent of a CMA would also cover at least 70 percent of the population and possess a minimum share of 2 percent.

459 *See, e.g.* , *Application of AT&T Mobility Spectrum LLC and North Dakota Network Co. for Consent to Assign License,* Memorandum Opinion and Order, 32 FCC Rcd 163, 166 ¶8 (2017).

460 *Id.* at 166-67 ¶8.

461 *Mobile Spectrum Holdings Order* , 29 FCC Rcd at 6240 ¶286.

V. PROCEDURAL CONSIDERATIONS

A. Additional Authorizations

The list of call signs and file numbers included in the Applications is intended to include all of the licenses, authorizations, and spectrum leases held by the respective licensees or lessees that are subject to the transaction. However, Sprint licensees or lessees or T-Mobile licensees or lessees may now have on file, and may hereafter file, additional requests for authorizations for new or modified facilities that may be granted, or they may enter into new spectrum leases before the Commission takes action on these Applications. Accordingly, the Applicants request that any Commission approval of the Applications filed for this transaction include authority for T-Mobile to acquire control of: (1) any authorization issued to Sprint or its subsidiaries or T-Mobile or its subsidiaries while this transaction is pending before the Commission and the period required for consummation of the transaction; (2) any construction permits held by Sprint or its subsidiaries or T-Mobile or its subsidiaries that mature into licenses after closing; (3) any applications or lease notifications filed by Sprint or its subsidiaries or T-Mobile or its subsidiaries that are pending at the time of consummation; and (4) any leases of spectrum into which Sprint or its subsidiaries or T-Mobile or its subsidiaries enter as lessees while this transaction is pending before the Commission and the period required for consummation of the transaction. Such action would be consistent with prior decisions of the Commission. [462] Moreover, because T-Mobile is acquiring control of Sprint and all of its FCC authorizations and there will be a *pro forma* transfer of T-Mobile and all its subsidiaries' authorizations, the Applicants request that Commission approval include any authorizations that may have been inadvertently omitted.

462 *See, e.g., T-Mobile-MetroPCS Order* , 28 FCC Rcd at 2359 ¶96; *Applications of SoftBank Corp, et al for Consent to Transfer Control of Licenses and Authorizations* , Memorandum Opinion and Order, Declaratory Ruling, and Order on Reconsideration, 28 FCC Rcd 9642, 9693 ¶124 (2013); *Applications of VoiceStream Wireless Corporation, Powertel, Inc. and Deutsche Telekom, AG, for Consent to Transfer Control of Licenses and Authorizations et al.* , Memorandum Opinion and Order, 16 FCC Rcd 9779, 9854 ¶¶125-26 (2001) (" *DT VoiceStream order* ") .

B. Exemption from Cut-off Rules

Pursuant to Sections 1.927(h), 1.929(a)(2), and 1.933(b) of the Commission's Rules, to the extent necessary, the Applicants request a blanket exemption from any applicable cut-off rules in cases where the licensees in this transaction file amendments to pending applications in order to reflect consummation of the proposed transaction. This exemption is requested to prevent amendments to pending applications that report the change in ultimate ownership of the licenses involved in these applications from being treated as major amendments. The nature of the proposed transaction demonstrates that the ownership changes would not be made for the acquisition of any particular pending application, but as part of a larger transaction undertaken for an independent and legitimate business purpose. Grant of this request would be consistent with prior Commission decisions that have routinely granted a blanket exemption in cases involving multiple-license transactions, such as this one.

