Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Wireless Telecommunications Bureau	)	
Seeks Comment on the State of Mobile	)	
Wireless Competition	)	WT Docket No. 11-186
	)	

REPLY COMMENTS OF CTIA-THE WIRELESS ASSOCIATION®

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Dated: December 20, 2011

EXECUTIVE SUMMARY

The record in this proceeding demonstrates that the mobile wireless marketplace is dynamic, innovative and robustly competitive. To showcase a sliver of the type of innovation that is driving the wireless ecosystem, CTIA's reply comments utilize Quick Response ("QR") codes to allow anyone with a smartphone the ability to quickly and easily scan the QR code to load videos showcasing different industry solutions that are enhancing modern society, and to provide a quick link to an electronic version of these reply comments. While a few commenters have argued that the market is not subject to competition, their arguments rely upon flawed analyses and are unsupported by facts. Based upon the record before the Commission, it is clear that the market is subject to effective competition – any finding to the contrary in the *Sixteenth Report* would be unreasonable, violating the FCC's statutory mandate.

In its initial comments, CTIA provided a wealth of data based on trusted third party sources and its own audited semi-annual survey. This data established that competition in the wireless marketplace fosters innovation to the benefit of consumers. Wireless carriers have continued to invest in currently deployed networks and build-out advanced networks, competing for consumers by expanding network capacity, coverage, and quality. Additionally, wireless carriers have continued to offer the most in-demand devices and innovative service plans. Spurred by this competition and demand, device manufacturers and operating system developers continue to develop new and innovative products. Every metric provided by CTIA in its initial comments shows that competitive forces in the wireless marketplace drive innovation. The comments of other market participants – including carriers, industry associations, manufacturers, and operating system developers – affirm

CTIA's data, creating a complete and convincing record of effective competition in this proceeding.

Against this backdrop, CTIA and numerous other commenters continue to call on the Commission to make additional spectrum available for mobile wireless services while removing barriers to network build-out and investment. It is essential that wireless providers face fewer impediments – both spectrum-related and regulatory – in expanding and improving their networks if they are going to meet the growing consumer demand for wireless services nationwide.

A few commenters have argued that the wireless marketplace is not competitive. Their arguments, however, substitute rhetoric for facts. The U.S. wireless market continues to be one of the most competitive and least concentrated markets in the world. While the Herfindahl-Hirschman Index is one factor to be considered in evaluating concentration in a marketplace (note that the Herfindahl-Hirschman Index for the United States is lower than any other developed country), it does not measure competition, and it is not the only factor of relevance. The Commission must consider direct evidence of market behavior which clearly shows that the U.S. wireless marketplace is highly competitive.

CTIA submits that the Commission must conduct a rational analysis of the record before it and reach the conclusion in the *Sixteenth Report* that the mobile wireless marketplace is subject to effective competition.

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REPLY COMMENTS OF CTIA-THE WIRELESS ASSOCIATION®

CTIA – The Wireless Association® ("CTIA") hereby submits its reply comments in response to the November 3, 2011 *Public Notice* by the Federal Communications Commission ("Commission" or "FCC") requesting input and data on mobile wireless competition for the Sixteenth Annual Report ("*Sixteenth Report*") on the State of Competition in Mobile Wireless, including Commercial Mobile Radio Services.[1] Highlighting a small aspect of the industry innovation that is driving the wireless ecosystem, CTIA's reply comments embed Quick Response ("QR") codes to give readers quick and easy access to videos showcasing industry solutions to modern problems and to provide a link to an electronic copy of these comments. One need only download one of the numerous free QR code readers offered through the applications stores of any major mobile smartphone operating system and use it to scan the QR code.

In its initial comments, CTIA submitted a plethora of compelling data demonstrating that the wireless ecosystem is, and has been, robustly competitive. As supplemented by the

[1] Wireless Telecommunications Bureau Seeks Comment on the State of Mobile Wireless Competition, *Public Notice*, WT Docket No. 11-186 (November 3, 2011) ("*Public Notice*").

comments of other market participants – carriers, industry associations, manufacturers, and operating system developers – the record now clearly demonstrates that the dynamic and highly competitive nature of the mobile wireless marketplace drives innovation to the benefit of consumers. Some commenters have alleged that the wireless ecosystem is concentrated, lacking any meaningful competition, but these assertions are based upon flawed analyses and unsupported by facts. CTIA urges the Commission to rely upon the record and make the appropriate finding that the mobile wireless market is subject to effective competition.

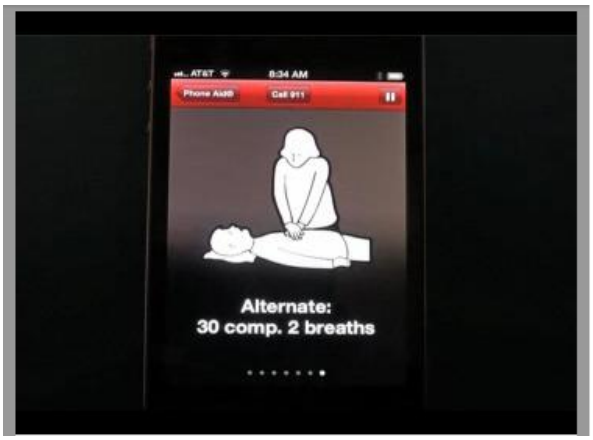
I. THE VIRTUOUS CYCLE CREATES WIRELESS "VERTICALS" THAT DIRECTLY BENEFIT INDIVIDUALS AND OUR SOCIETY.

As CTIA demonstrated in its initial comments, the virtuous cycle is bringing about innovation not just in the mobile ecosystem, but throughout our entire society and economy. These innovations have produced significant economic and societal benefits in wireless "verticals." CTIA has already highlighted a sampling of nearly sixty examples of these innovative solutions, and the additional examples below, showcased in CTIA's "Wonder of Wireless" webcasts, underscore the significant enhancements the wireless industry brings to all facets of modern society.

Mobile Health

- The mobile application Phone Aid taught High School basketball coach Eric Cooper CPR. Coincidentally, the very next day Coach Cooper had to use those skills to revive a student that had collapsed on the court.

CPR App Saves Athlete's Life



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http://www.youtube.com/watch?v=ty8STEYBvw0

- An iPhone application was able to provide Dan Woolley with lifesaving first aid information after the building he was in collapsed during an earthquake in Haiti.

Mobile App Saves Man's Leg and Life

Scan with Smartphone

http://www.youtube.com/watch?v=YCc5c7e3ApM

Public Safety

- To better aid the public, first responders developed a free application that alerts first aid trained citizens of nearby emergencies. This can cut down response time significantly.

App Alerts First Aid Trained of Emergencies Nearby

Scan with Smartphone

http://www.youtube.com/watch?v=wDYGH-I1dDw

- Wireless AMBER Alerts are notifying the public about children at risk and reuniting families.

Mobile AMBER Alert Saves Abducted Girl

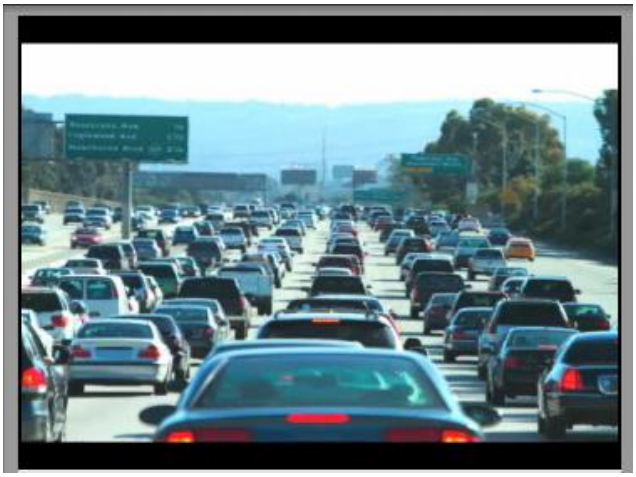
Scan with Smartphone

http://www.youtube.com/watch?v=vHRaIwyXPTw

Transportation

- Wireless and intelligent transportation solutions are keeping American's informed about traffic, the basic diagnostics of their vehicle, and even enabling consumers to address maintenance issues, all from their onboard systems.

