Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington D.C. 20554

In the Matter of	)	
The State of Mobile Wireless Competition	)	WT Docket No. 11-186

COMMENTS OF AT&T INC.

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December 5, 2011

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AT&T Inc. submits the following comments in response to the Public Notice ("*Sixteenth Report Notice*") released by the Wireless Telecommunications Bureau on November 3, 2011.[1]

INTRODUCTION AND SUMMARY

Just as a rose by any other name would smell as sweet, the intensely competitive characteristics of the wireless marketplace will continue bringing unprecedented benefits to consumers and the economy whether or not the Commission calls that marketplace "competitive." In each year's competition report, the Commission recites fact after fact confirming that the wireless industry is more competitive, dynamic, and fluid than virtually any other in the modern economy. Indeed, in Chairman Genachowski's words, "[i]t's hard to imagine an industry that's produced more game-changers than the wireless industry," now that "[r]obust networks and powerful devices are allowing us to do all kinds of things we could barely have imagined a few years ago."[2] Nonetheless, for the past two years, the Commission's

[1] Public Notice, *The State Of Mobile Wireless Competition*, WT Docket No. 11-186 (rel. Nov. 3, 2011).

[2] Chairman Julius Genachowski, Remarks at CTIA Wireless 2011, at 2, 4 (Mar. 22, 2011), http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-305309A1.pdf ("*Genachowski CTIA Remarks*").

wireless competition report has failed to use the term "competitive" to describe all this pro-consumer, "game-chang[ing]" rivalry.

The competitive facts, however, speak for themselves. *First*, the percentage of Americans who live in census blocks with five or more facilities-based wireless competitors has been rapidly increasing over the past several years, from 57 percent in 2007 to 90 percent in 2010.[3] These competitors include not only AT&T, Verizon, and Sprint, but upstarts like MetroPCS and Leap (Cricket) that have moved up-market from their traditional prepaid plans and are now steadily taking market share from their larger competitors by offering all-you-can-eat smartphone services with nationwide coverage. And quite apart from proliferation of facilities-based providers, mobile virtual network operators (MVNOs) also add substantial competition to the market, increasingly through partnerships with wholesale-oriented network providers. As discussed below, the Commission's customary rationales for excluding MVNOs from the competitive analysis grow more obsolete and less plausible each year.

Second, the effective prices of wireless services have been falling across the board for many years. For example, the average revenue per voice minute has fallen from 43 cents in 1995 to less than a nickel today.[4] Although the *rate* of that per-minute price decline may be slower now than it was ten years ago, that is to be expected: after years of dramatic increases, the total number of voice minutes has leveled off, as customers increasingly use alternative means of mobile communications such as email and over-the-top VoIP. Meanwhile, average industry revenue per text message fell even faster—by more than 70 percent between 2005 and 2009—

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[3] Fifteenth Report, *Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993*, 26 FCC Rcd 9664, 9705 ¶ 45 Table 6 (2011) ("*Fifteenth Report*").

[4] *Id.* at 9782-83 ¶ 191 Table 20.

from 3.7 cents to less than a penny.[5] And market analysts recognize that over-the-top messaging applications are quickly cannibalizing carrier revenues for SMS text services.

The effective price of *wireless broadband* usage, measured by average revenue per megabit, has plummeted most dramatically of all, by nearly 90 percent between Q3 2008 and Q4 2010.[6] But wireless broadband prices cannot continue their sharp downward trajectory unless the Commission, working with Congress, frees up more spectrum to accommodate surging bandwidth demands. AT&T applauds the Commission's efforts to date to meet that objective. But the main obstacle to continued growth, innovation, and price declines in the wireless marketplace arises not from free market dynamics, but from governmental constraints on the efficient use of spectrum. As Chairman Genachowski has observed, "[i]f we do nothing in the face of the looming spectrum crunch, many consumers will face higher prices—as the market is forced to respond to supply and demand—and frustrating service—connections that drop, apps that run unreliably or too slowly. The result will be downward pressure on consumer use of wireless service, and a slowing down of innovation and investment in the space."[7]

Third, providers are not resting on today's successes, but are constantly investing in advanced network infrastructure to support tomorrow's high-bandwidth services. For example, since 2008, AT&T has invested tens of billions of dollars to upgrade and expand its wireless network. And the Commission's statistics show that the industry as a whole (with the notable exception of Sprint) has steadily increased its capital investments over the past two years, even as the nation struggles to recover from the worst recession in decades. This continued and rising

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5 *Id.* at 9784 ¶ 193.

6 *See, e.g.*, Roger Entner, *What is the price of a megabyte of wireless data*, FierceWireless (Apr. 13, 2011) ("*Entner*"), http://www.fiercewireless.com/story/entner-what-price-megabyte-wireless-data/2011-04-13#ixzz1JWiTYyL5.

7 *Genachowski CTIA Remarks* at 6.

investment underscores the dynamism and competitiveness of the U.S. wireless marketplace. Indeed, this sector has been one of the few bright spots in a still-challenged economy.

Fourth, competition in the wireless ecosystem is intensely multi-dimensional, involving endless permutations of networks, devices, operating systems, and mobile applications, as well as great variety in service characteristics, price levels, price structures, and other terms and conditions of service. For example, a customer in Mississippi can purchase an iPhone from Verizon, AT&T, Sprint, or C-Spire (formerly Cellular South). Or she can opt instead for an Android smartphone from any of those providers (and others), and within the category of Android devices she can choose among various handset manufacturers, including HTC (e.g., the Evo), Samsung (e.g., the Galaxy), LG (e.g., the Optimus), and Motorola (e.g., the RAZR). Or she can go to any number of providers and choose a Windows, BlackBerry, or Palm device. And from any of these providers, and for virtually any of these devices and operating systems, she can choose from a menu of service options tailored to her particular needs.

For two years running, the Commission has nonetheless stopped short of deeming this marketplace "competitive." That is because, in some portions of its analysis, the Commission is focusing not on whether consumers have options or how the market is performing—the only relevant inquiries—but on abstract statistics relating to market concentration (HHI) and profitability (EBITDA). But HHI figures have limited relevance to fast-changing, diverse, and capital-intensive industries like this. In any event, the Commission's particular form of HHI analysis, which involves "weighting" and aggregating the HHIs of local markets to produce a "national" HHI figure, is particularly uninformative because it attributes to the country as a whole the atypically high HHIs in sparsely populated rural communities that cannot support more than a handful of facilities-based providers. As a result, those "weighted" HHI statistics

shed no meaningful light on the state of competition anywhere, either locally or nationally. The Commission's profitability measures are likewise uninformative because, among their other defects, they are mere accounting statistics rather than measures of economic profit, and they do not properly account for the vast disparities in capital investment from year to year.

Finally, the Commission asks commenters to address the state of various inputs used for wireless services, including spectrum and backhaul. As to the former, the Commission is right to observe that spectrum is the lifeblood of the wireless industry, and it should therefore take all steps needed to allow providers to accommodate the bandwidth needs of their customers. At a minimum, this requires updating the Commission's spectrum screen to reflect three categories of new spectrum that, as the Commission has acknowledged, are now used or usable for commercial mobile services—

- all 194 MHz of BRS/EBS spectrum, used by Clearwire and its partners;
- 90 MHz of MSS/ATC spectrum, which will be used by DISH (once it finalizes its acquisitions of TerreStar and DBSD North America) and LightSquared (once GPS interference concerns are resolved); and
- the 10 MHz of PCS G Block spectrum that Sprint will use for its imminent LTE deployment.

These broader spectrum categories "meet the criteria for suitable spectrum within two years" and are thus appropriately considered "a relevant input" for purposes of the Commission's spectrum screen.[8] And as to backhaul, there is no merit to continued assertions by Sprint and others that ownership of legacy TDM facilities somehow enables ILECs to give their wireless affiliates anticompetitive advantages. Among other considerations, escalating mobile demand is forcing

[8] Memorandum Opinion and Order and Declaratory Ruling, *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*, 23 FCC Rcd 17444, 17477 ¶ 62 (2008) ("*Verizon/ALLTEL Order*").

the entire industry—including Sprint—to move rapidly to alternative Ethernet-based backhaul services, which ILECs enjoy no particular advantage in supplying.

DISCUSSION

I. COMPETITION AMONG WIRELESS VOICE AND DATA PROVIDERS IS MORE INTENSE THAN EVER.

In an otherwise stagnant economy, the wireless ecosystem is a stronghold of competition, dynamism, and innovation. As discussed below, consumers throughout the country can choose among more providers than ever before (Section I.A), and carriers compete multidimensionally on the basis of price, network quality, handsets, operating systems, and many other variables (Section I.B).

A. As the Commission's Own Competition Figures Confirm, Consumers Have Many Choices Among Competing Wireless Providers.

As the Commission found in the Fifteenth Report, nearly 90 percent of the U.S. population lives in census blocks with coverage by *five or more* facilities-based mobile service providers.[9] That is an astonishing figure in itself, and also a remarkable increase over the previous year's figure (74.4%).[10] This metric has been increasing steadily every year since 2007:

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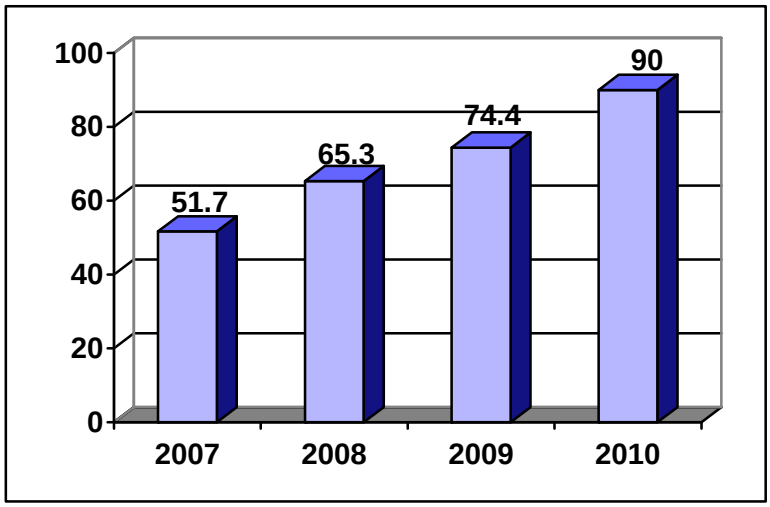
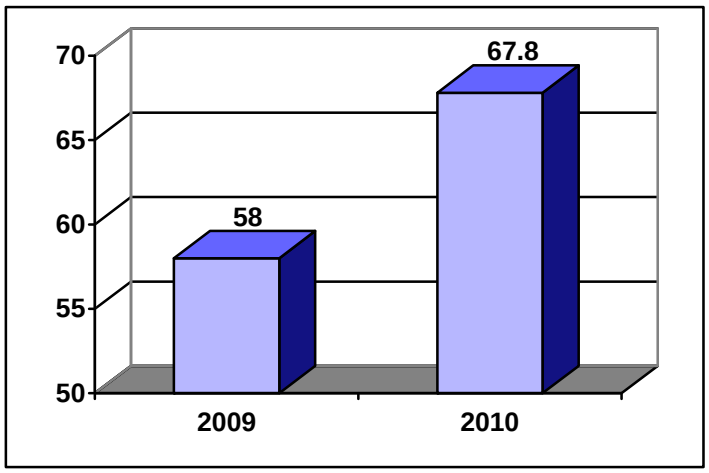
9 *See Fifteenth Report*, 26 FCC Rcd at 9705 ¶ 45, Table 6.

10 *See* Fourteenth Report, *Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993*, 25 FCC Rcd 11407, 11449 ¶ 45 (2010) ("*Fourteenth Report*").