C. Unconstructed Facilities

The FCC Form 603 requires that parties to an assignment or transfer of control of radio station licenses identify whether those licenses are "constructed." [463] This question is rooted in the FCC's inquiry into trafficking, which is described as "obtaining or attempting to obtain an

463 FCC Form 603, Main Form Item 118.

authorization for the principal purpose of speculation or profitable resale of the authorization rather than for the provision of telecommunication services to the public or for the licensee's own private use." [464] T-Mobile has generally attempted to ascertain the construction status of the many, many microwave authorizations held by its subsidiaries. However, T-Mobile has also used "Yes" as a default response to the construction question because the question is plainly not relevant for purposes of the *pro forma* transfer of control of its license. [465]

D. Unjust Enrichment

No unjust enrichment concerns are implicated by this transaction as all installment payments applicable to any of the licenses subject to this transaction have long ago been paid. Nevertheless, as required by Section 1.2111(a) of the Commission's rules, the Applicants are filing the Business Combination Agreement in the form in which it was filed with the Securities and Exchange Commission. All of Sprint's licenses are freely alienable without designated entity transfer restrictions or unjust enrichment payments.

E. 600 MHz Band Information

The *pro forma* transfer of T-Mobile's licenses that results from the proposed transaction involves some reserved spectrum licenses in the 600 MHz band. Since the Transferor and Transferee of these licenses is the same entity, the Transferee plainly would have qualified to bid on the reserved spectrum licenses in Auction 1002 as of February 10, 2016.

464 47 C.F.R. §§1.948(i)(1). *See also* 47 C.F.R. §101.55(a).

465 Further, the Commission has clearly stated that, in the context of larger merger transactions, "even if any of the point-to-point microwave facilities are not constructed, sections 101.55(a) and (d) of our rules make clear that unconstructed point-to-point microwave facilities may be transferred where the transfer is incidental to a sale of other facilities or merger of interests." *Applications of Cellco Partnership d/b/a Verizon Wireless and AT&T, Inc.* , 25 FCC Rcd 10985, 11018 ¶83 (2010). That would plainly be the case here.

F. Environmental Impact

As required by Section 1.923(e) of the Commission's rules, the Applicants state that the transfer of control of licenses and leases involved in this transaction will not have a significant environmental effect, as defined by Section 1.1307 of the Commission's rules. A transfer of control of licenses and leases does not involve any engineering changes and, therefore, cannot have a significant environmental impact.

G. National Security Agreement

Both Sprint and T-Mobile currently have separate mitigation agreements with the national security agencies as a result of their non-U.S. ownership. [466] The Applicants recognize that their contemporaneously filed Section 310(b) petition for declaratory ruling (copy attached) will be referred to Team Telecom and the Applicants will also be submitting a formal notice to the Committee on Foreign Investment in the United States ("CFIUS"). The Applicants expect that those processes will result in a new mitigation agreement for the combined company and that the FCC will condition its grant of the transfer of control applications on continued compliance with such agreement. The Applicants have no objection to such a condition.

H. Related Governmental Filings

As noted above, this transaction is subject to review by CFIUS. The transaction is also subject to notification and/or review by other governmental agencies, including the Department of Justice, which will conduct its own review of the competitive aspects of this transaction pursuant to the Hart-Scott-Rodino Antitrust Improvements Act of 1976 [467] and the rules promulgated thereunder. The transaction is additionally subject to approval by certain state public utility commissions.

---

466 *See DT-VoiceStream Order,* 16 FCC Rcd at 9853, Appx B (including the Deutsche Telekom AG National Security Agreement); Sprint-Nextel Corporation, Form 8K, at Item 8.01 (May 29, 2013), https://www.sec.gov/Archives/edgar/data/101830/000119312513238554/d545797d8k.htm (describing the National Security Agreement entered into by Sprint as a condition for approval of SoftBank merger). *See also Applications of T-Mobile USA, Inc. and SunCom Wireless Holdings, Inc. For Consent to Transfer Control of Licenses and Authorizations and Petition for Declaratory Ruling that the Transaction is Consistent with Section 310(b)(4) of the Communications Act,* Memorandum Opinion and Order, 23 FCC Rcd 2515, 2529-37, Appx. B (2008) (amending the DT NSA); *T-Mobile-MetroPCS Order,* 28 FCC Rcd at 2363-72, Appx. B (further amending the DT NSA).