Wireless Improves Transportation



Scan with Smartphone

http://www.youtube.com/watch?v=9UntpLxLZ7I

- As an example of members of the wireless ecosystem taking a proactive approach to combat distracted driving, Ford developed a system that goes beyond the traditional Bluetooth phone connection. It allows a user to answer and hear text messages, search for directions, and control the car's climate system, all with voice commands, while keeping both hands on the steering wheel.

Ford Plans in "Sync" with Safe Driving

Scan with Smartphone

http://www.youtube.com/watch?v=HRTSFTJ0DHk

Smart Grid and the Environment

- Wireless is also making deployment of the Smart Grid more efficient and cost-effective, no longer do companies have to string wire to every aspect of their electrical grid as they can monitor systems wirelessly.

Smart Grid Makes for Smart Wireless

Scan with Smartphone

http://www.youtube.com/watch?v=8LV28M9EzR0

- The wireless industry is developing solutions to protect the environment, like an iPad case that power's your iPad and other devices via solar power.

Eco-Friendly Wireless Products

Scan with Smartphone

http://www.youtube.com/watch?v=4JwO8zOTjqs

Business Solutions

- The mobile cloud allows businesses to access critical information anywhere, including the job site, and better serve their clients.

Business Turns to Mobile Cloud

Scan with Smartphone

http://www.youtube.com/watch?v=5_vQgWOPFHw

- Mobile financial services are facilitating charitable giving in the wake of major disasters to quickly get aid to affected areas.

Mobile Financial Services Benefits Haiti

Scan with Smartphone

http://www.youtube.com/watch?v=jzD7X7PHfcQ

II. THE RECORD STRONGLY SUPPORTS THE ROBUSTLY COMPETITIVE NATURE OF THE WIRELESS INDUSTRY

A. The New Data Introduced Into The Record Demonstrates That The Wireless Market Is Highly Competitive.

CTIA's initial comments in this docket provided an abundance of data based on CTIA's semi-annual report. CTIA's key indicators showed robust competition in each segment of the mobile wireless ecosystem.

- Investment. Wireless providers continue to invest in, build-out, and upgrade networks to compete effectively on network quality. By mid-year 2011, U.S. wireless carriers' cumulative capital expenditures totaled more than $322 billion, a staggering increase of more than $27 billion over the preceding 12-month period despite the challenging economic climate.

- Networks. Responding to competitive forces, U.S. wireless carriers continue their commitment to advanced network technologies. Carriers' ongoing deployment of 4G network technologies as well as capital investments and improvements in deployed 3G networks demonstrate this commitment. While the total U.S. population makes up less than five percent of the world's total population and less than six percent of world's total wireless subscribers, the U.S. is home to 21 percent of the world's 3G and 4G subscribers and nearly 87 percent of the world's LTE subscribers.

- Broadband. The number of 3G and 4G subscribers continues to grow. By the end of 2010, there were more than 119 million unique 3G and 4G subscribers, an increase of 19 million since the end of 2009.

- Devices. At least 32 companies manufacture over 630 devices for the U.S. wireless market. The market has experienced an incredible proliferation and adoption of smartphones and wireless-enabled tablets. As U.S. consumers have continued to adopt smartphone technology, the average price of smartphones has dropped dramatically, down to its current average price level of $135.

- Applications. Competition in the wireless marketplace spurs the development of new application stores, new applications, and open network initiatives. As of mid-year 2010, more than 240,000 apps were available on 7 operating systems from 7 different application stores; but, by mid-year 2011, over 1.19 million apps were available on at least 11 operating systems from more than 27 different non-carrier stores. By December 2011, there were more than 1.7 million application offerings from these independent non-carrier stores.

- Demand. Competition in the wireless marketplace continues to drive consumption and demand for wireless services. As of mid-year 2011, there were over 322 million active subscriber connections, approximately 22 million more than the previous year.

The wealth of data supplied by CTIA in its initial comments was supplemented by the comments of a number of wireless carriers providing details of their activities over the past year. The data included in these carriers' comments complements the statistics provided by CTIA, further demonstrating that the mobile wireless market is subject to intense competition.

A majority of carriers provided data showing that the market is competitive. Sprint noted that it is "shaking up the competition by offering laptop and tablet users more bandwidth for less."[2] AT&T noted that "[i]n an otherwise stagnant economy, the wireless ecosystem is a stronghold of competition, dynamism, and innovation."[3] Verizon Wireless observed that "[t]he facts here are compelling: the mobile market is effectively competitive, driven not only by vibrant rivalry among carriers, but also by the combinations (or value 'stacks') of devices, operating systems, applications, and content that comprise today's consumer offerings."[4] Finally, MetroPCS stated that "[t]he retail mobile wireless services marketplace is unquestionably competitive, with five to six retail facilities-based competitors and numerous mobile virtual network operators in most metropolitan areas."[5]

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[2] Comments of Sprint Nextel Corporation, WT Docket No. 11-186 at 14 (filed Dec. 5, 2011) ("Sprint Comments").

[3] Comments of AT&T, WT Docket No. 11-186 at 6 (filed Dec. 5, 2011) ("AT&T Comments").

[4] Comments of Verizon Wireless, WT Docket No. 11-186 at 3 (filed Dec. 5, 2011) ("Verizon Comments").

[5] Comments of MetroPCS, WT Docket No. 11-186 at 1 (filed Dec. 5, 2011) ("MetroPCS Comments").

NETWORK UPGRADES

Actual facts from carriers, industry associations, manufacturers, and developers bolster these anecdotal statements. Numerous studies have revealed that central to a consumer's selection of a service provider is network performance and coverage.[6] Wireless carriers vigorously compete for customers by upgrading their already deployed networks and building out new advanced networks. Over the past few years, carriers invested substantially in their networks. AT&T indicated that "since 2008, [it] has invested tens of billions of dollars to upgrade and expand its wireless network."[7] Sprint, the "first national wireless carrier to test, launch and market 4G technology," noted that "[b]y the close of 2010, [it] offered 4G service in 71 markets in 28 states...."[8] Through its agreements with Clearwire, it "expanded the reach of its 4G service offerings....."[9] Verizon Wireless stated that it has continued to "enhance its 3G wireless EV-DO networks" by investing in cell sites and equipment to improve the coverage and capacity of the network.[10] In addition, Verizon

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[6] Verizon Comments at 30 (citing Press Release, J.D. Power and Associates, *J.D. Power and Associates Reports: Overall Wireless Network Problem Rates Differ Considerably Based on Type of Usage Activity* (Aug. 25, 2011), http://www.jdpower.com/news/pressrelease.aspx?ID=2011141; Press Release, American Customer Satisfaction Index, *ACSI: Customer Satisfaction Turns Positive Despite Drop for Information Services* (May 2011), http://www.theacsi.org/index.php?option=com_content&view=article&id=246&Itemid=291.

[7] AT&T Comments at 3.

[8] Sprint Comments at 4.

[9] *Id.* at 3-4.

[10] Verizon Comments at 33-34.

"launched LTE service in 38 cities and 60 commercial airports, covering more than 110 million people" in December 2010.[11] As of November 2011, Verizon had "expanded LTE coverage to 179 markets covering more than 186 million people" and "plans to cover its entire existing nationwide 3G footprint with 4G LTE by the end of 2013."[12] Additionally, Verizon launched the Rural LTE Program "[t]o help expand LTE coverage in rural areas."[13] Through this program, Verizon "leases parts of its 700 MHz spectrum to rural carriers who then build out the network and share LTE services in those regions."[14]

Other wireless providers' network build-outs highlighted in the record also point to strong deployment of advanced networks, in response to competition. These initiatives include Leap's plans to serve 25 million people with LTE service by the end of 2012, and the announcement by U.S. Cellular to offer LTE services by the first quarter of 2012."[15] MetroPCS commented that it had "deployed LTE services in all of its major metropolitan areas, increasing speeds for its customers as well as overall capacity for the network."[16] MetroPCS explained that "[t]his advanced technology is a force that drives innovation and promotes competition, greatly contributing to the evolving broadband ecosystem...."[17] This aggressive LTE investment and deployment has solidified the unrivaled leadership of the U.S. via-a-vis other countries and regions across the globe. While the total U.S. population

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11 Verizon Comments at 32.