Percentage of population covered by five or more facilities-based mobile *voice* providers
Source: Twelfth-Fifteenth Reports (figures exclude federal lands)

This year-over-year increase in the number of competing *voice* providers is matched by equally strong increases in the number of *mobile broadband* providers. This class of services is so nascent that, in the Twelfth and Thirteenth Wireless Reports (issued in 2008 and 2009), the Commission did not even provide figures for the percentage of Americans in census blocks served by four or more mobile broadband providers. That figure, reported for the first time in the Fourteenth Report, increased from 58.0% to 67.8% by the period covered by the Fifteenth Report:



Percentage of population covered by four or more facilities-based mobile *broadband* providers
Source: Fourteenth Report, Table 7; Fifteenth Report, Table 7 (no corresponding data in prior reports)

These statistics tell an irrefutable story of intense competition. Nine out of ten Americans can choose among *at least five* facilities-based providers of voice service; more than two out of three Americans can choose from *at least four* facilities-based providers of mobile broadband service; and the percentage of Americans in each of those categories has been *rising steadily*. Advertising statistics confirm the strength of the rivalry among these multiple providers. As everyone who watches television or reads a newspaper is aware, wireless providers of all types are engaged in unremitting advertising campaigns, touting their network quality, high speeds, appealing devices, and attractive pricing plans. Indeed, except for the automotive industry, the telecommunications sector (wireline and wireless) outspends every other on advertising.[11] And "wireless service providers" in particular "spend more on advertising than firms in many other industries."[12]

As the Commission observes, moreover, the wireless providers from which Americans choose vary substantially from locality to locality, and "the total number of providers in the entire United States far exceeds the number of providers that compete in any single local area."[13] In most significant population centers throughout America, the wireless service market is contested not only by AT&T, Verizon, Sprint, and T-Mobile, but also, as discussed below, by strong no-contract and regional providers of *nationwide* voice and data services such as MetroPCS, Leap (Cricket), U.S. Cellular, and Cellular South. This local variation underscores the strength and diversity of wireless competition today, because all major providers—including

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11 *See Kantar Media Reports U.S. Advertising Expenditures Increased 6.5 Percent in 2010* (Mar. 17, 2011), http://kantarmediana.com/intelligence/press/us-advertising-expenditures-increased-65-percent-2010.

12 *Fifteenth Report*, 26 FCC Rcd at 9748 ¶ 130.

13 *Id.* at 9709 ¶ 50.

so-called "regional" and no-contract providers that *market* service only in a subset of U.S. markets—nonetheless provide highly competitive smartphone services with nationwide coverage.

As the Commission reaffirmed in the Fifteenth Report, "the relevant geographic market for most consumers" is "the CMA" because, among other considerations, consumers "generally search for service providers in the local areas where they live, work, and travel."[14] That finding follows a long and unbroken line of precedent that the geographic market for wireless services is "a local area, as opposed to a larger regional area or a nationwide area."[15] The choices available to consumers reflect the local nature of the market. For example, in addition to Verizon, AT&T, Sprint, and T-Mobile, consumers in San Francisco and Miami can choose MetroPCS, consumers in Chicago and Milwaukee can choose U.S. Cellular, consumers in Jackson, Mississippi can choose Cellular South, consumers in southwest Ohio can choose Cincinnati Bell, and so on. In

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[14] *Id.* at 9707 ¶ 47 n.117; *see also id.* at 9693, 9709 ¶¶ 23, 50.

[15] Memorandum Opinion and Order, *Applications of AT&T Wireless Services, Inc. and Cingular Wireless Corporation for Consent to Transfer Control of Licenses and Authorizations*, 19 FCC Rcd 21522, 21563 ¶ 89 (2004) ("*Cingular/AT&T Wireless Order*"); *see, e.g.*, *Verizon-Alltel Order*, 23 FCC Rcd at 17472 ¶ 52 ("[T]he geographic market is the area within which a consumer is most likely to shop for mobile telephony/broadband services. For most individuals, this market will be a local area, as opposed to larger regional or national area."); *see also* Memorandum Opinion and Order and Declaratory Ruling, *Applications of Cellco Partnership D/B/A Verizon Wireless and Rural Cellular Corporation for Consent to Transfer Control of Licenses, Authorizations, and Spectrum Manager Leases and Petitions for Declaratory Ruling*, 23 FCC Rcd 12463, 12485 ¶ 41 (2008); Memorandum Opinion and Order, *Applications of AT&T Inc. and Dobson Communications Corporation for Consent to Transfer Control of Licenses and Authorizations*, 22 FCC Rcd 20295, 20310 ¶ 25 (2007) ("*AT&T/Dobson Order*"); Memorandum Opinion and Order, *Application of Great Western Cellular Partners, LLC and Alltel Commc'ns, Inc. for Consent to Transfer Control of License*, 21 FCC Rcd 11526, 11545-49 ¶¶ 35-43 (2006); Memorandum Opinion and Order, *Applications of Western Wireless Corporation and Alltel Corporation for Consent to Transfer Control of Licenses and Authorizations*, 20 FCC Rcd 13053, 13072-75 ¶¶ 44-51(2005); Memorandum Opinion and Order, *Applications of Nextel Commc'ns, Inc. and Sprint Corporation for Consent to Transfer Control of Licenses and Authorizations*, 20 FCC Rcd 13967, 13991, 13993-95 ¶¶ 57, 63-67 (2005); *Cingular/AT&T Wireless Order*, 19 FCC Rcd at 21562-63 ¶¶ 87-90.

each case, the competitive outcomes depend on the offerings made to each consumer in his or her area.

Significantly, almost all major providers that *market* services only in some geographic regions—such as U.S. Cellular, MetroPCS, Cincinnati Bell, and Cellular South (now C Spire)—now offer *nationwide coverage*, generally without retail roaming fees in areas covering most of the U.S. population.[16] From the perspective of a consumer living in a given locality, therefore, it does not matter whether a provider markets service to consumers living in *other* localities so long as it can provide nationwide *coverage*, as all major providers do today. For example, as the Fifteenth Report explains, MetroPCS and Leap have "abandon[ed] their original business model—local calling plans coupled with additional per-minute charges for roaming—in favor of *the flat-rate nationwide coverage model that dominates the postpaid service segment*."[17] That these providers continue to offer outstanding value to consumers demonstrates that they are able to obtain the necessary roaming arrangements on sufficiently favorable terms.

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[16] *See, e.g.*, Press Release, *Leap Wireless International, Inc. and MetroPCS Communications, Inc. Enter into National Roaming Agreement and Spectrum Exchange Agreement and Settle Litigation* (Sept. 29, 2008), http://phx.corporate-ir.net/phoenix.zhtml?c=191722&p=irol-newsArticle&ID=1203113&highlight=; MetroPCS Coverage Map, http://www.metropcs.com/coverage; Metro USA FAQs, http://www.metropcs.com/plans/metrousa/faq.aspx; MetroPCS Rate Plans, http://www.metropcs.com/plans/default.aspx?tab=family; Press Release, *Cricket Footprint Grows with Premium Extended Coverage, Forming Largest Roaming Coverage Area for a Low-Cost, Unlimited Carrier* (Nov. 13, 2008), http://www.mycricket.com/press/press-release/Cricket-Footprint-Grows-with-Premium-Extended-Coverage-Forming-Largest-Roaming-Coverage-Area-for-a-LowCost-Unlimited-Carrier; *About Leap; Company History*, http://leapwireless.mediaroom.com/index.php?s=13383&item=20640.

[17] *Fifteenth Report*, 26 FCC Rcd at 9732 ¶ 100 (emphasis added). Leap now markets its Cricket service nationwide, both in the areas where it operates its own network and, in other areas, through an MVNO arrangement with Sprint. *See* Ina Fried, *Leap Wireless Taking Cricket Nationwide With Best Buy, Other Retailers*, All Things Digital (Sept. 21, 2011), http://allthingsd.com/20110921/leap-wireless-taking-cricket-nationwide-with-best-buy-other-retailers/.

The rise of the "all-you-can-eat" providers. These developments have coincided with the blurring of traditional distinctions between "prepaid" and "postpaid" services. Years ago, traditional "prepaid" services generally had no data component and came with a fixed quantum of minutes that a customer might have to "refill" several times a month (depending on usage). But today's leading no-contract services bear almost no resemblance to that stereotype and a very strong resemblance instead to conventional contract services. MetroPCS and Leap, for example, have pioneered "all-you-can-eat" plans that free no-contract customers from any need to worry about "running out" of minutes and having to buy new allotments. Instead, customers can sign up for unlimited plans with automatic month-to-month renewals linked to credit cards or other automated payment mechanisms—options that are very similar to traditional monthly payment mechanisms used for contract customers.[18] Thus, when industry analysts and participants use the terms "prepaid" and "postpaid" today, they are referring simply to whether the customer purchases a term contract. Under "contract" plans, a subscriber agrees to purchase service over some extended period (such as one or two years) and, in exchange, typically receives a lower handset price subsidized by the carrier. Under "no-contract" arrangements, the subscriber typically receives less (or no) handset subsidy but does not commit to purchasing service beyond the current month.[19]

This variable does not keep contract and no-contract services from competing with each other. Although some customers may prefer one approach or the other, the same is true of many other differences among wireless service plans. For example, some customers may prefer to pay

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[18] *See* MetroPCS, *Customer Support | Pay Your Bill*, http://www.metropcs.com/customer_support/pay_your_bill.aspx.

[19] "No contract" is a term of art that describes services that customers can buy for immediate use without any obligation to continue buying them over a specified term. Of course, no-contract providers and their customers still enter into service agreements that cover other aspects of their relationship.

more up front for large buckets of voice minutes (or international calls or text messages) with no overages, whereas others may prefer to pay less up front with occasional overages. Just as those distinct preferences do not create separate markets for "large bucket" and "small bucket" wireless services, neither do preferences for contract vs. no-contract services.[20]

These "regional" and no-contract providers, moreover, offer consumers the same broad range of services, including high-end smartphone services, in head-to-head competition with services offered by AT&T, Verizon, Sprint, and similar providers. As the Fifteenth Report notes, "both MetroPCS and Leap Wireless have recently added new smartphones to their handset line-up and introduced new complementary higher-tier pricing plans for broadband devices."[21] For example, Leap reports that approximately 60 percent of its new subscribers buy 3G smartphones, including various Android and BlackBerry models, and it expects that by mid-2012, more than half of its customer base will be using smartphones.[22] Leap recently also announced plans to cover 25 million people with its new LTE network by the end of 2012.[23] MetroPCS has likewise transformed itself into a provider of state-of-the-art smartphone services. Indeed, the first

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[20] *See, e.g.*, *Murrow Furniture Galleries, Inc. v. Thomasville Furniture Indus., Inc.*, 889 F.2d 524, 528 (4th Cir. 1989) (rejecting claim that product attributes falling along "a spectrum of price and quality differences" define different markets) (internal quotation marks omitted).

[21] *Fifteenth Report*, 26 FCC Rcd at 9732 ¶ 102; *see also* Phil Kendall & Sue Rudd, Strategy Analytics, *US Wireless Market Outlook 2011-2016*, at 8 (2011) ("*Strategy Analytics Report*") (noting that "27% of Leap Wireless's voice customer base had smartphones at the end of June 2011, with the all-you-can-eat carrier pushing its $55/month smartphone plans"). U.S. Cellular has also begun to offer both high-end smartphones and tablets to its customers. *See* Suzanne Hopkins & Carrie MacGillivray, IDC, *U.S. 2Q11 Mobile Operator Roundup*, at 9 (2011) ("*IDC Report*").

[22] Mike Dano, *Leap: 60% of new customers chose smartphones*, FierceWireless (Sept. 20, 2011), http://www.fiercewireless.com/story/leap-60-new-customers-chose-smartphones/2011-09-20?utm_medium%3Drss%26utm_source%3Drss; *see also Strategy Analytics Report* at 8 (noting that Leap is aggressively "pushing its $55/month smartphone plans").

[23] Mike Dano, *Leap to cover 25M people with LTE by the end of 2012*, Fierce Wireless (Oct. 31, 2011), http://www.fiercewireless.com/story/leap-cover-25m-people-lte-end-2012/2011-10-31.

provider to offer a commercial LTE service in the United States was not Verizon, but MetroPCS, which now offers LTE services in 14 markets.[24] Meanwhile, U.S. Cellular, which serves approximately 6 million customers in 26 states, will offer LTE services of its own by the first quarter of 2012.[25]

MetroPCS and Leap themselves emphasize to investors and consumers that, despite their historical pedigree as "prepaid" providers, their services today are highly substitutable with traditional contract services. MetroPCS boasts that, as it rolls out high-end smartphones coupled with all-you-can-eat plans, it is bringing its customers "a postpaid experience without a contract,"[26] and it now reports that "a third of the gross additions that [MetroPCS is] seeing are coming from the low end of the traditional contract carrier post-pay plans."[27] MetroPCS further predicts that the no-contract model will supplant the contract model altogether. It explains that "we are seeing an ongoing shift toward no-contract wireless service," which will only accelerate as the LTE ecosystem matures and scale pushes the price of LTE handsets down still further: "[a]t some point, there isn't a need for a contract obligation when a customer is looking at a sub-$200, fully featured 4G Smartphone."[28] MetroPCS further reports that, because of these and

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24 *IDC Report* at 12.