467 15 U.S.C. § 18(a).

VI. CONCLUSION

For the foregoing reasons, the proposed license transfers clearly satisfy the Commission's standards for approval, generate substantial public interest benefits for the customers of T-Mobile and Sprint and for U.S. wireless customers as a whole, and do not give rise to any competitive harms. The benefits of this merger, however, do not stop at the boundaries of traditional wireless services. The merger unlocks the door to new broadband choices and capabilities for consumers across the country while accelerating the arrival of transformative 5G services that will produce innovation, jobs, and economic growth for our country. So that consumers can promptly realize these benefits, the Applicants seek expedited review and grant of the Applications.

Important Additional Information

In connection with the proposed transaction, T-Mobile US, Inc. ("T-Mobile") will file a registration statement on Form S-4, which will contain a joint consent solicitation statement of T-Mobile and Sprint Corporation ("Sprint"), that also constitutes a prospectus of T-Mobile (the "joint consent solicitation statement/prospectus"), and each party will file other documents regarding the proposed transaction with the U.S. Securities and Exchange Commission (the "SEC"). INVESTORS AND SECURITY HOLDERS ARE URGED TO READ THE JOINT CONSENT SOLICITATION STATEMENT/PROSPECTUS AND OTHER RELEVANT DOCUMENTS FILED WITH THE SEC WHEN THEY BECOME AVAILABLE BECAUSE THEY WILL CONTAIN IMPORTANT INFORMATION. When final, a definitive copy of the joint consent solicitation statement/prospectus will be sent to T-Mobile and Sprint stockholders. Investors and security holders will be able to obtain the registration statement and the joint consent solicitation statement/prospectus free of charge from the SEC's website or from T-Mobile or Sprint. The documents filed by T-Mobile with the SEC may be obtained free of charge at T-Mobile's website, at www.t-mobile.com, or at the SEC's website, at www.sec.gov. These documents may also be obtained free of charge from T-Mobile by requesting them by mail at T-Mobile US, Inc., Investor Relations, 1 Park Avenue, 14th Floor, New York, NY 10016, or by telephone at 212-358-3210. The documents filed by Sprint with the SEC may be obtained free of charge at Sprint's website, at www.sprint.com, or at the SEC's website, at www.sec.gov. These documents may also be obtained free of charge from Sprint by requesting them by mail at Sprint Corporation, Shareholder Relations, 6200 Sprint Parkway, Mailstop KSOPHF0302-3B679, Overland Park, Kansas 66251, or by telephone at 913-794-1091.

Participants in the Solicitation

T-Mobile and Sprint and their respective directors and executive officers and other members of management and employees may be deemed to be participants in the solicitation of consents in respect of the proposed transaction. Information about T-Mobile's directors and executive officers is available in T-Mobile's proxy statement dated April 26, 2018, for its 2018 Annual Meeting of Stockholders. Information about Sprint's directors and executive officers is available in Sprint's proxy statement dated June 19, 2017, for its 2017 Annual Meeting of Stockholders, and in Sprint's subsequent reports on Form 8-K filed with the SEC on January 4, 2018 and January 17, 2018. Other information regarding the participants in the consent solicitation and a description of their direct and indirect interests, by security holdings or otherwise, will be contained in the joint consent solicitation statement/prospectus and other relevant materials to be filed with the SEC regarding the acquisition when they become available. Investors should read the joint consent solicitation statement/prospectus carefully when it becomes available before making any voting or investment decisions. You may obtain free copies of these documents from T-Mobile or Sprint as indicated above.

No Offer or Solicitation

This communication shall not constitute an offer to sell or the solicitation of an offer to buy any securities, nor shall there be any sale of securities in any jurisdiction in which such offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of any such jurisdiction. No offering of securities shall be made except by means of a prospectus meeting the requirements of Section 10 of the U.S. Securities Act of 1933, as amended.