12 *Id.* at 32-33.

13 *Id*. at 33.

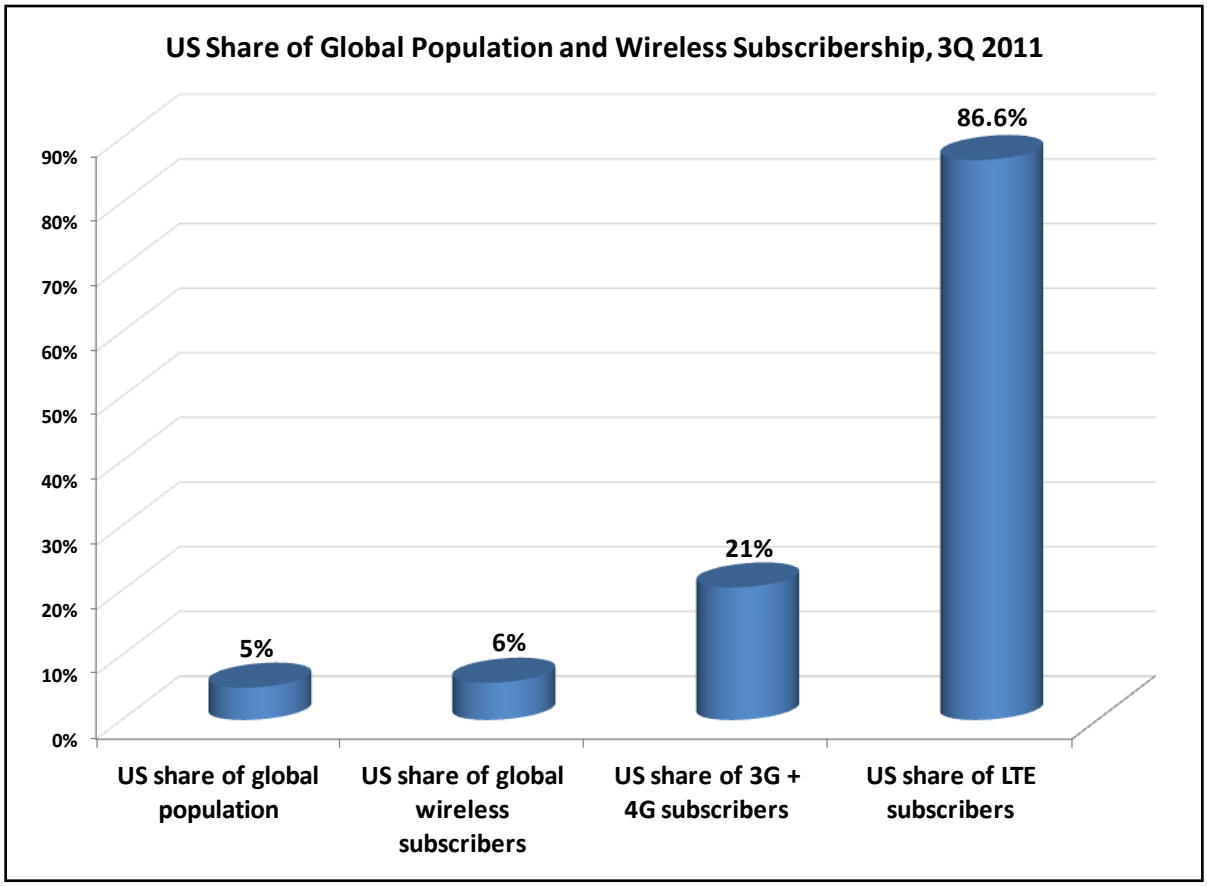
14 *Id*.

15 AT&T Comments at 12-13.

16 MetroPCS Comments at 18.

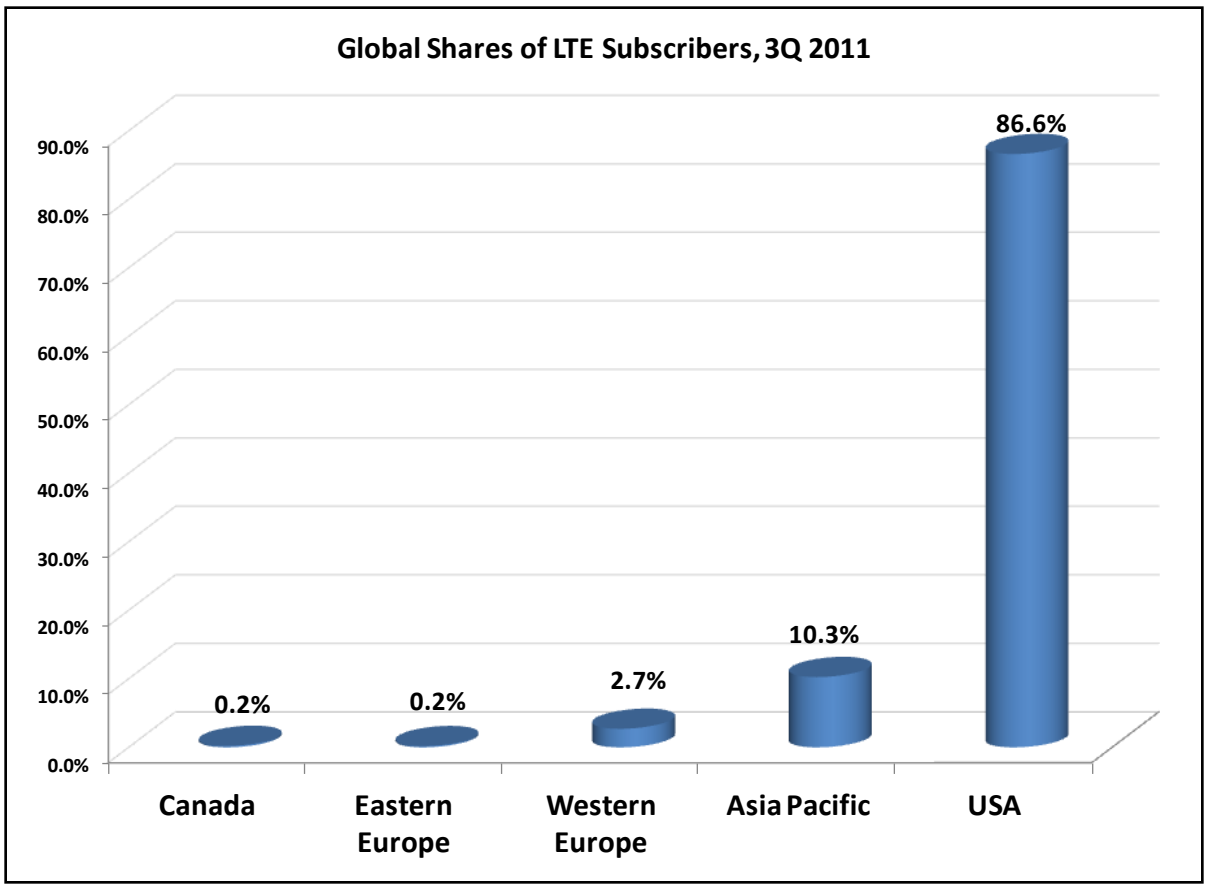
17 *Id*.

makes up less than five percent of the world's total population and less than six percent of world's total wireless subscribers, the U.S. now leads the world with a nearly 87% market share of LTE subscriptions—most other countries still do not offer consumers a 4G network.[18]



Source: Informa Telecoms & Media Group, WCIS+ database

[18] *See* Informa Telecoms & Media Group, WCIS+ database; Andrew Hoyle, *No 4G network for Britain until 2015, Ofcom warns*, CNET UK, http://crave.cnet.co.uk/mobiles/no-4g-network-for-britain-until-2015-ofcom-warns-50006373 (last visited Dec. 14, 2011) (stating that "Britain won't be getting a 4G network until 2015... .").