25 *See* Lynnette Luna, *U.S. Cellular to launch LTE by year-end, but devices won't come until 2012*, FierceWireless (Nov. 6, 2011), http://www.fiercebroadbandwireless.com/story/us-cellular-launch-lte-year-end-devices-wont-come-until-2012/2011-11-06; *see also Strategy Analytics Report* at 14.

26 Sue Marek, *MetroPCS' COO on the pros and cons of the AT&T/T-Mobile deal*, FierceWireless (Mar. 30, 2011), http://www.fiercewireless.com/story/metropcs-coo-pros-and-cons-attt-mobile-deal/2011-03-30#ixzz1IgC781mV.

27 Conference Call Tr., *PCS-MetroPCS Communications, Inc. at Raymond James Institutional Investors Conference*, Thomson StreetEvents, at 3 (Mar. 7, 2011).

28 Conference Call Tr., *PCS – Q1 2011 MetroPCS Communications Inc. Earnings*, Thompson StreetEvents, at 5 (May 3, 2011). Indeed, the national carriers, including AT&T, have begun making prepaid offerings of their own. *See IDC Report* at 6.

other developments, it has "morphed into more of a full national type carrier."[29] Similarly, Leap confirms that it, too, is "seeing an accelerating shift from postpaid to prepaid" and predicts that "companies like ours [will] continue to lead the shift from postpaid to prepaid, as consumers reexamine the value proposition and the consumer flight to value continues."[30]

Indeed, there is now a wide consensus among industry participants that the traditional prepaid/postpaid distinction is blurring and will eventually become meaningless. As one senior Sprint executive remarked in 2010, "[w]ith almost 60 million people now on prepaid service, the no-contract market has clearly moved beyond the credit-challenged and lower income segments. The prepaid market has changed dramatically, with customers across multiple demographics and lifestyles demanding a wide variety of handsets, features, and plans tailored to their specific needs and wants."[31] And Sprint CEO Dan Hesse agrees that "what's happening in the industry [is] *prepaid as a whole is beginning to cannibalize post-paid*."[32] As these observations attest, there are not separate "prepaid" and "postpaid" markets because, whatever differences there may have been several years ago, contract and no-contract providers compete vigorously today for many of the same customers.

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29 Conference Call Tr., *MetroPCS Communications Inc. at JPMorgan Technology, Media and Telecom Conference*, Thomson StreetEvents, at 2 (May 17, 2011).

30 Conference Call Tr., *LEAP - Q1 2010 Leap Wireless International Earnings*, Thomson StreetEvents, at 3, 8 (May 6, 2010).

31 Press Release, *Sprint's Prepaid Multi-Brand Strategy Focuses on Distinct Customer Segments* (May 6, 2010), http://seekingalpha.com/instablog/647141-sprint-nextel/68273-sprint-s-prepaid-multi-brand-strategy-focuses-on-distinct-customer-segments (quoting Dan Schulman, president of Sprint's prepaid services). Schulman added: "This is the year that prepaid moves to the forefront of the wireless industry. . . . In the first quarter of 2010, more than half of the mobile gross additions in the U.S. selected prepaid, and we predict that approximately 70% of the net adds in 2010 will choose plans without a contract." *Id.*

32 Conference Call Tr., *Sprint Nextel Corp. Q1 2010 Earnings Call*, Seeking Alpha (May 1, 2010) (emphasis added), http://seekingalpha.com/article/202141-sprint-nextel-corp-q1-2010-earnings-call-transcript?part=qanda.

Moreover, as the Commission and market analysts have uniformly recognized, no-contract providers like MetroPCS and Leap are among the fastest-growing, most dynamic forces in the wireless marketplace today. MetroPCS has expanded its customer base from about 500,000 subscribers in 2002 to more than 9.1 million by mid-2011,[33] and Leap has expanded its own base from 1.47 million to 5.7 million customers in seven years.[34] Indeed, as the Commission has found, "unlimited prepaid"—the business model of these two providers—accounted for *more net adds than postpaid* in 2009.[35] Outside analysts agree that these players now exert significant competitive pressure in the marketplace.[36] No rational market analysis would disregard the disproportionate impact of these disruptive mavericks.

The role of MVNOs. Quite apart from these *facilities-based* competitors, MVNOs also provide substantial price-disciplining competition. In past wireless competition reports, the Commission has excluded MVNOs from the competitive analysis, reasoning that their "ability . . . to compete against their host facilities-based provider is limited" on the theory that,

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33 *IDC Report* at 12.

34 *See also Strategy Analytics Report* at 28 ("MetroPCS is enjoying a good period of growth. With approximately 100 million covered POPs the all-you-can-eat (AYCE) carrier is generating good momentum for both its handset propositions – driven by strong sales of Android smartphones – and its mobile broadband service."); *IDC Report* at 13 ("Leap is focusing on expanding its distribution channels, opening 250 new Cricket stores in the first half of 2011. A national retail launch is planned for the second half of the year.").

35 *Fifteenth Report*, 26 FCC Rcd at 9766, 9774 ¶¶ 166 (& Chart 11), 177. MetroPCS alone "increased its subscription base by nearly *19%* year over year — from 7.6 million in 2Q10 to 9.1 million in 2Q11." *IDC Report* at 12 (emphasis added); *see also* Robert F. Roche & Liz Dale, CTIA, *Prepaid Wireless Service in the United States: A Snapshot from CTIA Based on CTIA's Semi-Annual Wireless Industry Survey Results*, at 4 (Nov. 2011) ("Over the past four years, prepaid/pay-as-you-go penetration has risen from 14 percent of the total estimated U.S. population as of year-end 2007, to equal 21.7 percent of the U.S. population of 315.4 million as of mid-year 2011 (including territories)."); *id.* ("On a year-over-year basis, prepaid and pay-as-you-go subscribership as of June 2011 was up 13.9 percent from June 2010.").

36 *See Strategy Analytics Report* at 10 ("From a competitive perspective, the all-you-can-eat (AYCE) providers have made their presence felt.").

by setting wholesale rates, the host can effectively set a retail price floor for the MVNO.[37] That simplifying assumption is increasingly untenable, and it systematically causes the Commission to underestimate wireless competition.[38]

First, the Commission's rationale for excluding MVNOs from the competitive analysis is, by its terms, inapplicable to emerging MVNO business models. That rationale assumes that any wholesaler from whom an MVNO can buy network services is a vertically integrated provider of resale services in its own right—and will therefore set wholesale prices high enough to avoid cannibalizing its own retail services. But no such concern could possibly arise when an MVNO offers service over the network of a company that is mainly or exclusively a wholesaler. For example, Best Buy uses Clearwire's 4G network to offer "Best Buy Connect" MVNO services at the company's approximately 1000 retail stores throughout America.[39] Similar business models are likely to proliferate as other wholesalers deploy new mobile broadband networks. These include LightSquared, which plans to provide terrestrial wholesale services over its L-Band MSS spectrum once GPS interference concerns are resolved,[40] and Dish, which plans to provide such services over S-Band and 2 GHz MSS spectrum once it finalizes its acquisitions of TerreStar and DBSD North America.[41] The Commission's rationale is likewise inapplicable to new business

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37 *E.g.*, *Fourteenth Report*, 25 FCC Rcd at 11442 ¶ 32.

38 Indeed, excluding the competitive impact of MVNOs from the Commission's analysis simply because they are reselling services they buy wholesale is analogous to saying that independent gasoline retailers like Sheetz or Costco have no impact on retail gasoline competition because they buy fuel from vertically integrated refiners.

39 Dan Jones, *Clearwire Finally Unveils Best Buy Service Plan*, Light Reading Mobile (Mar. 30, 2011), http://www.lightreading.com/document.asp?doc_id=206215.

40 *See generally* Order and Authorization, *LightSquared Subsidiary LLC*, 26 FCC Rcd 566 (2011).

41 Melanie Cohen, *The Daily Docket: Dish Closer to Owning TerreStar, DBSD*, Wall St. J., Nov. 7, 2011, http://blogs.wsj.com/bankruptcy/2011/11/07/the-daily-docket-dish-closer-to-owning-terrestar-dbsd/?mod=google_news_blog.

models in which an MVNO such as Republic Wireless reduces its reliance on any wholesale cellular network by offering its customers strong inducements to rely heavily on Wi-Fi connections wherever available.[42]

Second, the Commission's categorical exclusion of MVNOs from the competitive analysis also ignores the additional competition created by more traditional MVNOs that *do* rely heavily on wholesale capacity purchased from vertically integrated retail providers. Consider the case of TracFone, the nation's largest MVNO with some 19 million subscribers.[43] Precisely because it is a reseller, TracFone is not confined to the technological choices of any given network and can offer consumers a wide variety of handsets that work on mutually incompatible network technologies, including CDMA/EvDO and GSM/UMTS. As a result, TracFone can and does play different wholesale providers off of each other in its search for the most economical spectrum arrangements. For example, TracFone provides its flat-rate Straight Talk service through the networks of four different companies: AT&T, Verizon, T-Mobile, and—now, for all of TracFone's Android smartphone services—Sprint.[44] TracFone now provides exceedingly inexpensive retail services in competition with the very networks from which it acquires wholesale capacity. For example, a customer can now walk into any Wal-Mart store, purchase a Samsung Galaxy smartphone for $149.88 *without a contract*, and buy an unlimited voice, text, and data plan from TracFone for $45 a month.[45]

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42 *See* Zach Epstein, *Republic Wireless Launches with $19 unlimited plan*, BGR (Nov. 8, 2011), http://www.bgr.com/2011/11/08/republic-wireless-launches-with-19-unlimited-plan/.

43 *IDC Report* at 12 (comparing 2Q10 to 2Q11 figures).

44 Phil Goldstein, *TracFone's Straight Talk Android phones will use Sprint's network*, FierceWireless (Sept. 9, 2011), http://www.fiercewireless.com/story/tracfones-straight-talk-android-phones-will-use-sprints-network/2011-09-09.

45 Scott Webster, *Wal-Mart and Tracfone to release Samsung Galaxy Precedent*, CNET (Aug. 22, 2011), http://reviews.cnet.com/8301-19736_7-20095506-251/wal-mart-and-tracfone-

In short, not all MVNOs necessarily rely on "host" networks with competing retail services of their own, and those that do can extract low and efficient prices for wholesale network capacity. The winners in all these scenarios are consumers, who are flocking to MVNOs to take advantage of unlimited services—including smartphone services—offered at exceptionally low retail rates. Indeed, over the course of a single year, TracFone increased its subscribership from 15.9 million in 2Q10 to 18.8 million in 2Q11. The Commission can no longer rationally justify its policy of ignoring this competition on the basis of theoretical concerns that continue to be rebutted by marketplace realities. It should instead follow the example of the European Commission, which takes MVNOs into account when analyzing the state of competition in the mobile communications market.[46]

B. Wireless Competition Is Dynamic and Multidimensional.

The intense and increasing competition among wireless providers has produced unprecedented benefits for consumers in several independent respects. First, it has caused providers to slash *prices per unit of consumption* year after year—for voice, text-messaging, and data alike. Second, providers compete on multiple dimensions of non-price rivalry as well, constantly creating new services and products—and forming new strategic partnerships and

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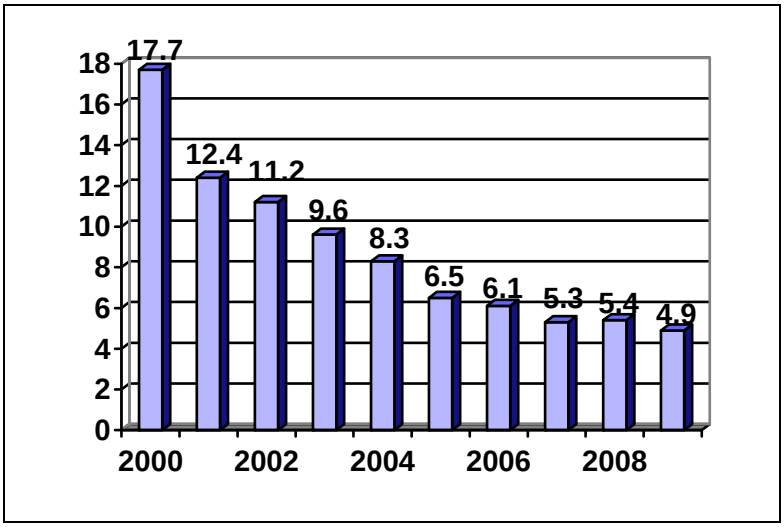
to-release-samsung-galaxy-precedent/; *see also Strategy Analytics Report* at 30 ("The MVNO market will continue to add weight to the [all-you-can-eat] movement, pushing prepaid flat-rate services further into the market and putting text/data premiums under pressure.").

