IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF NEW YORK

STATE OF NEW YORK, *et al.*

Plaintiffs,

v.

DEUTSCHE TELEKOM AG, *et al.*

Defendants.

Case No. 1:19-cv-5434 (VM) (RWL)

ECF Case

DEFENDANTS' PROPOSED FINDINGS OF FACT AND CONCLUSIONS OF LAW

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[PROPOSED] FINDINGS OF FACT

1. The pending merger of T-Mobile and Sprint will result in American consumers—urban, suburban, and rural alike—paying lower prices for higher-quality wireless services. The combined company ("New T-Mobile") will have substantially more capacity and a drastically lower cost structure than would either standalone company, enabling it to super-charge its Un-carrier strategy and aggressively compete for customers from AT&T and Verizon.

2. Plaintiffs have failed to carry their burden to prove that the world with this merger is likely to be substantially less competitive than the world without it. The record evidence before the Court establishes that this merger will increase, not decrease, competition. This determination is fortified by the entry of DISH, which will compete on Day 1 while simultaneously building its own network using its substantial (and currently unused) spectrum holdings to create a new high-capacity nationwide 5G network.

3. Both the Federal Communications Commission ("FCC") and the Antitrust Division of the Department of Justice ("DOJ") have already concluded that the transaction before the Court is procompetitive and in the public interest.[1] Those expert agencies conducted lengthy and exhaustive investigations into the transaction.[2] The FCC concluded that the merger will "deliver benefits directly to [] customers, while also yielding dynamic competitive benefits as [T-Mobile and Sprint] create a strong alternative to" Verizon and AT&T.[3] The FCC emphasized that "[b]uilding leading 5G networks is of critical importance to our nation . . . and holds the potential . . . to create three million new jobs . . . and $500 billion in GDP."[4] The DOJ similarly found the

[1] Ex. 5385 (FCC Order), at 4, 168; Ex. 5386 (DOJ Response to Public Comments on PFJ), at 10; Ex. 5363 (DOJ PFJ). (References to exhibit page numbers refer to the page numbers of the exhibits themselves, not the underlying documents if different.)
[2] Ex. 5385 (FCC Order), at 4; Ex. 5386 (DOJ Response to Public Comments on PFJ), at 10.
[3] Ex. 5385 (FCC Order), at 168.
[4] Ex. 5385 (FCC Order), at 3 (quotation marks omitted); *see also* Trial Transcript ("TT") 1144:25-1149:7 (Ray).

transaction before the Court to be procompetitive, in part because the merger and related conditions would "provide substantial long-term benefits for American consumers by ensuring that large amounts of currently unused or underused spectrum are made available to American consumers in the form of advanced 5G networks" and would result in "stronger 5G competition and expanding output."[5]

4. Because Plaintiffs failed to carry their burden of proving that this merger will substantially lessen competition and that enjoining this merger is in the public interest, the Court denies their request for a permanent injunction and finds as follows.

I. INDUSTRY OVERVIEW

A. Mobile Wireless Networks Must Meet Increasing Consumer Demand

5. A mobile wireless network consists of cell sites (radio equipment typically located on towers or rooftops) that send and receive radio signals from mobile wireless devices using radio spectrum licensed from the FCC, and other components that connect the cell sites with one another and with other communications networks, such as the Internet.[6]

6. A mobile wireless network operator ("MNO")—a wireless service provider that operates its own wireless network—must provide pervasive coverage for its customers nationwide and sufficient capacity to support the data usage that its customers demand, at the speeds that those customers expect, and at a cost that allows it to compete effectively.[7]

7. An MNO's ability to meet growing consumer demand depends significantly on the type of spectrum it has available.[8] Mobile wireless networks must generally operate on their

[5] Ex. 5386 (DOJ Response to Public Comments on PFJ), at 4, 35.
[6] TT 1149:18-1152:21 (Ray); Ex. 8180 (Ray Dem.), at 2.
[7] TT 1143:1-25 (Ray); Ex. 5060, at 6-7; Ex. 5078, at 6, 15.
[8] TT 1172:8-1173:6 (Ray); 506:21–507:6 (Bluhm); Ex. 5060, at 13.

own spectrum frequencies to avoid interference.[9] Spectrum is a scarce and costly resource.[10] The FCC controls access to spectrum and allocates it by weighing the interests of different users, including the U.S. military and other government users as well as, among many others, television and radio broadcasters.[11]

8. The spectrum used for mobile wireless networks is classified into three groups by frequency range—low-band, mid-band, and mmWave—and each group has distinct characteristics. Low-band spectrum penetrates buildings and propagates well, including over distances up to 18 miles, and thus requires fewer expensive towers and associated equipment.[12] But low-band spectrum is the most scarce.[13] Without low-band spectrum, achieving widespread coverage requires significant and potentially prohibitive operating expenditures.[14] Mid-band spectrum does not propagate or penetrate buildings as well as low-band spectrum.[15] mmWave spectrum has an effective range of just 200-300 yards and it cannot penetrate buildings and other obstacles.[16]

9. The mobile wireless industry is transitioning to the fifth generation of mobile wireless technology, referred to as "5G."[17] 5G will allow far greater speeds and lower latency, enabling new applications, such as unlimited high-definition video, automated vehicles, and augmented and virtual reality.[18] 5G will also enable applications not yet developed or even imagined, just as occurred in the industry's last generational transition to 4G/LTE.[19]

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[9] TT 1149:18-1153:1 (Ray).
[10] TT 939:4-9 (Legere); 1152:22-1155:3, 1179:10-1180:5, 1225:3-12, 1254:6-11 (Ray).
[11] TT 1149:18-1155:3, 1223:15-1225:2 (Ray).
[12] TT 1152:22-1155:3 (Ray); Ex. 8180 (Ray Dem.), at 3; *see* TT 498:17-25 (Bluhm); Ex. 6003, at 9-10.
[13] TT 1152:22-1155:3 (Ray); 2133:25-2134:2 (Kolodzy).
[14] TT 499:15-22, 506:21-507:6 (Bluhm).
[15] TT 1152:22-1155:3 (Ray); Ex. 8180 (Ray Dem.), at 3; *see* Ex. 6003, at 9-10.
[16] TT 1152:22-1155:3 (Ray); 1478:21-1479:1 (Kapoor); Ex. 8180 (Ray Dem.), at 3.
[17] TT 1026:7-20, 1027:8-1028:7 (Sievert).
[18] TT 926:19-929:6 (Legere); 1157:19-1159:1 (Ray).
[19] TT 2214:12–2215:2 (Scott Morton); 157:19-1159:1 (Ray); *see also* Ex. 5385 (FCC Order), at 26-27.

10. MNOs must stay ahead of ever-increasing consumer demand for mobile wireless data and add capacity or the quality of their networks will degrade.[20] Industry sources, including T-Mobile, Verizon, AT&T, Cisco, and Ericsson, predict data usage growth of at least 30% each year for the foreseeable future.[21] 5G will place further demands on mobile networks.[22] 5G users are expected to demand more than five times the data as 4G/LTE users.[23] The more data customers demand from a fixed amount of network capacity, the lower the speed.[24] Adding capacity allows an MNO to maintain or improve performance, but it is costly.[25]

B. A Growing Array of Providers Compete As Retail Mobile Wireless Providers

11. Verizon and AT&T are the two largest U.S. MNOs[26] and have superior spectrum positions.[27] Verizon also provides wired broadband Internet and television under its Fios brand.[28] AT&T similarly provides wired broadband Internet and cable television under the U-Verse brand and satellite television under the DirecTV brand. AT&T also owns major video content providers, including HBO and CNN.[29]

12. T-Mobile is the third largest U.S. MNO.[30] T-Mobile was able to build a nationwide 4G/LTE network due in significant part to the about $3 billion in spectrum and the $3 billion "breakup fee" it received from AT&T when the companies abandoned a previous attempted merger.[31] T-Mobile also used the increased financial wherewithal to acquire MetroPCS (with its

[20] TT 920:6-22 (Legere); 1144:1-21 (Ray); Ex. 5400, at 6; Ex. 5060, at 4, 7.
[21] Ex. 8181, at 19-21; *see also* Ex. 7052, at 1; Ex. 7002, at 3; Ex. 5385 (FCC Order), at 220; Ex. 5411.
[22] TT 239:25-241:6 (Höttges); 1442:20-1447:6 (Kapoor); Ex. 5281; Ex. 5060, at 5.
[23] Ex. 8180 (Ray Dem.), at 4; TT 1157:4-12 (Ray); TT 502:17-22 (Bluhm); *see also* Saw Dep. 195:19-25.
[24] TT 1162:18-1163:14 (Ray).
[25] TT 920:23-921:10 (Legere); 1163:15-1164:10 (Ray); 1457:18-1459:9, 1468:9-23 (Kapoor); Ex. 5400, at 18, 22; Ex. 8180 (Ray Dem.), at 5-8; Ex. 9999 (Kapoor Dem.), at 8.
[26] TT 44:16-44:24 (Sole); 237:1-16 (Höttges); Ex. 1258 (Shapiro Dem.), at 15; Ex. 8181 (Katz Dem.), at 13.
[27] TT 259:15-260:7 (Höttges); 1089:25-1090:7 (Sievert); Ex. 5303, at 21.
[28] TT 1067:4-1068:2 (Sievert); Ex. 5200, at 4.
[29] TT 1068:3-15 (Sievert); Ex. 5197, at 3-4; Ex. 5200, at 4; Ex. 5306, at 5.
[30] TT 167:10-12 (Höttges); Third Amended Complaint ("AC") ¶ 17; Ex. 1258 (Shapiro Dem.), at 15; Ex. 8181 (Katz Dem.), at 13.
[31] TT 915:23-917:4 (Legere); 162:15-163:4, 234:2-20 (Höttges); *see also* 1249:3-1252:6 (Ray).