Source: Informa Telecoms & Media Group, WCIS+ database

Looking to the future, MetroPCS noted that it, along with other providers, has expressed an interest in deploying VoLTE, a technology which integrates voice and data service into a single stream.[19] VoLTE is a more efficient use of finite spectrum resources allowing carriers to serve a greater number of consumers with the same amount of spectrum.[20]

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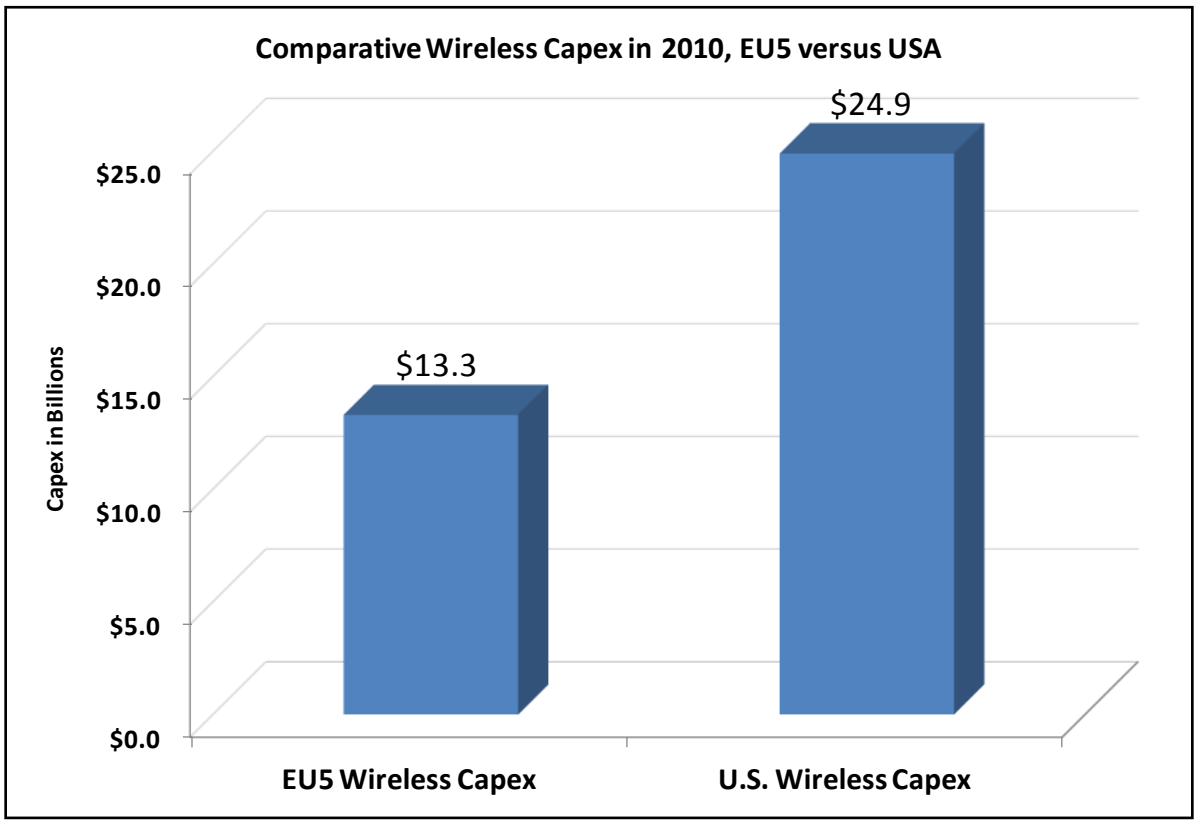
19 *Id*. at 19.

20 *Id*.

CAPITAL EXPENDITURES

The United States also stands apart as the clear leader in wireless investment. In 2010, U.S. wireless providers invested $24.9 billion in their currently operational networks alone, dwarfing the $13.3 billion invested by wireless providers in the five largest European countries combined.



Source: Bank of America Merrill Lynch Global Wireless Matrix, 3Q 2011

Even with ongoing investment and build-out of their networks, providers continue to look toward new advanced technologies capable of providing more consumers with better coverage and service.

DEVICES AND OPERATING SYSTEMS

Competition in the dynamic device and operating system segments of the mobile wireless marketplace has driven innovation. Carriers compete by offering consumers both coveted devices and a varied selection of operating systems – including Android, Apple iOS, BlackBerry OS, Palm OS, Windows Phone, and more.[21] Simultaneously, device manufacturers and operating system developers compete to provide the most innovative and in-demand products. MetroPCS commented that handsets continue to be an important consideration of consumers when choosing a wireless provider.[22] According to AT&T, "[t]oday, mobile providers of all stripes, large and small, have all obtained cutting-edge smartphones...."[23] Indeed, "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."[24] Sprint noted that it "has introduced dozens of 4G capable devices including the first 4G capable and industry leading smartphones, tablets, mobile hotspots, notebooks and netbooks."[25]

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21 AT&T Comments at 25.

22 MetroPCS Comments at 10.

23 AT&T Comments at 26.

24 *Id*.

25 Sprint Comments at 1-2.

This year has witnessed significant growth and change within the operating system segment of the wireless market. Google's operating system, Android, "has become a significant feature of the mobile wireless ecosystem" and "has grown exponentially" since its introduction in 2008.[26] Google stated that "more than 550 Android devices now [are] delivered via a global partnership network that encompasses 48 OEMs and 277 carriers across 137 countries. As of October 2011, more than 200 million Android devices had been activated worldwide – an increase of some 55 million in just three months."[27] Indeed, "[t]he growth of Android … has been a key driver of competition in numerous mobile wireless market segments, including devices, operating systems, applications, and mobile commerce."[28] "AT&T alone is launching nineteen new Android devices in 2011."[29] According to MetroPCS, handset prices have begun to drop with the introduction of "non-iPhone" smartphones ultimately "benefit[ting] consumers since lower handset prices lead to greater acceptance of advanced services, and puts pressure on carriers to innovate more in their service offerings."[30]

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[26] Comments of Google Inc., WT Docket No. 11-186 at 1-2 (filed Dec. 5, 2011) ("Google Comments").

[27] *Id.* at 1.

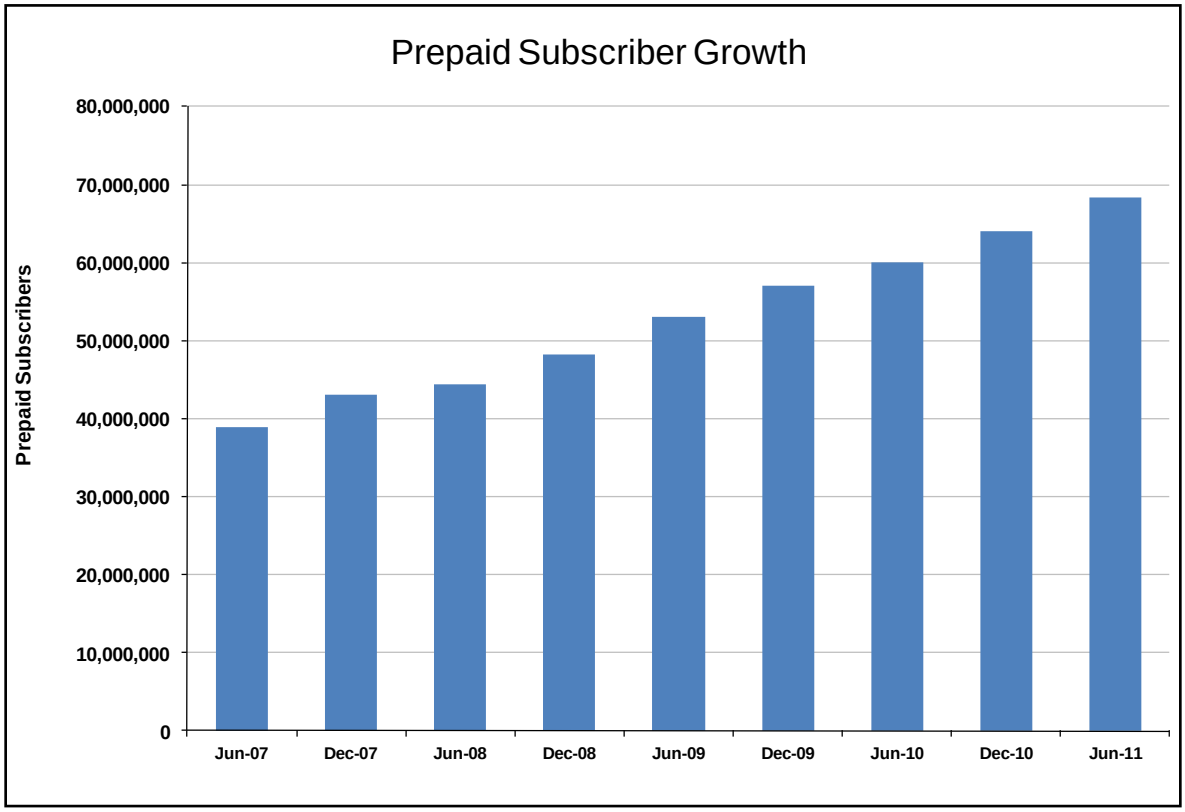
[28] *Id.* at 2.