[46] *Case No. COMP/M.5650 – T-Mobile/Orange*, EUR-Lex 32010M5650, at 9 (Mar. 1, 2010), http://ec.europa.eu/competition/mergers/cases/decisions/M5650_20100301_20212_247214_EN.pdf. Of course, quantifying the impact of MVNOs on mobile wireless competition may be difficult because, for example, "[c]omprehensive data on MVNO subscribers are generally not reported." *Fifteenth Report*, 26 FCC Rcd at 9699 ¶ 35. But neither that difficulty nor the fact that MVNOs generally do not own facilities make their procompetitive impact irrelevant to the analysis of mobile wireless competition. MVNOs enhance competition and consumer welfare.

alliances to market those products and services—to keep ahead of their competitors and deliver the most compelling products to consumers.

1. *By Every Available Metric, the Price of Mobile Services Has Fallen Dramatically over the Past Decade.*

As the Commission has found, the price of *voice* minutes has plummeted, from nearly 18 cents a minute in 2000 to less than a nickel today:



Average revenue per voice minute (in cents)
Source: Fifteenth Report, Table 20

These prices, moreover, continue to fall. As the Commission noted in the Fifteenth Report, "the absolute, unrounded estimate of Voice RPM" for the most recent reporting period—ending December 2009—"decreased nine percent from its absolute value" the year before.[47] More recently, third-party analysts have found that average voice revenue per minute has now fallen "below 4 cents."[48]

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[47] *Fifteenth Report*, 26 FCC Rcd at 9782-83 ¶ 191. The Commission noted that the price appeared stable at five cents a minute through 2009 only if the per-minute price is rounded to the nearest cent. *Id.*

[48] *Strategy Analytics Report* at 5 ("Competitive pressure continues to improve value propositions for end-users in the voice market, with revenue per minute down from 8 cents in 2004 to 5 cents in 2008 and *below 4 cents in 2011*. The rate of price decline may have slowed in recent years, but so has the rate of growth in call volumes.") (emphasis added).

The Commission nonetheless expresses concern that "the *rate* of per-minute price declines . . . has decreased in recent years."[49] That concern is misplaced. After years of rapid growth, the percentage of Americans with cellphones is approaching maximum saturation, and industry-wide voice minutes have begun to plateau. According to industry estimates, subscriber connections reached some 323 million by mid-2011—102.4 percent of the U.S. population—and voice minutes of use are leveling off,[50] largely because consumers are increasingly substituting emails and other text substitutes for voice minutes. Against that backdrop, and in an industry with significant fixed costs, the per-minute price of voice service could not possibly exhibit the same "rate of decline" as in prior years.

In any event, wireless providers increasingly confront intense competition not only from each other, but also from over-the-top VoIP providers such as Skype, Google Talk, Viber, and others. As industry analysts explain, these alternative VoIP providers "offer the growing smartphone base low-cost voice options," and growing awareness of these products "will encourage some users to re-evaluate their spend patterns when they next come to upgrade their plan."[51] That price-disciplining trend will only accelerate, moreover, as the industry moves to a mature LTE environment, where voice will ultimately be just one application among many riding on top of a unified IP platform.

The effective price of *text messaging* has likewise plummeted, from about 3.7 cents per text in 2005 to less than a penny today:

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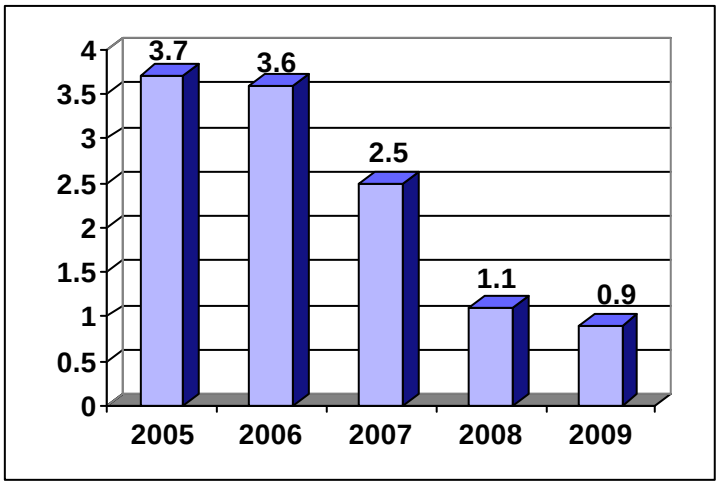
49 *Fifteenth Report*, 26 FCC Rcd at 9783 ¶ 191 (emphasis added).

50 Robert F. Roche & Liz Dale, CTIA, *CTIA's Wireless Industry Indices, Semi-Annual Data Survey Results: A Comprehensive Report from CTIA Analyzing the U.S. Wireless Industry*, at 1-2, 200, 210 (Nov. 2011).

51 *See Strategy Analytics Report* at 11.



Average revenue per text message (in cents)
Source: Fifteenth Report, ¶ 193 & Table 21

Although the industry no longer supplies texting revenue statistics separate from data, the Fifteenth Report properly credited third-party estimates that the effective price per text has dropped for the fifth consecutive year to $0.009 in 2009, a 25 percent decline from 2008.[52]

Some have tried to obscure this price drop by myopically examining only the price of text messages sent à la carte, but the relevant question is what consumers pay *on average* to send a text message. Any analysis of that issue must account for text-messaging plans, which represent how the overwhelming majority of customers purchase text messaging services. And by that measure, text-message prices have fallen dramatically. Moreover, the price of text-messaging can only continue to fall as wireless carriers confront the proliferation of new third-party data applications—such as Apple's iMessage and BlackBerry's Messenger—that provide the same functionality as SMS text messaging at a price of essentially zero. A message sent via one of these applications is "roughly equivalent to an SMS," but because it does not use "a cell phone network's own SMS data channel, and travel[s] instead as simple 3G data," it is "a direct threat

52 *Fifteenth Report*, 26 FCC Rcd at 9784 ¶ 193.

to SMS network revenues."[53] As the *New York Times* recently observed, "[t]here are now a growing number of ways to bypass text-message charges using an Internet connection—much as Skype allows people to make calls without relying on a traditional telephone line," and these services "could take a big bite out of the profits that text messages generate for wireless carriers."[54] More generally, Fast Company adds, "as we all shift to using more data-only functions—and use smartphones more than ever—then cell phone firms will likely see revenue growth from voice calls and SMS's stutter and possibly fail."[55]

Finally, the quantity-adjusted price of a wireless *data* plan, measured by average revenue per megabit, has plummeted most dramatically of all. Average industry revenue per MB fell by approximately 90% between 2008 and 2010, as the smartphone revolution took hold and consumers began using their mobile devices for applications, such as streaming video and audio, that they had previously reserved for fixed-line broadband connections.[56] That consumer demand is expected to continue increasing dramatically over the next several years. The

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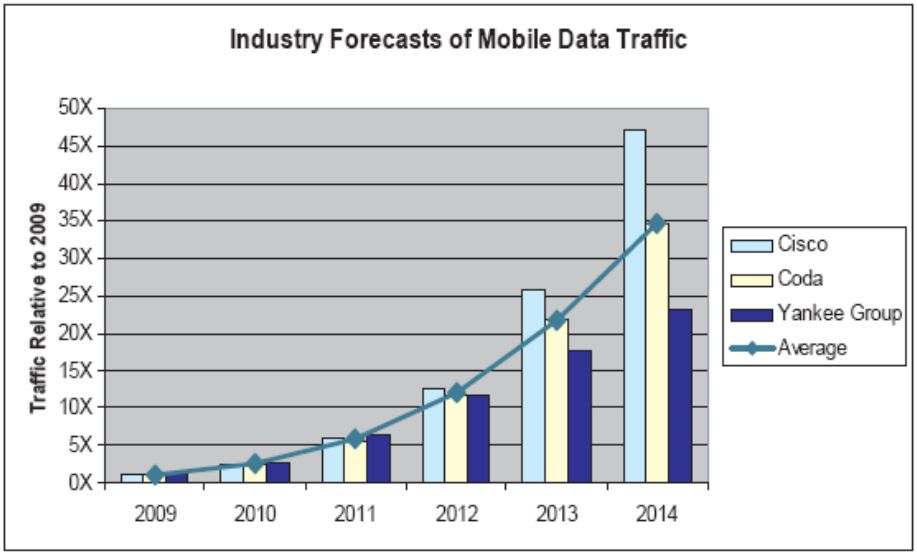
53 Kit Eaton, *Don't Shoot the iMessager: Why Cell Phone Networks May Soon Have to Shrink Your Bill*, Fast Company (Oct. 11, 2011), http://www.fastcompany.com/1786678/reluctant-revolution-how-cell-phone-charges-have-to-change ("*Don't Shoot the iMessager*").

54 Jenna Wortham, *Free Texts Pose Threat to Carriers*, N.Y. Times (Oct. 9, 2011), http://www.nytimes.com/2011/10/10/technology/paying-to-text-is-becoming-passe-companies-fret.html?_r=2&pagewanted=all.

55 *Don't Shoot the iMessager*; *see also Strategy Analytics Report* at 11.

56 *See, e.g.*, *Entner, supra*; *Fifteenth Report*, 26 FCC Rcd at 9785 ¶ 194 (noting that AT&T's per-megabyte data prices have fallen approximately 90 percent between 2008 and 2010); Jessica Ekholm & Sylvain Fabre, Gartner, *Forecast: Mobile Data Traffic and Revenue, Worldwide, 2010-2015*, at 12 (July 4, 2011) (explaining that "the mobile broadband business case over the longer term is headed for one of lower margins and higher volumes (of traffic), and ultimately will converge to a utility model").

following chart, excerpted from an October 2010 FCC staff report,[57] illustrates a range of projected demand-growth forecasts over the next several years:



The same Staff Report concludes, however, that "mobile data demand will outstrip available wireless capacity in the near-term."[58] And as it does, providers will have to rely increasingly on usage-sensitive pricing and other practices designed to control high bandwidth consumption. As the Commission has recognized, usage-sensitive pricing is a natural and inevitable result of spectrum scarcity; the only question is how stringent such pricing will be.[59] That will depend on whether the Commission will succeed in taking the steps necessary to free

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57 Federal Communications Commission, *FCC Technical Paper No. 6: Mobile Broadband: The Benefits of Additional Spectrum*, at 9 (Oct. 2010), http://download.broadband.gov/plan/fcc-staff-technical-paper-mobile-broadband-benefits-of-additional-spectrum.pdf. Demand growth may well be even steeper than shown in this chart. *See, e.g.*, Rysavy Research, *Mobile Broadband Capacity Constraints and the Need for Optimization* at 6-10, 16 (2010) ("*Rysavy Report*").

58 *Id.* at 5.