network and spectrum) and to purchase more spectrum from Verizon.[32] These resources significantly increased T-Mobile's network quality and capacity, enabling T-Mobile to launch its "Un-carrier" strategy, focused on eliminating customer "pain points."[33] These included "restrictive contracts,"[34] "confusing rate plans,"[35] international roaming charges,[36] and, from 2016, data overage charges by introducing unlimited data plans.[37] The Un-carrier strategy also features aggressive pricing and value propositions[38] aimed at maximizing the long-term value of the company.[39] "Un-carrier" is a distinct and valuable pro-consumer brand identity,[40] a key factor in T-Mobile's attracting and retaining subscribers.[41] T-Mobile's success has put pressure on its network capacity and ability to maintain its Un-carrier strategy.[42]

13. Sprint is the fourth largest U.S. MNO.[43] Sprint offers "an inferior product," which has led to a "vicious cycle" of churn, decreased revenues, and inability to invest in network improvements, followed by more churn.[44] A key issue for Sprint is poor coverage and consistency.[45]

14. Retail mobile wireless services are also sold by regional MNOs such as U.S. Cellular and mobile virtual network operators ("MVNOs") like TracFone, the largest MVNO with 22 million subscribers.[46] MVNOs contract with MNOs for network access, which they then use to

[32] TT 915:23-917:4 (Legere); Ex. 5010, at 12-13.
[33] TT 884:2-886:7; 915:23-919:5 (Legere); 1056:23-1057:21 (Sievert); Ex. 5010, at 7, 12, 15, 27; *see also* Exs. 5015, 5017, 5021, 5023, 5035, 5036, 5039, 5042, 5054, 5088, 5117, 5127, 5149, 5192, 5290 (Un-carrier moves).
[34] TT 884:2-886:7 (Legere); Ex. 5103, at 7.
[35] Ex. 5103, at 7.
[36] TT 884:2-886:7 (Legere); Ex. 5021.
[37] TT 896:3-897:12 (Legere); Ex. 5127 (T-Mobile ONE Press Release).
[38] TT 235:21-236:25 (Höttges); 922:18-923:6 (Legere).
[39] TT 1057:22-1061:18 (Sievert); Ex. 5020, at 2, 6; Ex. 5033, at 3-4.
[40] TT 884:2-886:7, 897:13-898:2, 909:7-909:17, 1018:10-1020:1 (Legere).
[41] TT 909:18-911:1 (Legere); 1088:23-1090:10 (Sievert); *see* Ex. 5219, at 14.
[42] TT 918:4-919:5, 920:6-22, 922:18-923:6 (Legere); Ex. 5375 at 2, 15-20; Ex. 5312, at 7; Ex. 5358, at 6-7.
[43] TT 167:6-12 (Höttges); Ex. 1258 (Shapiro Dem.), at 15.
[44] TT 1395:11-23 (Combes).
[45] TT 129:6-131:1, 146:21-148:12 (Rittgers); 499:7-14, 506:21-508:3, 510:18-511:2 (Bluhm); Ex. 6066, at 19-20.
[46] TT 645:6-15 (Shapiro); Ex. 5294, at 1.

provide mobile wireless services to their retail customers.[47] Large cable companies—Comcast, Charter, and Altice—have also recently begun to offer retail mobile wireless services.[48] These operators use their own infrastructure, such as proprietary wireless routers in customers' homes and WiFi hot spots, to provide mobile wireless broadband,[49] and use agreements with one or more MNOs to provide nationwide coverage where WiFi is not available.[50]

II. THE WORLD WITH THE MERGER WILL BE BETTER FOR CONSUMERS THAN THE WORLD WITHOUT THE MERGER

15. The merger will result in a network with significantly more capacity and a lower cost of adding incremental capacity. New T-Mobile will thus have significantly lower marginal costs and significantly higher quality than the standalone networks,[51] which, in turn, will generate billions of dollars of consumer benefit in the form of lower prices and better services.[52]

A. The Merger Will Make New T-Mobile a More Formidable Competitor and Enable DISH to Be a Disruptive New Entrant

16. **New T-Mobile.** New T-Mobile will have an unprecedented high-quality, low-cost network,[53] a fact undisputed at trial. Each merging party has assets that fix the other's main competitive challenge: T-Mobile's low-band spectrum addresses Sprint's coverage problems, Sprint's mid-band spectrum addresses T-Mobile's capacity problems.[54] Combining those complementary assets creates a network with double the total capacity, and three times the 5G

[47] TT 543:15-25 (Boubazine); Ex. 5294, at 1; Ex. 8181 (Katz Dem.), at 8.
[48] TT 812:21-24, 865:25-866:2 (Schwartz); 538:13-17 (Boubazine); 982:14-17, 1013:10-25 (Legere); 1072:6-15 (Sievert); Ex. 5303, at 18-19; Ex. 5306, at 6-7; Ex. 8139, at 1-2.
[49] TT 850:7-851:25 (Schwartz).
[50] TT 1071:1-1072:15 (Sievert); 539:16-18 (Boubazine).
[51] TT 1784:17-1785:9 (Katz); 1434:18-25; 1501:14-1502:23 (Kapoor).
[52] TT 1784:17-1785:9 (Katz); 1025:15-1026:3, 1029:7-1030:7, 1040:20-1041:18 (Sievert); 1159:2-1160:22 (Ray); Ex. 5197, at 6; Ex. 5236, at 52, 55; Ex. 5241, at 2; Ex. 5248, at 10; Ex. 5277, at 7, 8.
[53] TT 923:12-925:4 (Legere); 1023:16-1024:4 (Sievert); 1145:3-1149:7 (Ray); 1784:17-1785:9 (Katz); Ex. 5284, at 9-10; *see also* Ex. 8180 (Ray Dem.), at 11.
[54] TT 1177:25-1179:9 (Ray); Ex. 5242 at 3-4; Ex. 5248 at 14.

capacity, of the two standalone networks.[55] Costs, however, will not increase proportionately.[56] The combined network will thus have a much lower marginal cost than either standalone network.[57] The merger will also greatly increase network quality, with speeds fifteen times greater than today and with better consistency across the network.[58]

17. The capacity of a wireless network is determined by (1) the number of cell sites, multiplied by (2) the amount of spectrum deployed per site, multiplied by (3) the efficiency with which the deployed spectrum transmits information (spectral efficiency).[59] New T-Mobile increases each element.[60] First, New T-Mobile adds about 11,000 Sprint cell sites to its network, realizing significant synergies from decommissioning the rest of Sprint's cell sites (which will then be offered to DISH).[61] Second, the combination of T-Mobile's and Sprint's spectrum portfolios multiplies capacity by deploying Sprint's spectrum on T-Mobile's towers, and T-Mobile's spectrum on the retained Sprint towers.[62] Third, New T-Mobile will have greater spectral efficiency because, with its greater capacity, New T-Mobile can deploy the more spectrally efficient 5G sooner to more people, without degrading 4G/LTE user experiences.[63] New T-Mobile will also be better able to use the merging parties' spectrum across both time (*e.g.*, T-Mobile's network in a location may be congested, while Sprint's is not) and space (*e.g.*, using Sprint's mid-band spectrum to serve users close to the cell site and conserving T-Mobile's