[29] AT&T Comments at 27.

[30] MetroPCS Comments at 11. See also CTIA Comments at 22-23 (noting that the "average price of smartphones has dropped for four consecutive quarters, down to its current average price level of $135").

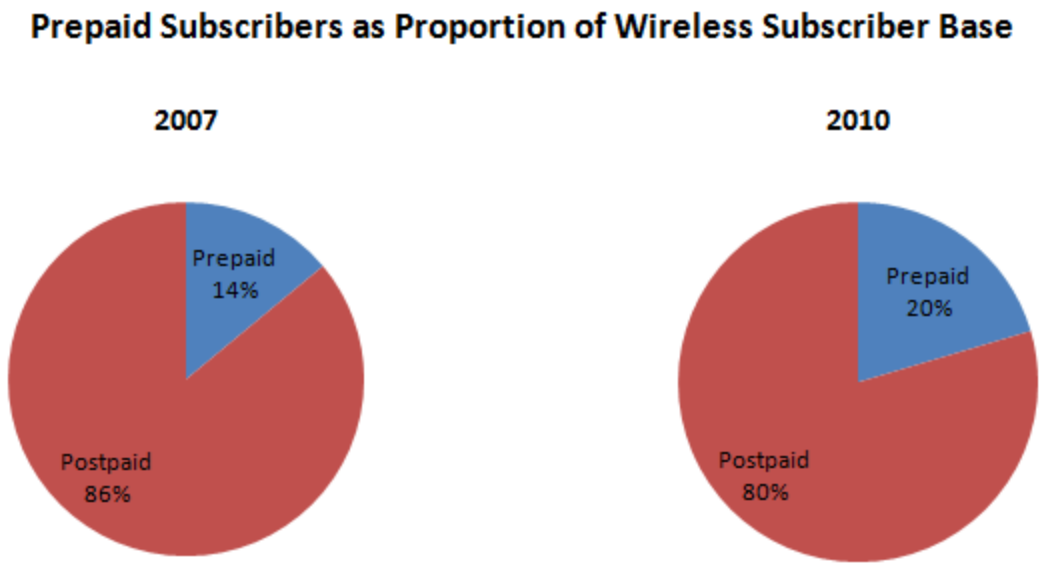
SERVICE PLANS

Competition in the wireless marketplace has continued to put pressure on carriers, who have responded by introducing lower prices and innovative service plans to consumers. In particular, numerous carriers noted an explosion in the popularity of prepaid wireless plans.[31] Indeed, prepaid subscribers grew from 38.9 million as of mid-year 2007 to 68.4 million as of mid-year 2011.



Source: CTIA Research

[31] *See, e.g.*, MetroPCS Comments at 15.



Source: CTIA Research

In its comments, MetroPCS discussed a study commissioned by the New Millennium Research Organization in 2010 which "found that new prepaid wireless phone customers outnumbered new postpaid customers for the first time, with prepaid service growing at 17 percent, and postpaid service growing at just three percent."[32] MetroPCS further noted that large carriers have begun to offer prepaid service plans, competing with smaller carriers.[33] Sprint, Verizon, T-Mobile and AT&T all have introduced prepaid service plans – AT&T offers the "GoPhone," T-Mobile offers a pay as you go plan, Verizon Wireless offers the "Unleashed" plan, and Sprint offers prepaid options through Virgin and Boost Mobile.[34] With the increasing availability of prepaid plans, "both large and small wireless providers are

[32] MetroPCS Comments at 15-16.

[33] *Id*. at 16.

[34] Verizon Comments at 20.

continuously offering new services and decreasing prices to stay competitive in the market and reduce churn."[35]

Wireless carriers also introduced innovative data plans in response to an increase in the use of wireless data services – including tiered pricing and unlimited data plans. AT&T, Leap, Sprint, T-Mobile, and Verizon now offer tiered pricing data plans.[36] The availability of tiered pricing plans makes the entry point of wireless data more affordable while providing consumers with a wider variety of plan options.[37] And, for those consumers who want unlimited data plans, Sprint continues to offer unlimited data plans for the iPhone,[38] MetroPCS offers unlimited web access for its smartphones,[39] and C Spire Wireless offers unlimited web, email and messaging with unlimited video streaming for an additional fee.[40] With the growth in data usage and service plan variety, AT&T noted that the price of

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[35] MetroPCS Comments at 16.

[36] Verizon Comments at 15 (citing Cricket, Data Plans, http://www.mycricket.com/broadband/plans.

[37] Verizon Comments at 12-13 (citing Suzanne Hopkins & Carrier MacGillivray, IDC, *U.S.Mobile Consumer Services 2011-2015 Forecast: Consumers Drive Smartphone Penetration* 8-9 at 4, 9 (Aug. 2011).

[38] Sprint Comments at 14.

[39] Verizon Comments at 15 (citing Verizon Wireless, Nationwide Single-Line Plans, http://www.verizonwireless.com/b2c/plans/?page=single; Verizon Wireless, Mobile Broadband Plans Details, http://www.verizonwireless.com/b2c/plans/?page=mobileBroadband; AT&T, Wireless, Data & Internet, http://www.wireless.att.com/cell-phone-service/services/services-list.jsp?catId=cat2510038&catName=Data+%26+Internet; T-Mobile, Shop Plans, Individual, http://www.t-mobile.com/shop/plans/individual-plans.aspx; T-Mobile, Shop Plans, Mobile Broadband Plans, http://www.t-mobile.com/shop/plans/mobile-broadband-plans.aspx; MetroPCS, *MetroPCS Flat-rate Cell Phone Plans*, http://www.metropcs.com/plans/default.aspx?tab=smartphones).

[40] Verizon Comments at 16 (citing C Spire Wireless, Why CHOICE Plans?, http://www.cspire.com/shop_and_learn/plans/category_plan_landing.jsp?id=cat320003).

wireless data plans has declined dramatically.[41] Moreover, as demand grows for wireless data, the "[a]verage industry revenue per MB fell by approximately 90% between 2008 and 2010... ."[42] Increased consumption of wireless data over the past year resulted in lower prices and a wider variety of data plans – yet another indication that the wireless marketplace is robustly competitive.

SPECTRUM

B. Commenters Support CTIA's Assertion That Additional Spectrum Is Needed To Fuel The Virtuous Cycle.

With mobile wireless data consumption increasing exponentially among consumers, the U.S. is facing a dire spectrum crunch. To cope with the explosion in data consumption, it is essential that advanced networks be deployed nationwide. So far, wireless carriers have responded by implementing new spectrally efficient technologies and investing in and building out new networks. However, technology alone cannot solve the spectrum crisis. It is vital that the Commission make additional spectrum available if carriers are to meet the demand for mobile broadband services across the U.S.

Numerous commenters echoed CTIA's contention that additional spectrum is needed to meet consumer demand for mobile broadband services while fueling competition and innovation within the wireless marketplace. Mobile Future, TechAmerica, and the Telecommunications Industry Association all acknowledged the growing demand for mobile

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41 AT&T Comments at 22.