59 *See Fifteenth Report*, 26 FCC Rcd at 9726-29 ¶¶ 86-92 (explaining that usage-sensitive data pricing is a natural response to surging bandwidth demands); *see also Rysavy Report* at 22 ("Due to delays in obtaining additional spectrum, operators are unable to deploy sufficient capacity to meet demand, and must rely on higher prices, limits on allowed applications, traffic shaping, and other means that result in mobile-broadband being a poor broadband alternative.").

more network capacity for broadband usage. As Chairman Genachowski has observed, "[i]f we do nothing in the face of the looming spectrum crunch, many consumers will face higher prices—as the market is forced to respond to supply and demand—and frustrating service—connections that drop, apps that run unreliably or too slowly. The result will be downward pressure on consumer use of wireless service, and a slowing down of innovation and investment in the space."[60]

AT&T applauds both the Commission's calls for congressional action on incentive auctions and its spectrum-liberalization initiatives more generally. But mobile broadband usage is increasing at such an exponential rate that AT&T and other industry participants cannot await the next auction to resolve their near-term capacity constraints. Instead, to deal with those constraints, they must enter into private transactions that, by generating network synergies, create the functional equivalent of new spectrum.

2. *Wireless Providers Compete on the Basis of Handsets and Operating Systems.*

Quite apart from price competition, wireless providers offer consumers an ever-expanding array of handset options to win and keep their business, and U.S. consumers can now choose among hundreds of handsets produced by dozens of independent handset manufacturers, including Apple, Dell, HTC, Kyocera, LG, Motorola, Nokia, Palm, Pantech, RIM, Samsung, Sharp, and Sony Ericcson.[61] These handsets have widely varying features to accommodate all tastes, including appealing form factors, high-resolution color screens, user-friendly interfaces, simple-to-use features, high-quality cameras, Bluetooth and Wi-Fi connectivity, and the ability to

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60 *Genachowski CTIA Remarks* at 9.

61 *See* CTIA, *The United States and World Wireless Markets: Competition and Innovation are Driving Wireless Value in the U.S.*, at 11 (May 2009), attached to Letter from Christopher Guttman-McCabe, Vice President of Regulatory Affairs, CTIA – The Wireless Association, to Marlene Dortch, FCC, GN Docket No. 09-51 (filed May 12, 2009).

run hundreds of thousands of applications written by third parties. Industry figures bear out the extent of this competition: the number of handset manufacturers nearly tripled between 2006 and 2010 (from 8 in 2006 to 21 in 2010); the number of handset manufacturers offering 10 or more models more than doubled between 2006 and 2010 (from 5 in 2006 to 11 in 2010); and the number of handsets offered increased by almost 250 percent between 2006 and 2010 (from 124 in 2006 to 302 in 2010).[62]

Some commenters in these annual proceedings can be expected to repeat shop-worn arguments against the practice of most major wireless carriers to enter into temporary exclusive arrangements with handset manufacturers for particular models. Those arguments have never had merit, and repetition does not make them stronger. In a nutshell, exclusive handset arrangements pose no risk of competitive harm because both the wireless and device marketplaces are competitive—and because the latter is global.[63] In this dynamic environment, such arrangements foster innovation and competition: they encourage device makers and carriers to work together to optimize the functionality of devices on different networks, and exclusivity gives the carrier incentives to promote the device as vigorously as possible. Such cooperation and risk-sharing also provide incentives for handset manufacturers to invest in innovation.

Moreover, when an exclusive device is successful, other device makers and carriers respond by redoubling their own efforts to design and introduce even more innovative and attractive devices. The iPhone experience is instructive. "When the iPhone entered the market it shocked the carriers and presented a fundamental challenge to other handset makers. . . .

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62 *See Fifteenth Report*, 26 FCC Rcd at 9848 ¶ 326 Table 29.

63 *See, e.g.*, Comments of AT&T Inc., *Petition for Rulemaking Regarding Exclusivity Arrangements Between Commercial Wireless Carriers and Handset Manufacturers*, RM-11497, at 7-21 (filed Feb. 2, 2009).

Verizon, seeing consumers head to AT&T to get the iPhone, embraced once-rival Google and developed a brand for its Android handsets. The company spent millions to build consumer awareness around [HTC's] 'Droid.' . . . Without the iPhone (and Apple's AT&T exclusivity) Android would just not be where it is today."[64] Indeed, by one industry estimate, the leading manufacturer of Android handsets—HTC—"has become the top seller of smartphones in the U.S."[65]

Today, mobile providers of all stripes, large and small, have all obtained cutting-edge smartphones, defying predictions that the largest providers would somehow horde the most attractive devices for themselves through exclusive deals. For example, the providers offering the iPhone 4S include not only Verizon, AT&T, and Sprint, but also C Spire (formerly Cellular South), which serves roughly 900,000 subscribers in several southern states.[66] And US Cellular obtained but turned down the opportunity to carry the iPhone 4S, preferring to build on its existing line of Android and other smartphones.[67] One reason smaller and mid-size providers have no difficulty obtaining desirable handsets is that device manufacturers, which operate globally, have no incentive to limit the distribution of their handsets by confining their sales to

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64 Greg Sterling, *What's Behind Android's Success: the iPhone*, Internet2Go - An Opus Research Advisory Service (Nov. 8, 2010), http://internet2go.net/news/carriers/whats-behind-androids-success-iphone.

65 *When Sprint wanted anti-iPhone, it called HTC*, Bloomberg News (Nov. 11, 2011), http://www.kansascity.com/2011/11/11/3260106/when-sprint-wanted-anti-iphone.html.

66 *See* Brad Molen, *iPhone 4S gets official date and blessing by C-Spire, all yours on November 11th*, EndGadget (Nov. 1, 2011), http://www.engadget.com/2011/11/01/iphone-4s-gets-official-date-and-blessing-by-c-spire-all-yours/ ("Now that the little guys officially have the iconic device, who's next?").

67 *See* Peter Svensson, *US Cellular: We Turned Down the iPhone*, USA Today (Nov. 4, 2011), http://www.usatoday.com/tech/news/story/2011-11-04/us-cellular-turns-down-iphone/51073220/1.

large providers that already have *other* exclusive deals to distribute *other* manufacturers' handsets.[68]

In addition, wireless providers compete by offering consumers not only attractive handsets as such, but also a diverse selection of operating systems within those handsets—including Android, Windows Phone, BlackBerry OS, Apple iOS, and Palm OS—as well as the applications stores associated with those operating systems. Here, too, the intensity of cross-platform competition is most vividly illustrated by the rapid ascent of Google's Android operating system. Although it was formally introduced just over three years ago, Android has now become the "most popular smartphone operating system in the United States."[69] Android's success arises both from its innovativeness and from Google's parallel development of the Android Market, which now boasts more than 150,000 Android-compatible apps.[70] Android's extraordinarily rapid growth is also due to the fierce rivalry among wireless service providers, which have added a host of Android-based handsets to their device portfolios and aggressively marketed them to consumers. Indeed, AT&T alone is launching nineteen new Android devices in 2011.[71]

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[68] *See* Reply Decl. of Robert D. Willig, Jonathan M. Orszag, and Jay Ezrielev ("*Willig Reply Decl.*") ¶¶ 46, 50-54 (attached to AT&T/T-Mobile Joint Opp. to Pet'ns to Deny, WT Docket 11-65 (filed June 10, 2011) ("*AT&T/T-Mobile Joint Opp.*")).

[69] Ian Paul, *Android Edges RIM, Apple as Most Popular Smartphone OS*, PC World (Mar. 4, 2011) (citing market analysis by Nielsen), http://www.pcworld.com/article/221358/android_edges_rim_apple_as_most_popular_smartphone_os.html.

[70] Andrew Kameka, *Android has 150k apps, 350k daily activations, and more notes from Eric Schmidt's MWC keynote*, Androinica (Feb. 15, 2011), http://androinica.com/2011/02/android-has-150k-apps-350k-daily-activations-and-more-notes-from-eric-schmidts-mwc-keynote/.

[71] News Release, *AT&T Exceeds 2011 Android Commitment, Announces Five Smartphones* (Oct. 11, 2011), http://www.att.com/gen/press-room?pid=21624&cdvn=news&newsarticleid=33039&mapcode=wireless-networks-general|consumer.

The rivalry among competing mobile operating systems is growing fiercer still as Microsoft pours resources into its Windows Phone 7.5 operating system ("Mango"). For example, Microsoft recently forged a strategic partnership with Nokia under which that global device manufacturer will now refocus its smartphone line on Microsoft's upgraded operating system.[72] Of course, in any competitive market, the success of some products will come at the expense of others. In particular, RIM's BlackBerry operating system, once the premier smartphone platform, has been losing ground to its rivals and is now struggling. That reversal of fortune further illustrates the fluidity and competitiveness of this marketplace.

As a result of this operating-system competition, the *applications* ecosystem is likewise a case study in market dynamism. Several different smartphone applications marketplaces, each associated with one of the major mobile operating systems, have launched since June 2008, spawning hundreds of thousands of applications. And on top of that, a number of mobile providers sponsor their own online app stores.

3. *Wireless Providers Compete on the Basis of Network Quality.*

Wireless providers compete not only on the basis of price, handsets, operating systems, and other aspects of the product offering, but also on the basis of network quality. In particular, providers are constantly investing in advanced network infrastructure to support the high-bandwidth services of today and tomorrow.

For example, over the past four years, AT&T has invested more than $75 billion to upgrade and maintain its wireline and wireless networks—more than any other public company

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[72] *See* Galen Gruman, *Nokia's Windows Phone bet: The first smartphones unveiled*, InfoWorld (Oct. 26, 2011), http://www.infoworld.com/d/mobile-technology/nokias-windows-phone-bet-the-first-smartphones-unveiled-177159.

has invested in the United States.[73] During that same period, AT&T spent an *additional* $23 billion on spectrum purchases and company acquisitions to expand its wireless network footprint and enhance network performance.[74] Further, between 2008—the year the 3G iPhone triggered a surge in mobile broadband use—and the end of 2010, AT&T invested almost $33 billion in new spectrum and capital expenditures to upgrade its wireless network, including a 50-percent increase in wireless network investment from 2009 to 2010.[75] Similarly, other major wireless providers, from Verizon to MetroPCS to Leap to Clearwire, have invested tens of billions of dollars in capital upgrades over the past several years.

Wireless providers of all sizes are pouring these investment dollars into LTE deployment in particular. With the exception of T-Mobile, virtually all major providers have already launched LTE networks or plan to do so within the next year. As discussed, these providers include not only AT&T and Verizon, but also MetroPCS (the first U.S. provider to launch an LTE network in late 2010), Leap/Cricket, US Cellular, and C-Spire (Cellular South).[76] Sprint and its wholesale partner Clearwire are likewise charting a transition from WiMAX to LTE 4G

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[73] AT&T Inc. 2007 Annual Report at 64; AT&T Inc. 2008 Annual Report at 60; AT&T Inc. 2010 Annual Report at 71; Testimony of Randall Stephenson, Chairman & CEO of AT&T, Hearing of the House Committee on the Judiciary, Subcommittee on Intellectual Property, Competition and The Internet, at 15 (May 26, 2011).

[74] AT&T Inc. 2007 Annual Report at 45, 60; AT&T Inc. 2008 Annual Report at 35, 41, 58; AT&T Inc. SEC Quarterly Report (1Q 2008 Form 10-Q), at 23 (filed May 7, 2008); AT&T Inc. 2009 Annual Report at 50, 68; AT&T Inc. 2010 Annual Report at 48. This figure includes the approximately $1.925 billion purchase price for spectrum from Qualcomm, which of course remains subject to approval by the Commission. AT&T Inc. 2010 Annual Report at 48.

[75] AT&T Inc. 2008 Annual Report at 35, 41; AT&T Inc. Quarterly Report (1Q 2008 10-Q), at 23 (May 7, 2008); AT&T Inc. 2009 Annual Report at 68, 71; AT&T Inc. 2010 Annual Report at 48, 71. This figure also includes the price for Qualcomm spectrum.

[76] *See* Section I.A, *supra.*

services.[77] And new spectrum wholesalers such as LightSquared and Dish also plan to deploy LTE networks of their own. In short, to compete in this intensely competitive environment, all providers must constantly invest in new networks to keep up with the network achievements of their rivals. Indeed, providers must begin deploying next-generation networks even before they complete deployment of the prior generation of network technologies. For example, AT&T is still deploying its current generation of UMTS/HSPA+ technologies to cell sites throughout the country even as it launches LTE in an increasing number of markets.