Cautionary Statement Regarding Forward-Looking Statements

This communication contains certain forward-looking statements concerning T-Mobile, Sprint and the proposed transaction between T-Mobile and Sprint. All statements other than statements of fact, including information concerning future results, are forward-looking statements. These forward-looking statements are generally identified by the words “anticipate,” “believe,” “estimate,” “expect,” “intend,” “may,” “could” or similar expressions. Such forward-looking statements include, but are not limited to, statements about the benefits of the proposed transaction, including anticipated future financial and operating results, synergies, accretion and growth rates, T-Mobile’s, Sprint’s and the combined company’s plans, objectives, expectations and intentions, and the expected timing of completion of the proposed transaction. There are several factors which could cause actual plans and results to differ materially from those expressed or implied in forward-looking statements. Such factors include, but are not limited to, the failure to obtain, or delays in obtaining, required regulatory approvals, and the risk that such approvals may result in the imposition of conditions that could adversely affect the combined company or the expected benefits of the proposed transaction, or the failure to satisfy any of the other conditions to the proposed transaction on a timely basis or at all; the occurrence of events that may give rise to a right of one or both of the parties to terminate the business combination agreement; adverse effects on the market price of T-Mobile’s or Sprint’s common stock and on T-Mobile’s or Sprint’s operating results because of a failure to complete the proposed transaction in the anticipated timeframe or at all; inability to obtain the financing contemplated to be obtained in connection with the proposed transaction on the expected terms or timing or at all; the ability of T-Mobile, Sprint and the combined company to make payments on debt or to repay existing or future indebtedness when due or to comply with the covenants contained therein; adverse changes in the ratings of T-Mobile’s or Sprint’s debt securities or adverse conditions in the credit markets; negative effects of the announcement, pendency or consummation of the transaction on the market price of T-Mobile’s or Sprint’s common stock and on T-Mobile’s or Sprint’s operating results, including as a result of changes in key customer, supplier, employee or other business relationships; significant transaction costs, including financing costs, and unknown liabilities; failure to realize the expected benefits and synergies of the proposed transaction in the expected timeframes or at all; costs or difficulties related to the integration of Sprint’s network and operations into T-Mobile; the risk of litigation or regulatory actions; the inability of T-Mobile, Sprint or the combined company to retain and hire key personnel; the risk that certain contractual restrictions contained in the business combination agreement during the pendency of the proposed transaction could adversely affect T-Mobile’s or Sprint’s ability to pursue business opportunities or strategic transactions; effects of changes in the regulatory environment in which T-Mobile and Sprint operate; changes in global, political, economic, business, competitive and market conditions; changes in tax and other laws and regulations; and other risks and uncertainties detailed in T-Mobile’s Annual Report on Form 10-K for the fiscal year ended December 31, 2017 and in its subsequent reports on Form 10-Q, including in the sections thereof captioned “Risk Factors” and “Cautionary Statement Regarding Forward-Looking Statements,” as well as in its subsequent reports on Form 8-K, all of which are filed with the SEC and available at www.sec.gov and www.t-mobile.com, and in Sprint’s Annual Report on Form 10-K for the fiscal year ended March 31, 2017 and in its subsequent reports on Form 10-Q, including in the sections thereof captioned “Risk Factors” and “MD&A — Forward-Looking Statements,” as well as in its subsequent reports on Form 8-K, all of which are filed with the SEC and available at www.sec.gov and www.sprint.com. Forward-looking statements are based on current expectations and assumptions, which are subject to risks and uncertainties that may cause actual results to differ materially from those expressed in or implied by such forward-looking statements. Given these risks and uncertainties, persons reading this communication are cautioned not to place undue reliance on such forward-looking statements. T-Mobile and Sprint assume no obligation to update or revise the information contained in this communication (whether as a result of new information, future events or otherwise), except as required by applicable law.