42 *Id*.

broadband services among consumers and the need for additional spectrum.[43] Mobile Future noted that the increased consumption of mobile wireless data is due in part to a "growing demand for data-intensive content over mobile networks" "driven by uses in telemedicine, distance learning, mobile business applications, and social networking…" as well as other data-intensive applications.[44] It urged the Commission to reallocate spectrum for wireless services, warning that demand could surpass capacity within four years if additional spectrum is not made available to manage these applications and technologies.[45]

TechAmerica asserted that "technological innovation in the wireless ecosystem requires the increased availability and efficient use of spectrum."[46] It supported "the repurposing of broadcast spectrum for mobile broadband use via Congressionally-authorized voluntary spectrum auctions that are flexible and transparent" as well as "collaborat[ion] with the National Telecommunications and Information Administration ("NTIA") in supporting the efficient use of spectrum by federal and non-federal users so underutilized spectrum is fully utilized."[47] CTIA also supported these mechanisms in its initial comments.[48]

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[43] *See* Comments of Mobile Future, WT Docket No. 11-186 (filed Dec. 5, 2011) ("Mobile Future Comments"); s*ee also*, Comments of TechAmerica, WT Docket No. 11-186 (filed Dec. 5, 2011) ("TechAmerica Comments"); s*ee also*, Comments of Telecommunications Industry Association WT Docket No. 11-186 (filed Dec. 5, 2011) ("TIA Comments").

[44] Mobile Future Comments at 2.

[45] *Id.* at 2 (citing Peter Rysavy, *The Spectrum Imperative: Mobile Broadband Spectrum and Its Impacts for U.S. Consumers and the Economy*, (Mar. 16, 2011) *available at* http://www.rysavy.com/Articles/2011_03_Spectrum_Effects.pdf).

[46] TechAmerica Comments at 3.

[47] *Id.* at 3.

[48] *See* Comments of CTIA—The Wireless Association®, WT Docket No. 11-186 at 70-71 (filed Dec. 5, 2011) ("CTIA Comments"); *see also*, CTIA—The Wireless Association and

It is undeniable that making additional spectrum available for wireless broadband use will benefit both consumers and the U.S. economy. The Telecommunications Industry Association noted that it "will bring economic benefits such as increased jobs and gross domestic product, productivity gains ..., and societal benefits in areas such as public safety and personal security, healthcare, and education."[49] Particularly, Mobile Future indicated that reallocating spectrum for mobile broadband could "creat[e] hundreds of thousands of new jobs ... and contribut[e] more than $200 billion to the U.S. GDP" in addition to fostering capital spending in the private sector.[50] Based on this record, and the records in other proceedings before the Commission, there can be no doubt that there is a serious, looming spectrum crunch. CTIA urges the Commission to act quickly to make additional spectrum available if consumers and the U.S. economy are to reap the myriad proven benefits wireless broadband has to offer.

Consumer Electronics Association, *Broadcast Spectrum Incentive Auctions White Paper* (Feb. 15, 2011), *available at* http://blog.ctia.org/2011/02/15/ctia-and-cea-study-finds-broadcast-incentive-auction-will-net-us-treasury-more-than-33-billion.

[49] TIA Comments at 25.

[50] Mobile Future Comments at 3-4.

TOWER / ANTENNA DEPLOYMENT

C. Local Regulatory Barriers Continue To Impede Network Build-Out.

Ongoing investment and build-out of networks by wireless providers is a driving force of competition in the mobile wireless marketplace. As highlighted above and in CTIA's initial comments, wireless carriers continue to commit billions of dollars to capital expenditures – including equipment, structures, and spectrum – despite the challenging economic climate of recent years. Through investment in their networks, wireless carriers compete to attract customers by improving the quality and coverage of their mobile wireless services. While the Commission has taken steps recently to encourage investment and expedite build-out of networks by wireless carriers, including the adoption of the Shot Clock Declaratory Ruling and Pole Attachment Ruling, the Commission should take further steps to improve certainty and acceleration of the siting process that is crucial to network build-out.[51]

The siting process is of particular importance to network deployments involving small cell technologies. On October 28, 2011, the Commission hosted a Forum on Indoor Deployments of Small Cell Sites organized by the FCC Wireless Telecommunications Bureau with the FCC's Technical Advisory Committee Small Cell working group and

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[51] *See* Petition for Declaratory Ruling to Clarify Provisions of Section 332(c)(7)(B) to Ensure Timely Siting Review and to Preempt under Section 253 State and Local Ordinances that Classify All Wireless Siting Proposals as Requiring a Variance, *Declaratory Ruling*, 24 FCC Rcd 13994 (2009) ("Shot Clock Declaratory Ruling"); Implementation of Section 224 of the Act, *Report and Order and Order on Reconsideration*, 26 FCC Rcd 5240 (2011)("Pole Attachment Ruling").

Spectrum Task Force. The forum explored (1) small cell technologies, both those currently available and soon to be available, (2) business opportunities and challenges associated with utilizing these technologies to expand wireless data coverage, and (3) the economic impact of deployment of these technologies.[52] The forum recognized the incredible value that small cell technologies offer wireless service providers in the improvement of network capacity, coverage and performance.[53] Unfortunately, to the detriment of consumers nationwide, wireless carriers often are inhibited from reaping the full benefit of small cell technologies due to regulatory impediments that consistently interfere with carriers' ability to deploy and utilize these technologies.

In its initial comments, CTIA suggested a variety of steps the Commission should take to improve the siting process. Other commenters have supported CTIA's recommendations. TechAmerica commented that the Commission "should assist in streamlining the collocation and modification review process in order to fully enable the deployment of next-generation mobile wireless networks."[54] TechAmerica's comments drew attention to zoning re-review imposed on wireless service providers who want to "attach additional antennas or swap antennas on wireless infrastructure that has already passed an extensive local zoning and permitting process."[55] Attaching additional antennas and swapping antennas on wireless infrastructure "is the most efficient, cost-effective, and

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[52] Forum on Indoor Deployments of Small Cell Sites (Oct. 28, 2011), *available at* http://www.fcc.gov/events/forum-indoor-deployments-small-cell-sites.

[53] *See* Final Small Cell Forum Panel 1, Forum on Indoor Deployments of Small Cell Sites (Oct. 28, 2011), *available at* http://wireless.fcc.gov/spectrum/Small_Cell/Final_Small_Cell_Forum_panel_1.pdf.

[54] TechAmerica Comments at 5.

[55] *Id.* at 4.

quickest method of building out nationwide wireless networks."[56] CTIA and TechAmerica agree that extensive delays caused by zoning re-review impede the efficient deployment of networks and should be addressed by the Commission.

NextG and PCIA – The Wireless Infrastructure Association ("PCIA") both identified burdens imposed on wireless infrastructure deployment by state and local governments in their comments.[57] NextG indicated that it continues to encounter local regulatory schemes that hinder its ability to deploy facilities. It cited "complex, burdensome, discretionary, undefined, and discriminatory local permitting processes" as impediments to deployment.[58] As a result of these impediments, wireless carriers are "slowed" or "prevented" from competing with other carriers in the wireless retail market.[59] Additionally, network investment is jeopardized because NextG is unable to complete construction on time or provide reliable cost and time estimates for projects.[60]

Further, when deploying a regional network, commenters indicated that they often face very different treatment and requirements by "closely proximate cities."[61] In particular, PCIA highlighted the impediments that distributed Antenna Systems ("DAS") deployments face – both a lack of familiarity with the technology as well as a varied array of government

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56 *Id.*

57 *See, e.g.*, Comments of PCIA – The Wireless Association, WT Docket No. 11-186 at 11 (filed Dec. 5, 2011) ("PCIA Comments"); Comments of NextG Networks, Inc., WT Docket No. 11-186 at 11 (filed Dec. 5, 2011) ("NextG Comments").

58 NextG Comments at 8.

59 *Id.* at 7.

60 *Id.* at 8.

61 *Id*. at 9.

requirements – if the DAS system crosses jurisdictional boundaries.[62] PCIA estimated that 20 percent of the costs of broadband build-out is attributable to regulatory roadblocks.[63] As CTIA has highlighted in the Commission Accelerating Broadband proceeding,[64] CTIA joins these commenters in asking the Commission to work towards resolving these barriers to deployment so that wireless carriers are able to deploy services, serve customers and better compete through investment and build-out of new advanced networks.