[55] TT 923:12-925:4, 928:25-929:6 (Legere); 1184:10-1185:8, 1188:12-1189:4 (Ray); 1301:7-14 (Claure); Ex. 8180 (Ray Dem.), at 11-12; *see also* TT 1027:8-1028:7 (Sievert); Ex. 5385 (FCC Order), at 73; Ex. 5386 (DOJ Response to Public Comments on PFJ), at 4.
[56] TT 1024:5-18 (Sievert); 1197:24-1198:6 (Ray); 1784:17-1785:9 (Katz); 1847:6-1852:14 (Katz); Ex. 5277, at 31, 33; Ex. 8181 (Katz Dem.), at 33, 38.
[57] TT 923:23-924:3 (Legere); 1434:18-25; 1501:14-1502:23 (Kapoor); 1848:13-1849:5, 1842:25-1844:11, 1866:17-1869:3, 1887:15-19 (Katz); Ex. 5385 (FCC Order), at 105-106; Ex. 5386 (DOJ Response to Public Comments on PFJ), at 20 & n.31.
[58] TT 923:12-925:4 (Legere); 1191:9-23 (Ray); Ex. 8180 (Katz Dem.), at 60.
[59] TT 1043:13-1046:24 (Sievert); 1165:9-1166:2 (Ray); Ex. 8180 (Ray Dem.), at 6, 8.
[60] TT 923:12-925:4 (Legere); 1181:3-1185:8, 1166:3-25 (Ray).
[61] TT 1043:13-1046:24 (Sievert); TT 1168:24-1169:15, 1184:10-1185:8 (Ray); Ex. 5363 (DOJ PFJ), at 13.
[62] TT 928:25-929:6 (Legere); 1027:8-1028:7, 1030:14-25, 1035:25-1036:8, 1044:17-1046:15 (Sievert); Ex. 5236, at 71; Ex. 5241, at 3; Ex. 5248, at 14.
[63] TT 1180:6-23 (Ray); 1483:3-20 (Kapoor).

low-band spectrum to ensure high performance on the "edge" or outer limit of the cell site).[64]

18. Sustained growth in user demand will eventually require New T-Mobile to add capacity, but New T-Mobile will be able to do so more cheaply than either standalone company could because it will have more spectrum and improved spectral efficiency.[65]

19. Massive capacity and lower marginal costs will give New T-Mobile a strong incentive to attract new customers through lower prices and higher quality.[66] New T-Mobile's business plan contemplates passing on the benefits of the merger to consumers by lowering prices and improving quality to take share from competitors.[67] In T-Mobile's words, the merger will "supercharge the Un-carrier strategy" and allow T-Mobile to continue to be disruptive.[68] "[B]ecause of the rapidly expanding capacity of [the] network and the rapidly falling costs that flow from that capacity, [New T-Mobile is] going to be able to take price competition, lower prices and a better quality product to AT&T and Verizon, and increasingly, to big cable."[69] T-Mobile has already announced its first "New T-Mobile Un-carrier move": a plan at 50% of the cost of its cheapest current plan, providing unlimited talk and text and 2GB of data for $15 per month, which will be offered to all consumers the day the merger closes.[70]

20. The merger will achieve substantial cost savings. T-Mobile projects $43.6 billion in net cost savings by 2024 on a net present value basis,[71] the majority of which ($25.7 billion)

[64] TT 1171:13–1173:6 (Ray); 1849:6-1852:14 (Katz); Ex. 8181 (Katz Dem.), at 39; Ex. 5385 (FCC Order), at 107.
[65] TT 1176:18-1177:18 (Ray); 1887:20-1888:5 (Katz).
[66] TT 1034:12-25 (Sievert); TT 758:12-19 (Shapiro) 1847:16-1848:4 (Katz); 1849:6-1852:14 (Katz); Ex. 5236, at 52; Ex. 5277, at 7.
[67] TT 926:17-18, 935:9-14 (Legere); 1023:16-1024:4, 1025:15-1026:3 (Sievert); 185:24-186:17, 262:12-14 (Höttges); 744:10-24 (Shapiro); 1901:2-25 (Katz); Ex. 5197, at 6.
[68] TT 918:4-919:5 (Legere); 1057:6-21 (Sievert); 345:7-16, 367:21-369:20 (Langheim); 242:15-246:19 (Höttges); Ex. 5197, at 5, 12; Ex. 5236, at 60; Ex. 5241, at 3, 4; Ex. 5277, at 4.
[69] TT 1023:16-1024:4, 1023:23-1024:2 (Sievert); 1175:24-1176:14 (Ray); Ex. 5197, at 6; Ex. 5236, at 73; Ex. 5277, at 4.
[70] TT 1090:11-1092:5 (Sievert); Ex. 5387.
[71] TT 1031:25-1032:17 (Sievert); Ex. 5241, at 12; Ex. 5277, at 31.

come from decommissioning redundant network infrastructure.[72] T-Mobile has provided its synergy assessments to investors.[73]

21. The merger will also increase competition for in-home broadband,[74] for which currently most Americans only have one or at most two choices.[75] New T-Mobile will use part of the increased network capacity from the merger to launch a new in-home broadband service at a lower price than the incumbents.[76] New T-Mobile's in-home broadband will reach underserved rural areas, reducing the "digital divide."[77] Existing broadband providers will need to respond to this threat by reducing their prices, benefitting all in-home broadband consumers.[78] This will challenge cable companies in particular, including those that testified against the merger.[79]

22. T-Mobile's successful integration of the MetroPCS network in 2013 verifies that the expected benefits of the combination with Sprint are likely to be realized and accomplished on schedule.[80] Plaintiffs' expert testified that successful prior mergers can be relevant "real world proof" that anticipated benefits are verifiable.[81] Integrating the Sprint network will be similar to integrating the MetroPCS network, with the same types of benefits.[82] In some respects, it will be easier, as more than 80% of Sprint handsets are compatible with the T-Mobile network, versus none with MetroPCS at the time.[83] T-Mobile completed the integration early (by almost a year)[84] and exceeded projected synergies (by $2–3 billion).[85] The MetroPCS integration enabled T-

[72] TT 1044:10-1047:13 (Sievert); Ex. 5277, at 31, 33.
[73] Ex. 5236 (Ratings Agency Presentation), at 44.
[74] Ex. 5385 (FCC Order), at 125-27; Ex. 5241, at 4, 30, 31.
[75] TT 1054:17-1056:1 (Sievert); 1303:7-1304:5 (Claure); Ex. 5277, at 21.
[76] TT 926:19-929:6 (Legere); 1054:17-1056:1 (Sievert); Ex. 5277, at 21, 24; Ex. 5248, at 9; Ex. 5336, at 4-5, 11-12.
[77] TT 1159:2-1160:1 (Ray); Ex. 5277, at 4, 20-21; Ex. 5385 (FCC Order), at 120.
[78] TT 1054:17-1056:1 (Sievert).
[79] TT 1303:9-1304:5 (Claure).
[80] TT 1200:19-1201:2 (Ray); 1062:1-1065:18 (Sievert); 250:20-251:14 (Höttges); 1886:23-1887:14 (Katz).
[81] TT 734:13-23 (Shapiro).
[82] TT 1062:1-16 (Sievert); 1202:5-20, 1203:18-1206:6 (Ray); Ex. 5248 at 22-23; Ex. 5251 at 13-14; *compare* Ex. 5010, at 28 (MetroPCS cost synergies), *with* Ex. 5277, at 31-37 (projecting Sprint cost synergies).
[83] TT 222:2-12 (Höttges); 1204:12-1206:6 (Ray).
[84] TT 1203:14-17 (Ray).
[85] TT 1063:2-17, 1064:17-1065:18 (Sievert); 1201:3-9 (Ray).

Mobile to give customers better service at lower prices[86] and to almost double MetroPCS's subscribers.[87]

23. T-Mobile's commitments to the FCC and to the DOJ—which essentially lock in the existing business plan for the New T-Mobile[88]—provide additional certainty beyond the economic incentives discussed above that New T-Mobile will build a network with these capacity and coverage benefits.[89] Within six years, New T-Mobile's network will give 99% of Americans access to download speeds at or above 50 Mbps and 90% at or above 100 Mbps.[90] T-Mobile also committed that, for at least three years after the merger is closed, New T-Mobile will make the same or better rate plans available as those offered by T-Mobile or Sprint as of February 2019.[91]

24. In addition to the verification provided by T-Mobile's previous experience realizing similar efficiencies and its commitments to the FCC and DOJ, T-Mobile also quantified those efficiencies using a capacity planning model, which it uses in the ordinary course to project when and where capacity will be constrained and to identify the most cost-efficient way to add capacity before congestion degrades customer experience.[92] T-Mobile's model predicts congestion with 99.4% accuracy and is used to forecast out for five years.[93] T-Mobile updated the model to account for 5G and incorporate the assets it would acquire from Sprint.[94] The model confirms that the New T-Mobile network will have much lower costs and higher quality than the standalone networks in each year for at least the next five years.[95]

[86] TT 1063:23-1064:16 (Sievert); 1201:10-1202:20, 1271:22-1272:12 (Ray); 1503:3-22 (Kapoor).
[87] TT 1202:21-1203:12 (Ray).
[88] TT 1209:23-1210:10 (Ray).
[89] TT 931:15-932:22 (Legere); 1093:22-1094:8 (Sievert).
[90] Ex. 5385 (FCC Order), at 12; Ex. 8180 (Ray Dem.), at 16.
[91] TT 934:13-935:8 (Legere); Ex. 5385 (FCC Order), at 12.
[92] TT 1432:9-1433:16, 1433:25-1434:8 (Kapoor).
[93] TT 1438:24-1439:2, 1469:8-21 (Kapoor).
[94] TT 1470:22-1480:6 (Kapoor).
[95] TT 1434:18-25, 1438:24-1439:2 (Kapoor).