C. The Wireless Ecosystem Leads the Nation in Technological Innovation.

From an innovation perspective, too, there is no brighter spot in the U.S. economy today than the mobile broadband ecosystem. Half a dozen years ago, the smartphone marketplace, as we know it today, did not exist. Since then, Americans have seen the launch of the iPhone, the Samsung Galaxy, the HTC Thunderbolt, the Sprint line of iconic Evo devices, the Kindle, the Nook, and the iPad. And they have seen hundreds of thousands of innovative applications proliferate on top of these new platforms. These innovations have profoundly changed the ways in which Americans learn, work, and communicate. As Chairman Genachowski has observed: the "brick phones" familiar from the first generation of wireless services "have evolved into 4-ounce mini-computer smartphones" with "more computing power than NASA's lunar module"; mobile broadband applications rank among "the most remarkable forces for economic opportunity and quality of life that we've ever seen"; and "[r]obust networks and powerful devices are allowing us to do all kinds of things we could barely have imagined a few years

[77] Eric Savitz, *Clearwire Soars; Sprint Discloses Tentative Deal on LTE*, Forbes (Oct. 26, 2011), http://www.forbes.com/sites/ericsavitz/2011/10/26/clearwire-soars-sprint-discloses-tentative-deal-on-lte/.

ago."[78] Indeed, he concluded, "[i]t's hard to imagine an industry that's produced more game-changers than the wireless industry."[79]

AT&T has played an important role in promoting this ecosystem-wide innovation. As discussed, the lifeblood of the wireless broadband revolution is network capacity, and no provider has done more to squeeze such capacity out of its network than AT&T. AT&T is a world leader among GSM-based providers in the deployment of wireless broadband networks using UMTS/HSPA standards. Those standards allow far faster and more efficient transmissions of data than prior UMTS standards. In early 2011, moreover, AT&T decided to expedite its roll-out of LTE by a full year. AT&T took that step for two reasons: first, it recognized the need to compete on the basis of network speeds with the rest of the industry, which (except for T-Mobile) is already moving quickly towards LTE; and second, LTE is a more spectrally efficient technology than even UMTS/HSPA+ and is thus incrementally more capable of handling explosive consumer demands for data bandwidth. By year's end, AT&T plans to have deployed LTE to at least 15 markets and 70 million people nationwide.[80]

AT&T also helps device manufacturers and applications developers to produce the most effective mobile broadband experience for consumers. For example, the AT&T "Developer" tool makes AT&T's Universal Design guidelines available to developers to help them design applications that can be sold either through the AT&T AppCenter or elsewhere. More than 30,000 developers are registered in the AT&T Developer Program (which was introduced in 2002 and was the first program of its kind by a major carrier). The AT&T Apps Beta Program

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78 *Genachowski CTIA Remarks* at 2, 4.

79 *Id.* at 2.

80 News Release, *4G LTE Devices to Arrive for AT&T Customers* (July 21, 2011), http://www.att.com/gen/press-room?pid=20301&cdvn=news&newsarticleid=32149&mapcode=wireless-networks-general|broadband.

allows developers to test applications with customers and receive customer feedback during the development process. The Apps Beta program thus provides a double consumer benefit: consumers are able to gain access to new applications more quickly than otherwise, and they have the opportunity to become involved in the development process itself, ensuring that the ultimate product is better. In addition, AT&T recently opened AT&T Innovation Centers (now called "Foundry" centers) in Texas, California, and Israel. The Innovation Centers provide startup companies and developers with access to AT&T's network capabilities and test beds, in addition to technology experts and project coaches. The Foundry centers represent a $70 million investment that is designed to foster collaboration in ways that take products from idea to market up to three times faster.

In short, wireless providers are constantly innovating to improve their mobile platforms, which, in turn, prompts others to deploy ever more innovative devices and applications. As customers adopt new devices and applications, demand for wireless service increases, thus spurring network operators to enhance their networks still further. Improved networks spur more improved devices and applications, which in turn spur still-better networks, and so on in a "virtuous cycle" of investment and innovation.

II. ARGUMENTS BASED ON ABSTRACT MEASURES OF MARKET CONCENTRATION OR PROFITABILITY ARE MISLEADING.

A. Arguments Based on HHI Statistics Are Misplaced.

The strength of this multidimensional wireless competition undermines claims by pro-regulation advocates that the market is somehow in danger of excessive concentration. Tellingly, such advocates focus their rhetoric not on whether consumers have options or how the market is performing—the relevant inquiries—but on abstract HHI statistics. Their single-minded reliance on those statistics is misplaced.

As the Commission recognizes, high HHI figures do not themselves signify a competitive problem,[81] a point universally confirmed by modern economic analysis. HHI figures are particularly uninformative in industries (like this) characterized by diverse services and disruptive innovation, which essentially eliminate any risk of tacit coordination,[82] and high fixed costs, which can make it unrealistic to expect more than a few participants in some markets.[83] Industry experience over the past half-dozen years underscores that point. Since 2005, the Commission's calculations show HHIs above 2500 ("highly concentrated"),[84] but consumers have benefited from cut-throat competition, game-changing innovations, tens of billions of investment dollars, and rapidly falling prices. Indeed, consolidation can be affirmatively pro-competitive and pro-consumer. As the Government Accounting Office has pointed out, wireless prices have been falling across the board for many years in part because of "industry consolidation" that enabled providers to "exploit economies of scale" and thereby "offer more wireless services for similar or lower prices."[85]

In any event, even if HHI figures had greater significance in this context, the Commission's "weighted" calculation of HHIs in past wireless reports is methodologically unsound. In a nutshell, the Commission has purported to calculate providers' market shares within different Economic Areas ("EAs") and has then aggregated those shares through weighted averaging. This approach is misleading in two respects. First, as the Commission itself has

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81 *Fifteenth Report*, 26 FCC Rcd at 9713 ¶ 54 & n.137.

82 *See, e.g., Cingular-AT&T Wireless Order*, 19 FCC Rcd at 21580-86 ¶¶ 150-64.

83 *Cf. Fifteenth Report*, 26 FCC Rcd. at 9715-16 ¶ 61.

84 *Id.* at 9679.

85 GAO, *Telecommunications: Enhanced Data Collection Could Help FCC Better Monitor Competition in the Wireless Industry*, at 24 (July 2010), http://www.gao.gov/products/GAO-10-779.

concluded, there is no "national market" that these HHI figures could possibly describe; there are only the geographically local markets where customers shop for service, each featuring a different mix of providers.[86] Second, even if there were a national market, the proper approach would be to take HHI figures *for that market*—i.e., by summing the squares of each provider's share of subscribers nationally. But it makes no sense at all to mix apples and oranges by combining an essentially exponential function (the squaring of market shares to produce each local HHI) with an arithmetic function (the derivation of a "weighted" mean of the local HHIs). That mathematical hodgepodge produces an artificially inflated "national" market share by exaggerating the significance of the unusually high HHIs found in sparsely populated rural areas that cannot support many facilities-based providers. And it masks the fact that the vast majority of the nation lives in EAs with HHIs well below 2800. In short, it produces no useful information about what is happening anywhere, either locally or nationally.

B. Market Analyses Based on Accounting Measures of Profitability Are Meaningless.

Beginning with the Fourteenth Report and again in the Fifteenth Report, the Commission has derived various measures of accounting profits for the industry.[87] The Commission acknowledges, however, that such accounting statistics have limited value because they "are not estimates of economic profit, nor are they necessarily indicators of competition or market power."[88] The Commission nonetheless contends that "[a]ccounting profitability measures are

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86 *See* Section I.A, *supra*. The figures are misleading in at least one other respect. Because of the data challenges associated with getting accurate MVNO data, the market share data used by the Commission attribute MVNO subscribers to the facilities-based carriers who provide wholesale services, rather than to the retail carrier the subscriber actually chooses. As a result, the share numbers and the HHI numbers derived from them are skewed upward.

87 *Fourteenth Report*, 25 FCC Rcd at 11544-48 ¶¶ 215-221; *Fifteenth Report*, 26 FCC Rcd at 9795-9800 ¶¶ 212-219.

88 *Fifteenth Report*, 26 FCC Rcd at 9795 ¶ 212 (footnote omitted).

useful for *comparing* profitability across companies."[89] In fact, however, such metrics are not useful for even that limited purpose.

The Commission begins its presentation by discussing the problems with using EBIT—Earnings Before Interest and Taxes—for anything. The Commission explains, for example, that "as interest payments on debt and corporate income taxes are generally recurrent cash flow obligations, some experts argue that these measures may not always be good estimates of operating cash flow" and that "Federal and State corporate income taxes can be over one-third of pre-tax income and they are deducted in most profit formulas."[90] Thus, because EBIT does not account for these significant expenditures that vary widely among firms, EBIT metrics cannot produce apples-to-apples comparisons among firms, and the Commission explains that "[w]e do not discuss EBIT data in this *Report*."[91]

The Fifteenth Report nonetheless attributes some amorphous competitive significance to EBITDA metrics ("Earnings Before Interest, Taxes, Depreciation, and Amortization").[92] That is inexplicable. By definition, EBITDA metrics have all of the same flaws that led the Commission to disregard EBIT metrics—a failure to account for differences in interest payments and taxes (the "I" and "T" in "EBITDA"). But they also suffer from an even more radical flaw—they disregard each company's quite disparate levels of depreciation and amortization (the "D" and "A"). And those two measures rank among the largest costs in highly capital-intensive industries like this one. In particular, depreciation relates to assets such as the tens of thousands of cell towers deployed throughout the country, and amortization reflects annual payments on long term

89 *Id.* (emphasis added).

90 *Id.* at 9796 ¶ 213.

91 *Id.*

92 *Id.* at 9796-9800 ¶¶ 214-219.

investments, including capital expenditures, which the Commission recognizes are extremely high in the wireless industry.

Consequently, comparing firms within an industry using EBITDA can be valid only if one assumes that all firms have made similar capital expenditures (which are paid for via depreciation and amortization), so that omitting depreciation and amortization from the profits metric would make no difference. The Fifteenth Report itself concedes this point: "EBITDA can be a useful measure of relative performance" only "[t]o the extent that capital expenditures are proportionately similar across firms and over time."[93] But the Fifteenth Report then goes on to use EBITDA without acknowledging that different wireless providers have indeed incurred different capital expenditures that are proportionately quite different, as it showed elsewhere in its report.[94] Indeed, the Fifteenth Report recognizes that AT&T and Verizon have recently made capital expenditures that far exceed that of, for example, Sprint (which has declining capital expenditures), and thus it should not be surprising that AT&T and Verizon have higher EBITDAs (which reflect only the earnings from those capital expenditures and ignore the costs of these expenditures) than Sprint. For these reasons, the Fifteenth Report's comparisons of EBITDA per Subscriber and EBITDA Margins (i.e., EBITDA divided by revenue) are meaningless, because they do not account for the significant differences in interest, taxes, depreciation and amortization among the firms.[95]

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93 *Id.* at 9796 ¶ 214.

94 *See* Section I.B.3, *supra.*

95 In addition, "[t]he differences in EBITDA per subscriber across providers may reflect many underlying factors including different characteristics of service and product offerings, different customer preferences, different network designs and capabilities, different cost structures, scale economies, and the degree of competitive rivalry. The changes in EBITDA per subscriber for individual providers can also reflect changes particular to the provider. For example, acquisitions of networks in mergers or changes in service and product offerings over

The Fifteenth Report further computes "EBITDA minus CAPEX" per subscriber in an attempt to capture the impact of the vastly different capital expenditures made by the different providers. But this adjustment is insufficient in several respects. First, it still omits interest, taxes and depreciation, all of which, as the Fifteenth Report notes, can vary significantly among wireless providers. Second, as the Fifteenth Report also admits, "EBITDA minus CAPEX does not account for purchases of spectrum licenses, a significant expense of mobile wireless providers," which has also varied greatly among providers.[96] Third, and most important, the EBITDA-minus-CAPEX metric does not properly capture each firm's capital expenditures. The Fifteenth Report appears to have simply computed each provider's annual EBITDA and then subtracted each provider's capital expenditures for that year. But this calculation ignores the lumpiness of capital expenditures: providers may make large capital expenditures in one year and then make much lower ones in subsequent years, while others follow the opposite pattern. Furthermore, because *today's* Depreciation & Amortization pays for *yesterday's* capital expenditures, there is no reason to expect that the current CAPEX being subtracted is in any particular proportion to the current Depreciation & Amortization being ignored.[97]

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time. It is possible that some of the correlated changes across providers reflect macroeconomic effects on demand." *Fifteenth Report*, 26 FCC Rcd at 9797 ¶ 216.