III. SUGGESTIONS THAT THE WIRELESS ECOSYSTEM IS NOT COMPETITIVE ARE UNSUPPORTED OR BASED ON A FLAWED UNDERSTANDING OF THE INDUSTRY

A. The U.S. Mobile Wireless Market Is One of the Least Concentrated Wireless Markets on the Planet.

Some commenters erroneously argued in their initial comments that the mobile wireless marketplace is not competitive, but rather dominated by a few national service providers.[65] For example, Free Press claimed that "[t]wo vertically integrated, national, dominant carriers hold immense power and generate significant profits, while every other

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[62] PCIA Comments at 11.

[63] *Id.* (citing *FCC Eyes Reducing Barriers to Broadband Buildout*, Reuters, Feb. 8, 2011, available at http://www.reuters.com/article/2011/02/09/us-usa-broadband-buildout-idUSTRE7180J820110209; see also Prepared Remarks, Chairman Julius Genachowski, Federal Communications Commission, Broadband Acceleration Conference, Washington, DC (Feb. 9, 2011), *available at* http://www.fcc.gov/Daily_Releases/Daily_Business/2011/db0209/DOC-304571A1.pdf.; Fed. Commc'ns Comm'n Connecting America: The National Broadband Plan 113 (2010)).

[64] *See generally* Comments of CTIA-The Wireless Association®, WC Docket No. 11-59 (filed July 18, 2011); Reply Comments of CTIA-The Wireless Association®, WC Docket No. 11-59 (filed Sept. 30, 2011).

[65] *See* Comments of Free Press, WT Docket No. 11-186 at ii (filed Dec. 5, 2011) ("Free Press Comments"); *see also*, Comments of Twilio, Inc., WT Docket No. 11-186 at 6 (filed Dec. 5, 2011) ("Twilio Comments"); *see also*, Comments of Rural Cellular Association, WT Docket No. 11-186 (filed Dec. 5, 2011) ("RCA Comments").

competitor struggles to grow or even to survive."[66] Similarly, Twilio asserted that "[d]espite the opportunities available, mobile content developers and application developers face barriers to success that are not based on technological or engineering hurdles, but instead reflect a marketplace dominated by a few wireless carriers who seek to limit consumer use of their mobile devices."[67] Despite the severity of these claims, the commenters provide very few facts in support of their allegations. Indeed, the record clearly disproves these arguments.

The U.S. mobile wireless marketplace continues to be one of the most competitive and least concentrated in the world. The Herfindahl-Hirschman Index ("HHI") is an indirect factor that the Commission has relied upon in evaluating concentration in a marketplace, but it does not measure competition in the mobile wireless market. As of mid-year 2011, the HHI for the United States was the lowest among Organisation for Economic Co-operation and Development ("OECD") countries tracked by Bank of America/Merrill Lynch as indicated in the chart below.

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66 Free Press Comments at ii.

67 Twilio Comments at 6.

Wireless Mobile Competition in OECD Countries, 2Q 2011 HHI Values									
Number of Operators	1	2	3	4	5	6	7	All Others	HHI Sum
Australia	1,836.78	1,017.19	637.51	0.00	0.00	0.00	0.00	0.00	3,491.48
Austria	1,696.93	952.56	374.01	74.02	0.00	0.00	0.00	0.00	3,097.51
Belgium	1,730.77	830.96	654.60	15.89	0.00	0.00	0.00	0.00	3,232.22
Canada#	1,323.57	842.97	800.28	5.14	3.81	1.60	0.00	0.00	2,977.38
Chile	1,670.31	1,317.91	521.10	0.00	0.00	0.00	0.00	0.00	3,509.31
Czech Republic	1,609.12	1,296.19	570.42	0.00	0.00	0.00	0.00	0.00	3,475.73
Denmark*	2,121.22	693.44	358.67	75.19	0.00	0.00	0.00	0.00	3,248.52
Finland	1,554.20	1,325.42	584.20	0.00	0.00	0.00	0.00	0.00	3,463.83
France**	2,242.38	1,222.72	312.54	0.00	0.00	0.00	0.00	0.00	3,777.64
Germany	1,075.88	987.75	384.59	261.14	0.00	0.00	0.00	0.00	2,709.37
Greece	2,551.21	681.08	547.23	0.00	0.00	0.00	0.00	0.00	3,779.52
Hungary	2,154.99	901.98	554.37	0.00	0.00	0.00	0.00	0.00	3,611.34
Israel	1,173.48	1,044.08	865.05	16.16	0.00	0.00	0.00	0.00	3,098.77
Italy	1,175.97	1,097.50	508.71	100.49	0.00	0.00	0.00	0.00	2,882.67
Japan	2,296.37	748.58	459.80	10.74	0.00	0.00	0.00	0.00	3,515.48
Korea	2,576.71	991.61	315.02	0.00	0.00	0.00	0.00	0.00	3,883.35
Mexico	4,946.63	467.31	19.08	13.56	0.00	0.00	0.00	0.00	5,446.57
Netherlands	2,470.34	673.17	593.02	0.00	0.00	0.00	0.00	0.00	3,736.53
New Zealand	2,254.28	1,640.74	144.35	0.00	0.00	0.00	0.00	0.00	4,039.37
Norway	2,850.40	851.84	80.53	71.42	0.00	0.00	0.00	0.00	3,854.18
Poland	938.93	846.00	774.72	154.71	0.00	0.00	0.00	0.00	2,714.36
Portugal	1,867.31	1,271.55	446.43	0.00	0.00	0.00	0.00	0.00	3,585.28
Spain*	1,853.01	939.22	465.99	22.28	0.00	0.00	0.00	0.00	3,280.50
Sweden	2,072.88	835.92	252.70	93.36	0.00	0.00	0.00	0.00	3,254.86
Switzerland	3,880.61	446.63	274.63	0.00	0.00	0.00	0.00	0.00	4,601.87
Turkey	2,856.27	752.69	365.60	0.00	0.00	0.00	0.00	0.00	3,974.56
United Kingdom**	1,323.48	855.46	630.24	85.88	0.00	0.00	0.00	0.00	2,895.07
United States**	1,083.88	932.97	260.64	108.21	7.91	3.42	3.17	12.57	2,412.76

Sources: Bank of America Merrill Lynch Global Wireless Matrix 3Q2011, CTIA Research, Canadian Wireless Telecommunications Association (CWTA), and carrier investor releases.

#Source CWTA.

*Differs from originally reported HHI sum as a result of methodological difference.

**Recalculated by CTIA Research to reflect multiplicity of operators, while still aggregating all companies beyond the top seven into a single "all other" category.

As reflected in the chart below, the United States is one of only two OECD countries tracked by Bank of America/Merrill Lynch with five or more key mobile wireless carriers competing in its wireless market. Of the remaining OECD countries tracked by Bank of America/Merrill Lynch, 14 have only three key mobile wireless carriers and 11 have only four mobile wireless carriers. It is undeniable that the U.S. wireless market is one of the least concentrated in the world with more mobile carriers competing to provide service than most other OECD countries.

Number of Carriers in OECD Countries, 2Q 2011		
Three Mobile Carriers	**Four Mobile Carriers**	**Five or More Mobile Carriers**
Australia	Austria	Canada
Belgium	Denmark	USA
Chile	Germany	
Czech Republic	Israel	
Finland	Italy	
France	Japan	
Greece	Korea	
Hungary	Mexico	
Netherlands	Poland	
New Zealand	Spain	
Norway	Sweden	
Portugal	UK	
Switzerland		
Turkey		

Source: Bank of America Merrill Lynch Global Wireless Matrix 3Q2011

While the U.S.'s HHI is instructive as indirect evidence of the robustly competitive nature of the mobile wireless market, it is only one factor the Commission should consider in its competitive analysis. Indeed, direct evidence of market behavior must also be considered and given primary importance. The initial comments of CTIA and other market participants demonstrate that aggressive pricing behavior, robust entry, and long-term reduction in prices

is exactly what is occurring in the U.S. mobile wireless market.[68] Comments from CTIA and other market participants demonstrate that prices for wireless services have continued to decline over the past year.[69] The record demonstrates that numerous wireless providers—including national, regional, and rural carriers—vigorously compete in the U.S. wireless market.[70] CTIA asks the Commission in its competitive analysis of the mobile wireless market to evaluate and consider the direct evidence of firm and consumer behavior, rather than relying primarily on indirect evidence of market concentration in reaching its conclusion.