25. None of these benefits would be realized without the merger.[96]

26. **DISH.** DISH has a substantial spectrum portfolio, including substantial low-band spectrum, making it uniquely positioned to enter the retail mobile wireless market.[97] DISH has more low-band spectrum than Sprint and more mid-band spectrum for downlink use than Verizon.[98] The divestiture provides DISH with more than 9 million subscribers and retail infrastructure.[99] It gives DISH the successful Boost brand and it allows DISH to assume existing contracts with master dealers with approximately 7,500 retail locations complementary to DISH's stores, to assume contracts with prepaid subscribers served by these brands, and to employ hundreds of Boost personnel.[100] DISH will also have the option to acquire all company-owned or operated retail locations New T-Mobile decommissions—a minimum of 400 stores.[101]

27. At the outset, DISH will provide services to an unlimited number of subscribers using the high-quality New T-Mobile network under a nationwide Master Network Services Agreement ("MNSA").[102] This agreement lasts at least seven years and has an unprecedentedly low wholesale rate that declines over time, on a much higher-quality network than Sprint's network.[103] DISH will thus have a low cost structure, on a better network, with which to price aggressively on a sustained basis and win customers.[104]

28. Meanwhile, DISH will build out a standalone mobile 5G broadband network using

[96] TT 930:23-931:14, 1014:18-1015:12 (Legere); 1032:18-20, 1093:13-16 (Sievert).
[97] TT 938:14-939:3 (Legere); 1137:15-1138:17 (Sievert); 1215:10-15 (Ray); 1575:7-1576:3 (Ergen); 1753:15-1754:6 (Cullen); Ex. 5386, at 22.
[98] TT 1214:12-1215:2, 1215:10-15 (Ray); 1137:15-1138:17 (Sievert).
[99] TT 116:6-7 (Rittgers); 1597:2-14 (Ergen); Ex. 1205, at 4.
[100] TT 146:13-20 (Rittgers); 1590:9-23; 1597:2-14 (Ergen); 1753:12-14 (Cullen); Ex. 1205, at 11; Ex. 5363 (DOJ PFJ), at 4.
[101] Ex. 5363 (DOJ PFJ), at 5, 16; Ex. 5385 (FCC Order), at 15.
[102] TT 129:14-131:1; 149:8-150:15; 152:22-153:3 (Rittgers); 1086:24-1087:11 (Sievert); Ex. 1205, at 13.
[103] TT 1086:24-1087:11 (Sievert); 1591:9-1593:11 (Ergen); Ex. 5363 (DOJ PFJ), at 19.
[104] TT 1086:24-1088:15 (Sievert); 1651:18-1653:3 (Ergen); Ex. 5386 (DOJ Response to Public Comments on PFJ), at 30-31.

its spectrum to cover at least 70% of the U.S. by 2023.[105] DISH was already in the process of deploying a narrowband "Internet of Things" network, with about 1,000 towers.[106] Network infrastructure companies, large U.S. technology companies, and cloud service providers have submitted proposals to DISH for 5G network equipment.[107] DISH has an extensive team of experienced engineers and business people working on its retail mobile wireless business.[108] DISH plans to deploy 50,000 cell sites by 2025.[109] It has identified over 32,000 towers on which it could quickly deploy its equipment and has master agreements with the owners of those towers.[110] DISH also will have available all of the cell sites that New T-Mobile decommissions (around 35,000 sites).[111]

29. DISH's entry, through the deployment of its unused spectrum, will further increase the amount of wireless capacity in the market, *in addition to* that which will result from combining Sprint and T-Mobile.[112] The MNSA will give DISH flexibility to focus and prioritize its network buildout.[113] With no legacy technologies to support, DISH's network costs will be comparatively low.[114] From day one, DISH will have the incentive to attract customers with low prices anticipating the "owner economics" it will have with its network.[115]

30. If DISH does not honor its commitments to the FCC and DOJ to enter the retail wireless market and build its 5G network, it would suffer significant fines, lose billions of dollars

[105] TT 1614:17-1615:15 (Ergen); Ex. 5385 (FCC Order), at 163; Ex. 7202, at 3-4.
[106] TT 1580:1-8 (Ergen).
[107] TT 1756:22-1758:2 (Cullen).
[108] TT 1576:24-1578:16 (Ergen); 1750:22-1751:18 (Cullen).
[109] Ex. 7199 (DISH Business Plan), at 17.
[110] TT 1755:24-1756:6 (Cullen).
[111] TT 930:18-25 (Legere); 1168:24-1169:15 (Ray); Ex. 5363 (DOJ PFJ), at 13.
[112] TT 1137:15-1138:17 (Sievert); Ex. 5386 (DOJ Response to Public Comments on PFJ), at 28-29.
[113] TT 1595:23-1596:9 (Ergen); 363:4-365:4 (Langheim); Ex. 5386, at 25-26.
[114] TT 1086:24-1088:15 (Sievert); 1620:21-1623:5 (Ergen); 1761:20-1762:10 (Cullen); Ex. 5386, at 28.
[115] TT 1611:10-1612:21 (Ergen).

of spectrum,[116] and could be held in contempt of court.[117] And, penalties for noncompliance aside, DISH has a strong profit incentive to build the 5G network it has committed to build.[118]

B. Without the Merger, the Parties Will Be Competitively Constrained and Consumers will Suffer as a Result

31. **Standalone T-Mobile.** In contrast to the transformative network enabled by the merger, standalone T-Mobile would need to make increasingly expensive network investments to increase capacity.[119] T-Mobile will face the prospect of raising prices to finance this investment, reducing quality, or some combination.[120] Without the merger, customers would suffer as T-Mobile will be handicapped in its ability to "continue to grow and win customers."[121]

32. The looming capacity crunch at T-Mobile and its likely adverse effects on competition are apparent, and have been for some time. In 2015, AT&T concluded that T-Mobile would have "significant underutilized capacity" and would "price aggressively and gain share until ~2020" but, after that (absent the merger), "the industry [would] return[] to relatively symmetric capacity utilization," and less aggressive pricing.[122]

33. Plaintiffs' experts conducted "sensitivities" as to theoretical alternative strategies that T-Mobile might follow to acquire new capacity, but offered no opinions regarding whether T-Mobile would, or feasibly could, actually pursue those strategies.[123] Primarily, those experts suggested T-Mobile might acquire new spectrum, but the FCC concluded that it "generally agree[s] with [T-Mobile and Sprint] that commenters have not identified forthcoming spectrum

[116] Ex. 5363 (DOJ PFJ), at 12; Ex. 5385 (FCC Order), at 6, 166-68; Ex. 5386 (DOJ Response to Public Comments on PFJ), at 4, 26.
[117] Ex. 5363 (DOJ PFJ), at 34-35.
[118] TT 1565:9-13, 1730:1-1731:10 (Ergen).
[119] TT 1545:25-1546:12 (Kapoor); Ex. 5312, at 7; Ex. 5219, at 13.
[120] TT 922:4-923:6 (Legere); 1228:11-25 (Ray); 1842:25-1844:11, 1844:15-1845:21 (Katz); Ex. 5375, at 20.
[121] TT 918:4-923:6 (Legere); 239:25-241:6 (Höttges).
[122] Ex. 7000, at 4.
[123] TT 2126:18-21 (Kolodzy); 2228:12-15 (Scott Morton); *see also* TT 2231:1-2233:6, 2233:17-2235:7, 2235:8-2236:16 (Scott Morton).

auctions or other sources that could enable the standalone companies to acquire the equivalent to what they each would gain through the proposed transaction, or on a similar timeframe."[124] Similarly, AT&T has observed that "potential new . . . spectrum does not change this dynamic" of loss of capacity leading to less aggressive pricing.[125] T-Mobile's primary need is mid-band spectrum, and such spectrum is "very hard to come by in the U.S."[126] The only mid-band spectrum with a scheduled auction is CBRS,[127] which is "experimental" and "plagued with challenges," including that it is available only when the Department of Defense is not using it.[128] Its power limitations make it unable "to provide broad coverage" and "expensive to deploy."[129] Plaintiffs' engineering expert did not attempt to quantify the impact of these limitations.[130] The only other foreseeable FCC auction is for "C-band" spectrum, but the timing and outcome of any auction is speculative.[131] C-band is also higher frequency than Sprint's mid-band spectrum and therefore would require many more cell sites, and using C-band spectrum would also require new phones for all users and new radios, which presently do not even exist.[132] Likewise, very little spectrum has historically been available on the secondary market, and secondary spectrum transactions are becoming less frequent as industry-wide capacity needs have increased.[133]

34. Plaintiffs' engineering expert conceded it is speculative that T-Mobile would acquire any spectrum.[134] T-Mobile would need to outbid Verizon and AT&T, among others, both of which have significantly greater financial resources than T-Mobile and face the same need for