96 *Id.* at 9796-97 ¶ 215.

97 For example, Chart 34 in the Fourteenth Report shows that in 2007 AT&T had the second highest EBITDA among the firms in the comparison, but Chart 35 in the same Report shows that in 2006 AT&T had the *lowest* EBITDA minus CAPEX. *See Fourteenth Report*, 25 FCC Rcd at 11545-47 ¶¶ 219-20, Charts 34-35. That merely shows that AT&T happened to have extraordinarily high levels of capital expenditures in 2006 (as shown elsewhere in that *Report* (Chart 33)). When AT&T later reduced its capital expenditures in 2007, its EBITDA minus CAPEX rose to the highest, and then in 2008 when it increased CAPEX again, it declined to second place. These data thus reflect only AT&T's lumpy CAPEX over the past few years, not that it was more or less "profitable" than other providers during those years.

Finally, the arbitrariness of the EBITDA, EBITDA-minus-CAPEX, and EBITDA-margin metrics is further illustrated by comparing these statistics for AT&T and Verizon, both of which likely had the most similar capital expenditures over the past few years. In each case, the metric for Verizon significantly exceeds that for AT&T. This may be due to many factors, including for example that portions of Verizon Wireless' earnings and investment costs may be owed or paid by its equity partner, Vodafone, and thus reflected differently in Verizon's EBITDA-based metrics. Examining other industries likewise confirms the arbitrariness of the metrics. For example, in the first quarter of 2010, Ford had an EBIT margin that was more than *double* that of GM, but no reasonable analyst would rely on such a statistic to suggest that Ford has market power or that the automobile industry is not competitive.[98]

Finally, quite apart from accounting statistics, there is a broad consensus that, in coming years, industry participants face sharp declines in profitability because, as discussed above, over-the-top VoIP and messaging applications are beginning to erode provider-specific voice and text-message revenues. A recent Bank of America/Merrill Lynch report predicts that cannibalization of voice and text revenues is "pushing carriers into a utility-like role," with the risk of lower margins.[99] Gartner likewise forecasts that "the mobile broadband business case over the longer term is headed for one of lower margins and higher volumes (of traffic), and ultimately will converge to a utility model."[100]

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98 Joann Muller, *GM And Ford Take Different Paths To Profit*, Forbes.com (May 18, 2010), http://www.forbes.com/2010/05/17/ford-general-motors-chrysler-business-auto-gm.html (Ford's "operating margin was twice GM's EBIT margin, putting it among the industry's best performers.").

99 *E.g.*, Bank of America/Merrill Lynch, *Look beyond the macro storm*, at 6 (Sept. 28, 2011).

100 Gartner, *Forecast: Mobile Data Traffic and Revenue*, at 12; *see also Strategy Analytics Report* at 9; *see also Telecom's Big Hang Up*, CNN Money (Nov. 4, 2011), http://tech.fortune.cnn.com/2011/11/04/ telecoms-big-hang-up/ ("From a technology standpoint,

Of course, the winners here will be consumers: as margins fall for wireless providers, wireless subscribers will pay plummeting rates per unit of service. As discussed, however, that outcome depends critically on whether wireless providers will have the increased network capacity needed to continue accommodating skyrocketing data demands; otherwise, they will have to ration their existing capacity by increasing their reliance on usage-based pricing mechanisms. Again, therefore, the Commission can minimize consumer prices only by taking all available steps to free up more spectrum for broadband usage and permit market-based transactions designed to maximize network capacity in the face of escalating usage.

III. APART FROM THE NEED FOR ADDITIONAL SPECTRUM, THE INPUT MARKETS FOR WIRELESS SERVICES ARE COMPETITIVE AND EFFICIENT.

A. The Commission Should Adjust Its Spectrum Screen to Reflect Recent Industry Developments.

As Chairman Genachowski has explained, "spectrum is the oxygen that ultimately sustains the mobile revolution," and it is therefore "time to take the necessary steps to ensure that spectrum will be the great enabler of opportunity and innovation in the 21st century, not a chokepoint."[101] The "oxygen" requirements of any given provider depend on its customers' bandwidth demands, and the Commission should therefore take every measure to avoid artificial limitations on any provider's ability to meet those demands. At a minimum, therefore, the Commission should update its spectrum screen to reflect spectrum that is now used or potentially

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phone calls are rapidly becoming just another app your smartphone can handle. As a result, the industry's ability to charge premium prices for voice calls will inevitably melt away. It's simply a question of how fast. Based on this week's numbers, it seems consumers are turning up the heat.").

[101] Prepared Remarks of Chairman Julius Genachowski, Telecommunications Industry Association 2011 Summit, at 2, 6 (May 19, 2011), http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-306768A1.pdf.

usable for broadband services, as it has long noted the need to do as more spectrum becomes available.[102]

The current spectrum screen was designed at a time when far less spectrum was available for commercial mobile providers. In particular, it includes spectrum bands designated for cellular, PCS, Specialized Mobile Radio ("SMR"), and 700 MHz services, as well as AWS-1 and 55.5 MHz of Broadband Radio Service ("BRS") spectrum where available. The screen ranges from 95 MHz to 145 MHz, depending on the availability of AWS-1 and BRS. The Commission should now adjust the screen to include three categories of spectrum that, as the Commission itself has acknowledged,[103] are now used or usable for mobile wireless services:

- *First*, the Commission should include *all* 194 MHz of BRS/EBS spectrum, not just the 55.5 MHz it has considered before. The BRS/EBS transition is now, in the Commission's words, "nearly complete," and Clearwire and its partners (including Sprint and Time Warner Cable) are making widespread use of this spectrum to provide WiMAX service throughout the country.[104]

- *Second*, the Commission should also include 90 MHz of MSS/ATC spectrum within the screen. As the Commission itself found earlier this year, MSS/ATC providers will soon "provide mobile services similar to those provided by [other] mobile providers" and should thus be considered "in the context of our existing competitive analysis framework for mobile telephony/broadband services."[105]

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102 *See, e.g.*, Memorandum Opinion and Order, *Sprint Nextel Corporation and Clearwire Corporation Applications for Consent to Transfer Control of Licenses, Leases and Authorizations*, 23 FCC Rcd 17570, 17596 ¶ 61 (2008) (updating spectrum screen to include AWS-1 and certain BRS spectrum); *AT&T/Dobson Order*, 22 FCC Rcd at 20307-08, 20315 ¶¶ 17, 35 (updating spectrum screen to include 700 MHz spectrum "given its availability and suitability on a nationwide basis for the provision of mobile telephony services").

103 *Fifteenth Report*, 26 FCC Rcd at 9823-26 ¶¶ 270-77; Report and Order, *Fixed and Mobile Servs. in the Mobile Satellite Service Bands*, 26 FCC Rcd 5710, 5720-21 ¶ 23 (2011) ("*2011 MSS Order*").

104 *Fifteenth Report*, 26 FCC Rcd. at 9824 ¶ 273.

105 *2011 MSS Order*, 26 FCC Rcd at 5720-21 ¶ 23. *See* Section I.A., *supra* (discussing plans of LightSquared and DISH to provide service over various MSS bands).

- *Third*, the Commission should also include the 10 MHz of PCS G Block spectrum that Sprint has announced it will use to launch its LTE services by mid-2012.[106]

All of these broader spectrum categories "meet the criteria for suitable spectrum within two years" and are thus appropriately considered "a relevant input" for purposes of the Commission's spectrum screen.[107]

In contrast, the Commission should *not* include WCS spectrum within the spectrum screen analysis because that spectrum remains unsuitable for mobile services. As the Commission has acknowledged, WCS spectrum has been encumbered by technical limitations and overly restrictive rules designed to protect Satellite Digital Audio Radio Service ("SDARS"), which operates in adjacent spectrum.[108] The recent modifications to the technical and performance rules still fail to make the spectrum usable for mobile broadband wireless services. Those rules limit the A and B Blocks to use in connection with fixed services (and even those uses remain challenging) and effectively prevent the use of the C and D Blocks for all but niche services.[109] To take one example, the power spectral density limit imposed by the Commission

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106 *Fifteenth Report*, 26 FCC Rcd at 9825, Table 26 & n.***; *see* Phil Goldstein, *Sprint to launch LTE on 1900 MHz spectrum by mid-2012*, FierceWireless (Oct. 7, 2011), http://www.fiercewireless.com/story/sprint-launch-lte-1900-mhz-spectrum-mid-2012/2011-10-07 ("Sprint's initial LTE deployment will be in the G-Block of the 1900 MHz band, where Sprint has a nationwide 5X5 MHz block of spectrum[.]").

107 *Verizon/ALLTEL Order*, 23 FCC Rcd at 17477 ¶ 62.

108 Report and Order and Second Report and Order, *Amendment of Part 27 of the Communications Rules to Govern the Operation of Wireless Communications Services in the 2.3 GHz Band, Establishment of Rules and Policies for the Digital Audio Radio Satellite Service in the 2310-2360 MHz Frequency Band*, 25 FCC Rcd 11710, 11711, 11714 ¶¶ 1, 5 (2010) (noting that the then-current rules for WCS "effectively limit terrestrial operations to fixed services" and that the WCS Band lacks "a permanent regulatory framework"—largely due to the "difficulty of resolving potential interference among the proposed operations of SDARS and WCS licensees in a manner that will permit the two services to co-exist"), *recon. pending*.

109 *See* AT&T Petition for Partial Reconsideration, *Amendment of Part 27 of the Commission's Rules to Govern the Operation of Wireless Communications Services in the 2.3 GHz Band, Establishment of Rules and Policies for the Digital Audio Radio Satellite Service in*

for WCS spectrum will require up to four times as many cell sites for adequate voice service on an LTE network and will reduce the network's quality, throughput, and efficiency.[110] Moreover, the new technical and service rules remain contested by all sides,[111] and the resulting uncertainty has meant that licensees and equipment vendors have yet to make decisions about equipment design, manufacturing, and acquisition. Thus, the devices and infrastructure needed to use WCS for mobile broadband services do not exist—and will not exist for the foreseeable future.

B. The Backhaul Marketplace Has Never Been More Efficient or Competitive.

The *Sixteenth Report Notice* asks (at 14) "[w]hich types of technologies . . . service providers [are] using for backhaul" and "how the structure of the market for backhaul services affects overall competition in the mobile wireless service sector." AT&T has addressed this issue in great detail in prior filings, to which it respectfully refers the Commission. The short answers, however, are that (1) the industry is turning increasingly and overwhelmingly to fiber- and microwave-based Ethernet backhaul services to cope with increasing wireless demand and (2) the market to provide such services is intensely competitive.

Years ago, backhaul was provided mainly over legacy TDM special access services, particularly DS1s, and the principal focus of the Commission's ongoing special access

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the 2310-2360 MHz Frequency Band, WT Docket No. 07-293, IB Docket No. 95-91, GEN Docket No. 90-357 & RM-8610, at 13-22 (Sept. 1, 2010) ("*AT&T Reconsideration Petition*"); AT&T Inc., *Amendment of Part 27 of the Commission's Rules to Govern the Operation of Wireless Communications Services in the 2.3 GHz Band, Establishment of Rules and Policies for the Digital Audio Radio Satellite Service in the 2310-2360 MHz Frequency Band*, Reply to Oppositions of Sirius XM Radio Inc., Aerospace and Flight Test Radio Coordinating Council, and the Boeing Company to the Petition for Partial Reconsideration of AT&T Inc., WT Docket No. 07-293, IB Docket No. 95-91, GEN Docket No. 90-357 & RM-8610, at 3-5 (Nov. 1, 2010).

110 *AT&T Reconsideration Petition* at 13-22.