[124] Ex. 5385, at 114.
[125] Ex. 7000, at 5, 17.
[126] TT 1152:22-1155:3 (Ray); Ex. 5385 (FCC Order), at 114.
[127] TT 2133:18-24 (Kolodzy).
[128] TT 1223:8-1225:2 (Ray).
[129] TT 1223:8-1225:2 (Ray); 2130:7-2131:6 (Kolodzy); Ex. 5219, at 13.
[130] TT 2132:9-20 (Kolodzy).
[131] TT 1219:2-1221:7 (Ray); 2134:3-5 (Kolodzy).
[132] TT 1221:8-1222:6 (Ray); 2101:15-2102:8 (Kolodzy).
[133] TT 1225:3-12 (Ray).
[134] TT 2133:6-10, 2134:3-15, 2135:12-18 (Kolodzy).

spectrum to add capacity to their own networks.[135] Even if T-Mobile could acquire more spectrum, that spectrum alone would not come close to enabling consumer benefits comparable to the merger with Sprint.[136]

35. Nor would it be economically feasible for T-Mobile to build enough new cell sites (including small cells) to "densify" its network as an alternative to the merger, because building the hundreds of thousands of cells required would cost hundreds of billions of dollars.[137]

36. Standalone T-Mobile would face additional challenges with the transition to 5G because it will still need to serve its current 4G/LTE subscribers. T-Mobile will need to repurpose 4G/LTE spectrum to 5G while it is in use, which will strain its limited spectrum.[138] Although Plaintiffs' experts hypothesized that T-Mobile might use dynamic spectrum sharing someday, that technology uses rather than expands capacity, is unproven, and "in no manner or form" would address T-Mobile's capacity limitations.[139] Plaintiffs' engineering expert conceded the technology has substantial inefficiencies and that these were not reflected in his modeling.[140]

37. **Standalone Sprint.** Sprint will be a significantly diminished competitor without the merger.[141] Sprint has been losing Sprint-branded phone subscribers over the past several years.[142] Sprint's post-paid churn is higher than it has ever been[143] and is double that of AT&T, Verizon, and T-Mobile. Its churn among post-paid phone subscribers in the third quarter of 2019 was 1.91% and is expected to be even greater in the fourth quarter of 2019.[144] At that rate, Sprint

[135] TT 1219:24-1221:7 (Ray); 227:15-228:18 (Höttges).
[136] TT 1137:15-1138:17 (Sievert).
[137] TT 1217:23-1218:12, 1168:5-23 (Ray).
[138] TT 1180:6-23 (Ray).
[139] TT 1216:13-1217:12 (Ray); 1499:10-22 (Kapoor); Bluhm Dep. at 72:14-73:6.
[140] TT 2140:18–2141:3 (Kolodzy).
[141] TT 1832:8-1833:13 (Katz).
[142] TT 103:1-16 (Solé); Ex. 6068, at 3.
[143] TT 103:17-23 (Solé).
[144] TT 1383:2-1383:21 (Combes).

would have to replace almost a quarter of its subscribers in one year just to stay even.[145]

38. Sprint's decline is mainly due to its poor network quality, particularly its poor geographic coverage, poor in-building penetration, and inconsistency within its footprint.[146] Sprint's network deficiencies are driven by a lack of low-band spectrum, poor technological decisions, and a history of underinvestment in its network.[147] There is no realistic way, aside from the merger, to break the "vicious cycle" of poor network quality leading to subscriber losses and reduced network investment, leading to even worse network quality.[148] Sprint cannot obtain low-band spectrum through spectrum auctions, as none are foreseen.[149] Sprint has largely abandoned its previous unsuccessful strategy of offering aggressive "step-up" price promotions while it tried to improve its network.[150] Sprint is increasing prices, and without the merger it will continue to do so and will retreat from nationwide service, becoming at most a regional MNO.[151] In sum, Sprint's competitive significance will continue to diminish.

39. **DISH without the merger.** Absent the merger and attendant remedies, consumers would be deprived of the benefits of the capacity and competition DISH would bring into the market, as DISH otherwise has no plan to enter the retail mobile wireless market and would likely sell enterprise services rather than consumer services.[152]

[145] TT 1383:22-1384:5 (Combes).
[146] TT 129:6-131:1, 146:21-148:12 (Rittgers); 499:7-22, 506:21-508:3, 510:18-511:2 (Bluhm); Ex. 6066, at 19-20.
[147] TT 510:6-513:15 (Bluhm); 1280:10-22, 1284:23-1285:11, 1288:12-1289:13, 1373:13-1374:8, 1379:21-1381:18 (Combes); 1278:4-20, 1283:16-1284:22, 1362:11-1364:10 (Claure); Ex. 1202, at 9, 10; Ex. 1205, at 13; Ex. 6003, at 2; Ex. 6021, 4; Ex. 6034, at 11-13, 18; Ex. 6066, at 33-37; Ex. 6068, at 2, 8; Saw Dep. 72:20-73:21.
[148] TT 532:12-533:2 (Bluhm); 1300:4-1301:14 (Claure); 1395:11-23, 1397:19-1399:25, 1400:9-1402:11 (Combes); Ex. 6068, at 8; Ex. 6091, at 14.
[149] TT 515:1-5 (Bluhm); 2133:25-2134:5 (Kolodzy).
[150] TT 1285:12-1287:19 (Claure); 1397:4-18, 1426:3-6 (Combes); 91:9-93:5 (Sole); Ex. 6066, at 23.
[151] TT 1300:4-1301:14, 1312:18-1313:14 (Claure).
[152] TT 1762:21-1763:13 (Cullen); *see also* 1358:1-1359:13 (Claure).

III. RELEVANT MARKETS AND CONCENTRATION

A. The Relevant Product Market Includes MNOs and MVNOs

40. The relevant product market is retail mobile wireless services.[153] As MVNOs and cable companies provide consumers the same types of services as MNOs, MVNOs are market participants when assessing market shares.[154] MVNOs and MNOs all compete.[155] As noted, TracFone has more than 22 million subscribers.[156] Comcast, Charter, and Altice are successful recent entrants.[157] Comcast has attracted about 2 million subscribers in about two years,[158] more retail subscribers than AT&T and Verizon gained, combined, over the same period.[159]

41. MVNOs are independent competitors. MVNOs control their prices and customer service and can control network quality through the terms of their arrangements with the MNOs.[160] MVNOs' pricing can be lower than MNOs' pricing. For example, Altice offers a $30 per-line, per-month plan that includes "unlimited everything, including data,"[161] an offer Altice considers a "disruptive value proposition."[162] Current Altice customers receive a further $10 per-month, per-line discount.[163] Not surprisingly, T-Mobile and the other MNOs now consider these entities to be their competitors, and vice versa.[164] MVNO costs have declined over time, and Plaintiffs' economic expert, Dr. Carl Shapiro, conceded that MVNOs are "acting very

[153] TT 627:15-18 (Shapiro).
[154] TT 812:21-813:4, 858:3-859:19 (Schwartz); 199:16-200:1 (Höttges); 287:8-16 (Langheim); 1071:1-1072:15 (Sievert); 1798:18-1799:4, 1801:2-1802:23 (Katz); 140:19-141:4 (Rittgers).
[155] TT 859:12-859:19, 861:25-862:3 (Schwartz); 573:18-24, 576:1-7 (Boubazine); 1081:13-14 (Sievert).
[156] TT 1080:9-12, 1080:22-24 (Sievert).
[157] TT 812:21-813:4 (Schwartz); 573:22-24, 575:15-17 (Boubazine); 1071:1-1074:1, 1079:4-16 (Sievert); Ex. 5334, at 4; Ex. 7070, at 1; ; Ex. 6028, at 2.
[158] TT 812:25-813:1, 816:16-18 (Schwartz); 140:19-141:4 (Rittgers); *see* Ex. 5303, at 18.
[159] TT 812:25-913:1, 816:16:18 (Schwartz); 982:9-22 (Legere); 1071:1-1072:15 (Sievert).
[160] TT 863:5-13 (Schwartz); 1801:24-1802:12 (Katz).
[161] TT 587:23-588:12 (Boubazine); Ex. 7070, at 1.
[162] TT 588:13-14 (Boubazine).
[163] TT 588:8-11 (Boubazine); Ex. 7070, at 1.
[164] TT 1079:22-1080:21, 1081:13-1082:14 (Sievert); 575-18-577:2, 578:11-579:8 (Boubazine); 1799:1-4, 1803:16-1804:8 (Katz); 287:8-16 (Langheim); 859:4-19, 861:25-862:3 (Schwartz); *see* Ex. 5120, at 23-25; Ex. 5197, at 3; Ex. 5495 at 1.

competitively" today.[165]

42. MVNOs will benefit from the high-quality networks with substantial excess capacity of New T-Mobile and DISH through lower wholesale prices and higher quality.[166]

B. The Relevant Geographic Market is the United States, Not CMAs

43. The relevant geographic market is the United States.[167] Pricing for wireless plans is national and based on national competition.[168] It is not practical to price locally given that most advertising is national and the ease of online shopping.[169] Pricing and network quality do not vary geographically based on the number of providers, market concentration, or market shares.[170] Efforts to market locally "never work" and are a "complete and total waste of time,"[171] because there "is a consumer marketplace for national pricing, consumers buy national pricing, consumers are programmed to see offers on national media, they're programmed to see offers on . . . websites. The country is more mobile than it's ever been before, customers are traveling from market to market, from area to area, and they don't have any tolerance for inconsistent pricing in this particular industry."[172]

44. Furthermore, to meet customer expectations, network quality must be substantially consistent across the United States.[173] T-Mobile makes network decisions at a national level and has a national performance standard.[174] Local competitive conditions do not influence T-

[165] TT 544:5-12 (Boubazine); 770:3-10 (Shapiro).
[166] *See, e.g.*, Ex. 5294 (TracFone comments to FCC), at 2 ("TracFone expects that the strong 5G network to be built by the New T-Mobile, with the additional coverage, speed and capacity can only improve the wholesale market for MVNOs"); Ex. 5385 (FCC Order), at 130 ("New T-Mobile's vastly increased network capacity will likely give it incentives to offer appealing terms and reasonable prices to wholesale service customers so as to put that capacity to productive use by carrying as much revenue-generating traffic as it can").
[167] TT 624:10-14 (Shapiro); 1797:21-25 (Katz).
[168] TT 991:2-9 (Legere); 1085:9-11 (Sievert); 393:24-394:15, 395:25-396:7 (Hayes); 90:18-91:1, 97:6-97:19 (Sole); 143:22-144:10 (Rittgers); 415:14-416:5 (Miglionico).
[169] TT 1085:12-1086:15 (Sievert); 395:25-396:7 (Hayes); 143:22-144:7 (Rittgers).
[170] TT 795:12-21 (Shapiro); 1789:21-1792:8 (Katz).
[171] Freier Dep. 92:7-19; TT 394:23-395:2 (Hayes).
[172] Freier Dep. 244:14-245:6.
[173] TT 505:22-506:9 (Bluhm).
[174] TT 1226:12-25 (Ray); 1467:15-25 (Kapoor).

Mobile's choice of areas to upgrade its network.[175]

45. Cellular Market Areas ("CMAs") are not relevant geographic markets.[176] Differences in shares in CMAs (or in shares using any other measure of geography) do not provide useful information for purposes of assessing competition.[177] There is no significant correlation between pricing, quality, and other factors, such as retail store presence, with different CMA-level concentration levels.[178] Two marketing professionals that Plaintiffs called in their case were not even familiar with the term "CMA."[179]

C. The Post-Merger Herfindahl-Hirschman Index Is Below 2,500

46. Plaintiffs contend that shares of subscribers are the appropriate measure of market share for HHI purposes.[180] When subscribers are properly assigned to their retail provider, whether it be an MNO, MVNO, or cable company, the combined nationwide post-merger HHI based on subscriber shares in November 2018 is 2,301 and the change in HHI is 335.[181]

IV. ECONOMIC EVIDENCE CONFIRMS THE MERGER BENEFITS CONSUMERS

47. The merger will result in a network with significantly more capacity, and significantly lower marginal costs and higher quality that consumers value, than the two parties' standalone networks,[182] and will facilitate DISH's entry as a disruptive competitor.[183]

48. Plaintiffs' economic expert, Dr. Shapiro, proposed two potential theories of competitive harm: unilateral effects and coordinated effects.[184] Although he conceded that

[175] TT 1227:1-18 (Ray).
[176] TT 1788:15-1789:12 (Katz).
[177] TT 1789:21-1790:18, 1791:12-22 (Katz).
[178] TT 1790:19-1792:8, 1794:19-1797:20 (Katz); Ex. 8181 (Katz Dem.), at 6.
[179] TT 144:15-16 (Rittgers); 415:5-6 (Miglionico).
[180] TT 647:4-23 (Shapiro).
[181] TT 1805:14-17 (Katz); Ex. 8181 (Katz Dem.), at 13.
[182] TT 1784:16-1785:9 (Katz); Ex. 8181, at 2 (Katz Dem.).
[183] TT 1784:16-1785:9 (Katz); TT 1561:17-1565:13 (Ergen); 116:2-117:22, 129:6-131:1, 145:5-7, 145:23-146:20, 148:21-150:15, 150:21-151:10, 152:22-153:3 (Rittgers); 1215:19-1216:4 (Ray); Ex. 5386, at 10-16.
[184] TT 616:4-617:4 (Shapiro); 622:1-15 (Shapiro).

"[q]uality is really important," Dr. Shapiro did not "offer[] specific opinions about how [quality] will be affected."[185] Rather, the analysis for both his theories focused only on nominal prices, because, in his words, "[t]hat is what the tools we have do."[186] In particular, Dr. Shapiro explained that his concern was "not that [the merging parties] will raise price, it's that they will pull back from some of the price cuts or … quality improvements at the same price."[187] This opinion conflicts with industry data indicating that prices are flattening and may begin to rise.[188]

49. Dr. Shapiro also agreed that "efficiencies . . . would generally [cause] the firm to compete more aggressively . . . includ[ing through] lower prices . . . improved quality . . . enhanced service . . . and new products entering the market" and that "an appropriate antitrust analysis of mergers should incorporate an analysis of cognizable efficiencies."[189] Nonetheless, Dr. Shapiro assumed that no cognizable efficiencies from the transaction would be credited.[190]

A. Adverse Unilateral Effects are Unlikely

50. The merger is unlikely to have adverse unilateral effects, *i.e.*, increased quality-adjusted prices as a result of the loss of competition between T-Mobile and Sprint. Dr. Shapiro attempted to quantify the likelihood of unilateral effects using "upward pricing pressure."[191] Using this formula, all mergers among competitors with positive margins will exhibit some upward pricing pressure, but this alone does not show a merger is anticompetitive.[192] The analysis only measures market conditions at the time of the merger; it is not a projection.[193]

51. The theoretical upward pricing pressure analysis fails to consider many factors that

[185] TT 691:22-692:16 (Shapiro).
[186] TT 692:3-6 (Shapiro).
[187] TT 808:13-17 (Shapiro).
[188] TT 1863:21-1864:25 (Katz); 772:3-773:12 (Shapiro).
[189] TT 730:3–20 (Shapiro).
[190] TT 706:11-16 (Shapiro).
[191] TT 698:15-699:4 (Shapiro).
[192] TT 738:8-739:3 (Shapiro).
[193] TT 737:12-22 (Shapiro).

affect a real-world firm's prices, such as potential reputational damage, changes in business strategy or business model by competitors,[194] or repositioning of competitors.[195] These are important here, both because T-Mobile's Un-carrier brand is closely associated with offering more value and lower prices,[196] and because repositioning is common, as Verizon's new prepaid offering shows.[197] The failure of Dr. Shapiro's theoretical framework to capture real-world market forces is demonstrated starkly by his model's illogical prediction that DISH would increase the price for the acquired Boost brand well above TracFone's price, despite DISH's costs being considerably lower than TracFone's.[198] These limitations and unrealistic predictions undermine Dr. Shapiro's opinion that the merger will result in adverse unilateral effects.[199]

52. In addition, efficiencies—such as lower marginal costs or higher quality—can offset any upward pricing pressure.[200] Using Dr. Shapiro's methodology, Defendants' economic expert, Dr. Michael Katz, actually analyzed this merger's efficiencies and found these would more than offset any upward pricing pressure and "generate tens of billions of dollars" passed on to consumers as benefits.[201] Moreover, modeling the acquisition of hypothetical new spectrum and the use of dynamic spectrum sharing did not reduce standalone T-Mobile's marginal costs.[202]

B. Coordinated Interaction is Unlikely

53. The merger is unlikely to facilitate coordinated interaction.[203] Prices are not uniform. They are, in the words of one of Plaintiffs' third-party witnesses, "all over the place."[204] [redacted]

[194] TT 739:6-742:13 (Shapiro); 1890:6-1891:15 (Katz).
[195] TT 739:16-740:2 (Shapiro).
[196] TT 918:4-919:5 (Legere); 1088:21-1090:10 (Sievert).
[197] TT 740:3-14 (Shapiro).
[198] TT 1891:25-193:10 (Katz).
[199] TT 1891:16-24 (Katz).
[200] TT 743:2-23 (Shapiro).
[201] TT 1887:15-19, 1893:19-1899:14, 1901:6-25, 1902:15-1905:6, (Katz); Ex. 8181 (Katz Dem.), at 69.
[202] TT 1876:5-1877:11 (Katz).
[203] Coordinated interaction on a CMA level would be even more unlikely, given the impossibility of coordinating at that level, further demonstrating the impropriety of CMA-based and other arbitrary geographic "markets."
[204] TT 852:15-853:5 (Schwartz).