111 In addition to AT&T, the WCS Coalition, Sirius XM, the Aerospace and Flight Test Radio Coordinating Council, Boeing, and ARRL filed petitions for reconsideration or clarification.

proceeding has been requests for intrusive re-regulation of these TDM services. These mid-decade complaints, however, have been overtaken by events in the wireless marketplace. That marketplace is characterized today, as the Commission has repeatedly acknowledged, by exploding demand led by the rapid growth of wireless broadband data services. *See* Section I.B.1, *supra*. To meet this demand, wireless broadband providers need high-capacity backhaul, and therefore the entire industry is increasingly turning away from legacy TDM-based DS1s and embracing a wide variety of alternatives, including fiber and microwave Ethernet backhaul.[112]

ILECs such as AT&T and Verizon have no advantage in providing such services; in fact, most of the leading providers of these forms of backhaul services are not ILECs. Rather, the Ethernet playing field is fragmented and highly competitive, and industry analyst reports confirm that ILECs supply a minority of Business Ethernet ports today—no single provider has more than a 24 percent share of the overall business; seven companies have more than five percent; five of the top eight providers lost port share or remained steady in 2010, while the remaining providers gained share.[113] Fixed microwave also ranks among the most important alternative backhaul options available today; indeed, Clearwire relies on microwave for more than 90 percent of its backhaul needs.[114] Cable companies have also aggressively expanded into the

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112 *See* Comments of AT&T Inc., *Special Access Rates for Price Cap Local Exchange Carriers, AT&T Corp. Petition for Rulemaking to Reform Regulation of Incumbent Local Exchange Carrier Rates for Interstate Special Access Services*, WT Docket No. 05-25 & RM-10593, at 14-15 (filed Jan. 19, 2010) ("*AT&T Jan. 19, 2010 Special Access Comments*").

113 Vertical Systems Group, *Year-End 2010 U.S. Business Ethernet Port Share*; *see also* Vertical Systems Group, *Mid-Year 2010 U.S. Business Ethernet Port Share* ("Continuing a trend that was identified from previous share results, Competitive Providers and Cable MSOs once again gained port share from Incumbents [ILECs]. This trend is attributed primarily to a broadening of market competition[.]").

114 Phil Goldstein, *Clearwire CTO urges infrastructure industry to focus on capacity*, FierceWireless (Oct. 5, 2010), http://www.fiercewireless.com/story/clearwire-cto-urges-infrastructrue-industry-focus-capacity-4g-networks/2010-10-05#ixzz1OJL7cVKn; *see Willig Reply Decl.* ¶ 91 (attached to *AT&T/T-Mobile Joint Opp.*).

provision of backhaul services, and the larger cable companies' business-oriented special access offerings are now billion dollar operations.[115] Additional competitors such as Level 3, XO, tw telecom, FiberTower, and Zayo Bandwidth continue to compete vigorously as well.[116] In the words of Level 3's CEO James Crowe, "the incredible growth rate" in wireless usage will continue generating "a very large opportunity for a lot of the participants in our industry."[117]

T-Mobile is an illustrative beneficiary of this trend. As it has explained to the Commission, it has found that there are many backhaul competitors in urban, suburban, and fringe areas, and although it originally contracted with microwave backhaul providers, it now focuses on Ethernet over fiber and has contracts in different cities with various cable operators,

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115 *See* Mike Robuck, *Mobile Backhaul: Opportunity Knocks for Cable Operators*, CEDMagazine.com (Mar. 1, 2011) ("Mobile backhaul has been a mainstay for Cox Communications' revenue over the past 10 years, but with the advent of the new Long Term Evolution networks, Cox and other cable operators are looking to tap into an even bigger revenue stream. Last year, the business services divisions of Cox Communications and Time Warner Cable rang up more than $1 billion each in commercial services revenue, with cell backhaul providing significant chunks of those revenues."), http://www.cedmagazine.com/articles/2011/03/mobile-backhaul-cable-operators.aspx; *see also, e.g.*, Time Warner Cable, *1Q 2011 Results*, at 7 (Apr. 28, 2011) (cell tower backhaul increased by 115.4% year-over-year), http://phx.corporate-ir.net/External.File?item=UGFyZW50SUQ9OTExNTN8Q2hpbGRJRD0tMXxUeXBlPTM=&t=1; Conference Call Tr., *Q1 2011 Comcast Earnings Conference Call,* Factset:callstreet, at 10 (May 4, 2011) ("[O]ur cell backhaul business is ramping nicely. . . . [Our] Metro-E[thernet] [services is] in 11 of 19 markets. . . . [W]e increased our cell backhaul towers by about 80% last year. So that business is . . . going very well."), http://files.shareholder.com/downloads/CMCSA/1278329537x0x464890/a9432fc4-bf26-4db5-81a5-5548501e9ced/CMCSA_TranscriptQ1_5.4.11.pdf.

116 *See AT&T Jan. 19, 2010 Special Access Comments* at 15-17; Comments of Qwest Commc'ns Int'l Inc., *Special Access Rates for Price Cap Local Exchange Carriers, AT&T Corp. Petition for Rulemaking to Reform Regulation of Incumbent Local Exchange Carrier Rates for Interstate Special Access Services*, WC Docket No. 05-25 & RM-10593, at 12-17 (filed Jan. 19, 2010).

117 Conference Call Tr., *Level 3 Communications' CEO Discusses Q1 2011 Results—Earnings Call*, Seeking Alpha (May 3, 2011), http://seekingalpha.com/article/267352-level-3-communications-ceo-discusses-q1-2011-results-earnings-call-transcript?part=qanda.

alternative fiber providers, and a wholly owned subsidiary of a utility company.[118] Non-ILECs now provide the connections for more than half of T-Mobile USA's 3G/4G capable cell sites.[119] And as a result of switching to Ethernet, T-Mobile USA has dramatically reduced its backhaul costs per unit of capacity.[120] Particularly outside its ILEC footprint, AT&T also purchases backhaul for its wireless network from competitive providers and has experienced similar choice in the marketplace.

Other providers report similar experiences. US Cellular uses microwave backhaul for at least one-third of its cell sites.[121] Clearwire uses microwave backhaul to connect 90% of its cell sites.[122] Leap has announced that "last mile competition and migration to Ethernet [is] expected to" significantly reduce its "relative backhaul costs."[123] MetroPCS is rapidly transitioning to Ethernet backhaul, and it recently entered into an agreement with Bright House Networks under which Bright House will "provide[] fiber-based Ethernet" to MetroPCS in Orlando and Tampa, Florida.[124] Verizon is moving to Ethernet backhaul solutions for its LTE mobile wireless network, and has explained that "Ethernet backhaul is something we have been working very

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118 Decl. of David Mayo, ¶¶ 6-7 (attached to *AT&T/T-Mobile Joint Opp.*).

119 *Id.* ¶ 8.

120 *Id.* ¶ 9.

121 *See* Comments of U.S. Cellular, *Request of Alcatel-Lucent, et al For Interpretation of 47 C.F.R. § 101.141(a)(3) To Permit The Use Of Adaptive Modulation Systems*, WT Docket No. 09-106, at 1 (filed Jul. 27, 2009) (reporting approx. 2,350 microwave backhaul connections); United States Cellular Corporation, SEC Quarterly Report (2009 Form 10-Q), at 21 (Aug. 6, 2009) (reporting 7,043 total cell sites).

122 *See, e.g.*, Goldstein, *supra*.

123 Colin Holland, *Cricket 3G/4G Strategy*, at 11 (2010), http://phx.corporate-ir.net/External.File?item=UGFyZW50SUQ9NTYzMDV8Q2hpbGRJRD0tMXxUeXBlPTM=&t=1.

124 *See* Bright House Newsroom, *Bright House Networks Supports MetroPCS Backhaul Network Evolution to Ethernet* (Feb. 28, 2011), http://brighthouse.com/tampa-bay/about/8331.htm.

hard to get," with Verizon Wireless's CTO and Senior Vice President explaining that "I have been very impressed to see the amount of backhaul out there. In one market – which isn't a very large market – we had more than nine responses to an RFP we put out for backhaul . . . In my view, we have a very healthy ecosystem."[125]

Among all major wireless providers, Sprint was slowest off the block in upgrading from traditional TDM backhaul services, and it has been loudest in asserting that backhaul gives competitive advantages to wireless providers like AT&T and Verizon with ILEC affiliates. Sprint's own recent backhaul transactions, however, refute that assertion. Sprint recently announced that on October 7, 2011, it would be awarding contracts for fiber-based backhaul at 15,000 cell sites (it already had awarded contracts for 10,000 sites), and that it would be announcing a third round of awards for another 15,000 sites in mid-2012—many of which are in less populated areas.[126] Sprint stated that it "will end up with '25 to 30 significant backhaul providers' that will likely be a mix of incumbent LECs, cable MSOs, and alternative carriers, all of whom will be expected to deliver Ethernet predominantly over fiber for Sprint's new multi-mode network, which will combine the CDMA, IDEN and WiMax networks it uses today."[127] Sprint added that it "could still build its own backhaul facilities, where the alternatives presented don't meet its requirements, including in less populated markets," "[b]ut to date . . . [was] pleased with the way the industry has stepped up."[128] By mid-2012, Sprint will have put out for

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125 Sean Buckley, *Verizon Wireless' ongoing LTE drive creates a lush wireline-based backhaul opportunity*, FierceTelecom (May 28, 2011), http://www.fiercetelecom.com/print/node/27236.

126 Carol Wilson, *Sprint to Reveal Backhaul Contract Winners Friday*, Light Reading (Oct. 5, 2011), http://www.lightreading.com/document.asp?doc_id=213050.

127 *Id.*

128 *Id.*

competitive bid, and awarded to dozens of different providers, contracts to provide backhaul to 40,000 of its approximately 45,000 cell sites.[129]

Sprint adds that this "backhaul flexibility" has significantly reduced its backhaul costs.[130] Indeed, on the same day in which it announced these backhaul contracts, it told investors that, while it previously was "basically a T1 organization," "[n]ow we've got the opportunity to use fiber or microwave and we choose site-by-site, and it's an economic decision, and at times, has to be a technology decision."[131] And this flexibility has given Sprint "a very much improved cost structure."[132]

Sprint's announcement refutes its oft-repeated claims to regulators and other policymakers that (1) it lacks any meaningful backhaul alternatives to ILEC special access services, (2) purportedly anticompetitive ILEC special access terms and conditions prevent Sprint from taking advantage of the limited competitive alternatives that do exist, (3) Sprint cannot economically deploy its own backhaul facilities, (4) ILECs have an insurmountable first mover advantage in the provision of fiber-based transmission services, and (5) operational and economic considerations inhibit its ability to use the backhaul services of multiple providers. In short, Sprint's announcement confirms what AT&T has maintained all along and repeatedly documented: the market for high-capacity transmission services, including fiber-based services, is awash in competitive alternatives, and Sprint's claims for re-regulation are wholly unwarranted.

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129 *See* Credit Suisse, *Sprint, Network Sharing Deals Imminent*, at 4 (Apr. 5, 2011) (noting that Sprint has 45,000 base stations).

130 Conference Call Tr., *S-Sprint 4G Strategy/Network Update*, Thomson StreetEvents, at 8 (Oct. 7, 2011).

131 *Id.*

132 *Id.*

Finally, the proof of these points is in the pudding: special access pricing plainly is not hindering downstream wireless competition. Wireless competition is flourishing, and the fastest-growing carriers in the marketplace today are carriers such as Sprint, MetroPCS, and Leap/Cricket, even though each of these carriers relies on other parties for backhaul. And there is no public interest benefit to increasing regulation of access inputs for wireless service where special access prices are not preventing the downstream wireless marketplace from thriving. Indeed, the D.C. Circuit has confirmed that very point, holding that the facts about wireless competition "clearly show that wireless carriers' reliance on special access has not posed a barrier that makes entry uneconomic. Indeed, the multi-million dollar sums that the Commission regularly collects in its auctions of such spectrum, and that firms pay to buy already-issued licenses, seem to indicate that wireless firms currently expect that net revenues will, by a wide margin, more than recover all their non-spectrum costs (including return on capital)." *USTA v. FCC*, 359 F.3d 554, 575-77 (D.C. Cir. 2004) (citations omitted).

CONCLUSION

The Commission should find that wireless markets are intensely competitive.

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December 5, 2011