[redacted],[205] suggesting the merger will not lead to coordination. Moreover, Dr. Shapiro noted that, under his coordinated effects analysis, competitors should "welcome" the merger.[206] They do not. AT&T has been working with third parties to thwart the merger.[207] And [redacted][208]

54. DISH's immediate entry into the market, initially using the low-cost MNSA to service its subscribers and over time with a nationwide network of its own, along with cable companies and MVNOs, would make coordination difficult and unlikely.[209]

55. Significant post-transaction asymmetry in capacity utilization also makes coordinated interaction unlikely.[210] As Verizon noted [redacted][211] Firms with low marginal costs and significant available capacity have no incentive to coordinate. Rather, they maximize profits by competing aggressively to obtain customers to fill that capacity.[212]

56. Prices are also less transparent than Plaintiffs suggest. Mobile wireless services are often bundled with other services, making pricing for the mobile wireless component opaque by definition and thus difficult to coordinate on.[213] For example, AT&T and Verizon (and the cable companies) bundle mobile service with Internet, television, and wired phone service.[214] AT&T is

[205] Ex. 8089, at 1.
[206] TT 690:19-691:1 (Shapiro).
[207] Exs. 7014, 7015 (AT&T email with CWA and attachment).
[208] Ex. 7057, at 3; Ex. 5385 (FCC Order), at 84.
[209] TT 1815:5-1816:12 (Katz); 2314:18-21 (Shapiro); 1561:17-1562:19 (Ergen); *see* Ex. 7000, at 4.
[210] TT 760:9-761:6 (Shapiro).
[211] Ex. 7057 ([redacted]), at 18.
[212] TT 1821:9-1823:17 (Katz).
[213] TT 1082:15-1083:13 (Sievert); 1825:1-1826:22 (Katz) 844:10-18 (Schwartz); 1603:25-1604:16 (Ergen).
[214] TT 1082:15-1083:13 (Sievert); 844:10-18 (Schwartz).

also a content provider, incentivizing it to bundle its own content (such as HBO) with wireless.[215]

57. Finally, because customers value network quality as well as price, successful coordination requires agreement on both price (including the value of bundled services) and network quality.[216] Coordination on network quality would be nearly impossible. Improving network quality requires billions of dollars in investments over many years.[217] Successful coordination requires more than general knowledge about competitors' network strategies; it requires granular information about competitors' investments and capacity utilization that MNOs lack.[218] An MNO relying on coordinated pricing would be at risk of being outmaneuvered in network investment that its rivals make without it knowing, ultimately finding itself at a serious competitive disadvantage for an extended period of time as it struggles to catch up.[219] These pressures are reflected in [redacted][220] The lumpy investments needed for the upcoming 5G transition will also make coordination difficult due to first-mover advantage[221] and long lead times involved in network investments.[222]

[PROPOSED] CONCLUSIONS OF LAW

58. It is Plaintiffs' burden to prove that the merger is "*likely* to lessen competition *substantially*." *United States v. Baker Hughes, Inc.*, 908 F.2d 981, 985 (D.C. Cir. 1990) (emphasis added). Assessing this question requires the Court to compare the future state of competition without the merger to the future state of competition with the merger. *See United States v. Marine Bancorp.*, 418 U.S. 602, 623-26 (1974); *United States v. Gen. Dynamics Corp.*,

[215] TT 1816:13-1817:7 (Katz); 1824:22-1827:16 (Katz).
[216] TT 1821:9-1822:14 (Katz).
[217] TT 1084:17-18 (Sievert); TT 1144:13-14 (Ray); 1469:23-1470:3 (Kapoor).
[218] TT 1084:6-16 (Sievert); 1817:13-1821:8 (Katz).
[219] TT 1817:13-1821:8 (Katz); 1829:14-1830:11 (Katz).
[220] Ex. 7057 ([redacted]), at 22.
[221] Ex. 7041.
[222] TT 1144:13-14 (Ray); TT 1817:13-1821:8 (Katz).

415 U.S. 486, 498-504 (1974); *see also* U.S. Dep't of Justice & Fed'l Trade Comm'n, *Horizontal Merger Guidelines* § 1 (2010) ("*HMG*"). "[P]laintiffs have the burden on every element of their Section 7 challenge, and a failure of proof in any respect will mean that the transaction should not be enjoined." *FTC v. Arch Coal*, 329 F. Supp. 2d 109, 116 (D.D.C. 2004).

I. PLAINTIFFS HAVE NOT ESTABLISHED A PRESUMPTION OF ILLEGALITY

59. Where the FCC and DOJ have conducted thorough investigations and concluded a transaction would be procompetitive,[223] the logic underlying the presumption does not hold, and finding one would be unwarranted and unprecedented.

60. In the absence of FCC and DOJ findings, Plaintiffs establish a presumption by proving that the merger "would produce a firm controlling an undue share of the relevant market and would result in a significant increase in the concentration of the market." *Arch Coal*, 329 F. Supp. 2d at 116. Plaintiffs must define the relevant market with sufficient specificity so the Court can determine which sales are relevant to calculating market shares. *See Gen. Dynamics*, 415 U.S. at 494-504.

61. A relevant market has product and geographic dimensions. The relevant product market is retail mobile wireless communications. All participants who earn revenue in the market must be included. *HMG*, §§ 5.1, 5.2. As MVNOs and cable operators earn substantial revenues in the relevant market, control their own pricing, and compete aggressively, their subscribers should be attributed to them when calculating market share.[224] *See id.* The relevant geographic market is "the area in which the goods or services are marketed to a significant degree by the acquired firm." *Marine Bancorp.*, 418 U.S. at 621. The parties agree the United States is a relevant geographic market.[225]

[223] FOF ¶ 3.
[224] FOF ¶¶ 40-41
[225] AC ¶¶ 39-40; TT 621:12-14 (Shapiro).

62. Within the national market and properly assigning MVNO and cable company subscribers, the post-merger HHI is below 2,500,[226] the level that the DOJ would consider presumptively anticompetitive in its investigation process. *HMG*, § 5.3.

63. Defining geographic markets based on CMAs or other arbitrary local areas is not appropriate here. Local variations in service quality are relevant to market definition only if those variations result from strategic decisions based on local competitive conditions, which is not the case here.[227] *See, e.g.*, *United States v. Grinnell Corp.*, 384 U.S. 563, 575-76 (1966) (affirming national geographic market despite local nature of service, due to "national planning" and a "national schedule of prices, rates, and terms"). There is no evidence in the record that CMAs are relevant to competitive conditions. An analysis that would find a single city block, a zip code, or any other arbitrary geographical area from a city block to the entire United States to be a relevant geographic market—as Dr. Shapiro conceded his analysis would find[228]—is not creditable. *See Caruso Mgmt. Co. Ltd. v. Int'l Council of Shopping Ctrs.*, 403 F. Supp. 3d 191, 201-02 (S.D.N.Y. 2019) (antitrust plaintiff must establish "precise geographic boundaries of effective competition") (quoting *Concord Assocs., L.P. v. Entm't Properties Tr.*, 817 F.3d 46, 52-53 (2d Cir. 2016)). Here, virtually all strategic decision-making concerning prices and network quality are made at a national level,[229] and Plaintiffs presented no specific evidence about how the merger would affect competition at a local level. Accordingly, there is no sound basis to assess the effect of the merger in local geographic markets.

II. THE MERGER IS UNLIKELY TO SUBSTANTIALLY LESSEN COMPETITION

64. Courts compare the world with the merger to the world without the merger using

[226] FOF ¶ 46.
[227] FOF ¶¶ 43-45.
[228] TT 779:2-780:19 (Shapiro); 1788:15-1789:8 (Katz).
[229] FOF ¶¶ 43-45.

several factors, including: the "prospect of efficiencies," *Baker Hughes*, 908 F.2d at 985-86; "excess capacity," *id*. at 985; a "company's weak competitive stature," *id*. at 984; "changing market conditions," *id.* at 985-86; and possible entry by a new competitor, *see id*. at 984-87. These factors are not considered individually and in isolation; rather, "[t]he Supreme Court has adopted a totality-of-the-circumstances approach" for claims under Section 7. *Baker Hughes*, 908 F.2d at 984. Thus, the Court must engage in a "comprehensive inquiry into the future competitive conditions in a given market." *United States v. AT&T Inc.*, 310 F. Supp. 3d 161, 190 (D.D.C. 2018); *see also Gen. Dynamics*, 415 U.S. at 498. The core legal and factual issue is thus whether the transaction as currently constructed will reduce competition.

A. The Transaction Will Result in Lower Prices and Higher-Quality Wireless Services for Consumers

65. The transaction will result in consumers paying lower prices for higher-quality network services because the New T-Mobile network will have substantially more capacity than the combined capacity of the networks that either company could deploy on standalone basis.[230] This will give New T-Mobile the ability and incentive to continue its disruptive Un-carrier strategy to the benefit of its own customers and to the customers of its competitors.[231]

66. Evidence of efficiencies is "relevant to the competitive effects analysis of the market required to determine whether the proposed transaction will substantially lessen competition." *Arch Coal*, 329 F. Supp. 2d at 151. Courts recognize that capacity increases and cost savings can show that a merger is procompetitive. *United States v. Country Lake Foods, Inc.*, 754 F. Supp. 669, 674, 680 (D. Minn. 1990) (merger unlikely to lessen competition where it would "enable [the new company] to increase its capacity substantially" and "result in lower plant and transportation costs and other savings," enabling the new company "to become a lower-cost

[230] FOF ¶¶ 18-19.
[231] FOF ¶¶ 18-19.

producer capable of effective competition with the market leader").

67. This merger will enable New T-Mobile to be a lower-cost competitor with a higher-quality network, strengthening competition.[232] *See, e.g.*, *United States v. M.P.M., Inc.*, 397 F. Supp. 78, 93 (D. Colo. 1975) (permitting a merger between third and fourth largest firms where the "service offered" by the new firm "was superior to that offered by either of the previously independent companies alone"). The capacity increases and cost savings from this merger are verifiable based on the ample evidence discussed herein, as fortified by FCC and DOJ oversight and enforcement.[233] *United States v. Long Island Jewish Med. Ctr.*, 983 F. Supp. 121, 149 (E.D.N.Y. 1997) (efficiencies verified when part of a legally-binding commitment to New York Attorney General). Any contention that the merger benefits could be achieved through other means is "speculative," as Dr. Kolodzy conceded in his testimony.[234] The "hypothetical possibility" of a different transaction "proves nothing." *Gen. Dynamics*, 415 U.S. at 509-10.

B. Sprint Is Losing Competitive Significance

68. "In responding to [the government's] statistical showing of concentration," it is appropriate to consider a merging party's "weakness as a competitor." *United States v. Int'l Harvester Co.*, 564 F.2d 769, 773 (7th Cir. 1977); *see also Arch Coal*, 329 F. Supp. 2d at 157 ("[w]eak competitive status remains relevant"). Sprint's future competitive position is "considerably weaker than its past [] ability," and, absent the transaction, Sprint's competitive position would decline.[235] *See Gen. Dynamics*, 415 U.S. at 501-04.

C. DISH Will Immediately Be a Disruptive New Entrant

69. Not only is entry relevant to "appraising whether a merger will substantially lessen

[232] FOF ¶¶ 3, 15-20, 23, 25, 47-49.
[233] *See, e.g.*, FOF ¶¶ 15-25, 47, 52.
[234] TT 2134:3-14, 2137:3-7 (Kolodzy).
[235] FOF ¶¶ 3738.

competition," "it may override all other factors." *United States v. Waste Mgmt. Inc.*, 743 F.2d 976, 982-83 (2d Cir. 1984). DISH's entry is likely to deter or counteract any competitive effects of concern that might arise, and to do so timely.[236] *See id.*

70. The size of the Boost business acquired by DISH relative to Sprint is not dispositive. "Entry by one or more firms operating at a smaller scale may be sufficient if such firms are not at a significant disadvantage." *HMG*, § 9.3. DISH has substantial advantages as a new entrant because, for example, it has unused spectrum and will be able to deploy a 5G network without the burden of legacy costs of older technologies, *e.g.*, 2G, 3G, and LTE.[237] In any event, DISH's entry must be evaluated under the totality of the circumstances, not in isolation. *See Baker Hughes*, 908 F.2d at 988 (rejecting an effort to "improperly narrow the section 7 inquiry" by "channeling what should be an overall analysis of competitiveness into a determination of whether a defendant has shown particular facts").

D. The Transaction Is Not Likely to Produce Adverse Unilateral Effects or Coordinated Interaction

71. Plaintiffs have failed to prove that the transaction is likely to result in adverse unilateral effects or coordinated interaction. Simply incanting "4 to 3" (even as DISH's entry alone makes "3" inaccurate) neither substitutes for proof of a Clayton Act violation, nor has real economic meaning—Dr. Shapiro agreed, for example, that not all "4 to 3" mergers are anticompetitive.[238]

72. Because of the low marginal cost and high quality of the New T-Mobile network driven by the increase in network capacity,[239] the merger will not lead to higher prices or lower quality due to unilateral effects.

[236] FOF ¶¶ 2, 26-30, 47, 54.
[237] FOF ¶¶ 26, 29.
[238] TT 732:17-22 (Shapiro).
[239] FOF ¶¶ 15-16, 19-24, 47.

73. Nor will the merger increase the risk of adverse coordinated effects. To assess the likelihood of post-merger coordination, the Court looks to "market conditions, on the whole" to determine "whether would-be coordinators could wield anticompetitive power by recognizing their shared economic interests and their interdependence with respect to price and output decisions." *AT&T*, 310 F. Supp. 3d at 246 (quotation marks omitted).

74. That is unlikely here. Prices and network investment decisions are not transparent.[240] *See Arch Coal*, 329 F. Supp. 2d at 140-41 (coordination unlikely because of opaque pricing). DISH is entering with strong incentives to expand.[241] *See, e.g.*, *Waste Mgmt.*, 743 F.2d at 982-83. There are "key differences" among competitors, including T-Mobile's Un-carrier brand identity and the asymmetric capacity the merger creates.[242] *See AT&T*, 310 F. Supp. 3d at 247. Sprint's competitive weakness makes it unlikely to be a "maverick."[243] *See Arch Coal*, 329 F. Supp. 2d at 147 (acquired firm not a maverick as its "weaknesses . . . make it unlikely that [it] will become any more competitive in the marketplace than it is right now").

75. That AT&T, Altice, and Comcast worked against the merger in the regulatory process—and Altice and Comcast even testified against the merger at trial[244]—further suggests that the merger would lead to more competition, not less. *See, e.g.*, *AT&T*, 310 F. Supp. 3d at 214 ("[T]hird-party competitor witnesses have an incentive to oppose a merger that would allow [their competitor] to increase innovation while lowering costs.").

III. THE MERGER SHOULD NOT BE PERMANENTLY ENJOINED

76. States act as private parties when they seek injunctive relief under the Clayton Act. *State of New York v. Kraft Gen. Foods, Inc.*, 862 F. Supp. 1030, 1033 (S.D.N.Y. 1993). An

[240] FOF ¶¶ 56-57.
[241] FOF ¶¶ 29-30, 47, 54.
[242] FOF ¶¶ 12, 51, 55.
[243] FOF ¶¶ 37-38.
[244] FOF ¶ 53 (AT&T opposition); TT 537:15-605:24 (Altice testimony); 812:5-874:17 (Comcast testimony).

injunction thus does not "automatically follow[] a determination" of a violation; Plaintiffs must show "the public interest would not be disserved by a permanent injunction." *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388, 391-93 (2006); *see also California v. Am. Stores*, 495 U.S. 271, 295-96 (1990) ("[T]hat a district court has the power to order divestiture in appropriate cases [brought by private plaintiffs] does not, of course, mean that such power should be exercised in every situation in which the [federal] Government would be entitled to such relief[.]"). The Court's public interest analysis is not limited to considering the effects of the merger on competition; rather, the Supreme Court "has consistently rejected invitations to replace traditional equitable considerations with a rule that an injunction automatically follows a determination" of a violation. *eBay*, 547 U.S. at 392-93. Public interest analysis goes beyond the merger's competitive effects. *See, e.g.*, *Consol. Gold Fields, PLC v. Anglo Am. Corp. of S. Africa Ltd.*, 713 F. Supp. 1457, 1463-64 (S.D.N.Y. 1989).

77. Enjoining the merger would not be in the public interest: It would deny consumers the benefits of New T-Mobile's network, the faster and more robust deployment of 5G, the entry of DISH, and enhanced rural services including in-home broadband.[245]

78. In that determination, the Court gives due regard to the decision of the FCC that allowing the merger to proceed is *in the public interest* and its reasons for so finding.[246] A uniform federal policy set by the FCC relating to spectrum deployment, broadband, and mobile wireless networks is itself in the public interest. *See FCC v. WNCN Listeners Guild*, 450 U.S. 582, 596 (1981) (holding that the FCC's "judgment regarding how the public interest is best served is entitled to substantial judicial deference").

[245] FOF ¶¶ 16-19, 21, 26-30.
[246] FOF ¶ 3. *See generally* Ex. 5385 (FCC Order).

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Respectfully submitted,

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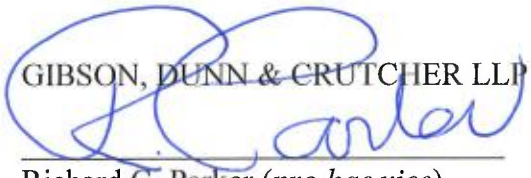

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