Free Press claimed that there are signs of a lack of meaningful competition among wireless carriers.[71] However, Free Press fails to provide convincing data to support this claim. Free Press relies upon rhetoric while ignoring the wealth of data identified by CTIA and other market participants. Free Press asserted that "effective competition may be best understood as competition that improves service quality or reduces price for Internet access services…."[72] CTIA agrees with this as one way to define the impact of competition on a market. T that end, it would be amazing for Free Press to actually try to argue that service

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68 *See generally* CTIA Comments.

69 *See* CTIA Comments at 53-57. *See also* AT&T Comments at 22; MetroPCS Comments at 11.

70 *See* Comments of Verizon and Verizon Wireless, WT Docket No. 11-186, at 4-7 (filed Dec. 5, 2011); Comments of The Telecommunications Industry Association, WT Docket 11-186, at 2 (filed Dec. 5, 2011); Comments of MetroPCS, WT Docket No. 11-186, at 1 (filed Dec. 5, 2011); Comments of AT&T Inc., WT Docket No. 11-186, at 2-4 (filed Dec. 5, 2011); Comments of Sprint Nextel Corp., WT Docket No. 11-186 (filed Dec 5., 2011); Comments of the National Telecommunications Cooperative Association, WT Docket No. 11-186 (filed Dec. 5, 2011); Comments of TechAmerica, WT Docket No. 11-186, at 2 (filed Dec. 5, 2011).

71 Free Press Comments at ii.

72 *Id.* at 2.

quality has not improved and prices have not declined. As demonstrated by CTIA, improved service quality and reduced prices is precisely what is occurring in the wireless industry.

By Free Press' own definition, the U.S. market is subject to effective competition. Wireless carriers have continued to invest in advanced network technologies – with most carriers either launching or announcing intentions to launch 4G networks.[73] These advanced network offerings contribute to improved service quality for consumers. Further, over the past year, numerous carriers and industry associations have introduced consumer friendly practices that improve customer experience of wireless services, whether consisting of the carriers' offerings of numerous, flexible mobile service plans, value pricing, free usage notifications under the "Wireless Consumer Notification Guidelines," "Wireless Consumer Checklist" Initiative, or others.[74] Moreover, commenters indicate that prices for Internet access services have declined remarkably in recent years.[75] Free Press provides no data to support its claims that the U.S. wireless market is uncompetitive. Instead, when the record consisting of data submitted by CTIA and other commenters is considered, by Free Press' own definition, the U.S. market is subject to effective competition.

B. Contrary To Twilio Inc.'s Assertions, SMS and CSC Should Not Be Subject To Common Carrier Regulation.

In its comments, Twilio asserted that competition in mobile applications would be served by extending common carriage obligations to Short Messaging Service ("SMS" or "text messaging") and Common Short Codes ("CSCs" or "Short Codes") in addition to

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[73] CTIA Comments at 12-16.

[74] *Id.* at 53-62.

[75] AT&T Comments at 22-23.

reforming the Common Short Codes system, developed in part by CTIA.[76] CTIA has opposed these proposals in another proceeding before the Commission and reiterates its objections herein.[77] First, by its own accounts, Twilio has developed a thriving communications company that "allow[s] web developers to integrate phone calls, text messages, and IP voice communications into their web, mobile, and traditional phone applications."[78] Contrary to the unfounded charges leveled in its comments, no actual barriers to entry exist nor are there other restrictions on CSCs or SMS that prevent Twilio from offering innovative services.

Second, Twilio recommended that "the Commission [] apply common carriage principles to all text messages" to prevent wireless carriers from "blocking" these messages.[79] Without providing any legal argument as to how SMS or CSC fit within the statutory framework of the Communications Act of 1934, as amended, Twilio cited harm to consumers and innovation as justification for Commission intervention in wireless carrier treatment of these services. Unlike traditional mobile voice service, neither SMS nor CSC falls within the definition of Commercial Mobile Radio Service ("CMRS").[80] The Commission should recognize that neither is an interconnected service, but rather an

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[76] Twilio Comments at 4, 8, 12.

[77] Comments of CTIA—The Wireless Association®, WC Docket No. 08-7 (Filed Mar. 4, 2008) ("CTIA Public Knowledge Comments").

[78] Moreover, GroupMe, the Twilio customer that provides text message services recently was acquired by Skype for more than $80 million dollars, indicating a very bright future for these services. Twilio comments at 3-5; Spencer Ante, *Skype to Acquire Start-Up GroupMe*, Wall Street Journal, Aug. 22, 2011, *available at* http://online.wsj.com/article/SB10001424053111903327904576522964260277734.html

[79] Twilio Comment at 8.

[80] CTIA Public Knowledge Comments at 7.

information service falling under Title I, not subject to the common carrier obligations of Title II.[81]

In lieu of a legal argument, Twilio provided vague policy justifications supporting common carrier treatment of these services. Twilio claimed that by blocking text messages, wireless carriers harm consumers. Indeed, it asserted that "even one instance of blocking is consumer harm… ."[82] However, wireless carrier practices were designed to protect consumers, not to restrict their use of SMS services.[83] Wireless carriers do not block messages between wireless consumers.[84] A carrier will forward a consumer's text message to its intended recipient regardless of content so long as the consumer does not send so many identical messages as to trigger the carrier's spam filter.[85] Carriers do filter SMS, blocking some messages that originate on the Internet, to protect consumers from "unwanted and costly spam."[86] These practices were developed in response to the demands of wireless consumers.[87] Not all consumers want to receive SMS messages, perhaps to avoid paying for

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81 *Id.* at 3. Twilio and its competitors permit, indeed enable and encourage, SMS messaging for anyone with an IP connection – without requiring their customers to have service with a CMRS carrier. It would be an unprecedented reach for the FCC to sweep such IP communications into Title II.

82 Twilio Comments at 7.

83 CTIA Public Knowledge Comments at 2.

84 *Id.* at 2.

85 *Id.* at 9.

86 *Id.* 2, 9.

87 *Id.* at 8.

the unwanted receipt of a text message or for fear of falling victim to a "smishing" message, and all carriers permit customers to opt out of receiving these messages.[88]

Third, Twilio recommended that the FCC reform the Common Short Codes system to "encourage growth in the mobile marketplace."[89] As CTIA has previously noted, it is imperative that "[c]arriers [] retain the ability to implement Short Code policies intended to protect consumers from fraud, spam and objectionable material."[90] Any intervention by the Commission which would limit carriers' ability to reject CSC will expose consumers to "fraud and unwanted or objectionable material."[91] Twilio claimed that existing laws such as the Telephone Consumer Protection Act ("TCPA")[92] are sufficient to protect consumers from unwanted text messages.[93] Twilio could not be more mistaken. The Commission's own complaint data reveal the extraordinarily large number of wireless TCPA complaints. For example, from 2008-2010, the Commission received 142,477 wireless-related TCPA complaints. And the number of wireless-related TCPA complaints continues to grow, with 72,334 complaints received in 2010. According to the Commission's own Quarterly Reports, almost 75% of all of the wireless complaints involving "top consumer issues" in 2010 were TCPA-related. As the complaints logged by the Commission's Consumer & Governmental Affairs Bureau make clear, this pervasive, unlawful third-party conduct is disruptive to

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88 *Id.* at 10.

89 Twilio Comments at 11.

90 CTIA Public Knowledge Comments at 4.

91 *Id.* at 11.

92 47 U.S.C. § 227.

93 Twilio Comments at 7.

consumers' wireless experiences and has been continuing for years. These TCPA violations impose significant costs on consumers and carriers and divert industry resources away from developing innovative new services. Moreover, to protect their citizens from fraud and unwanted or objectionable material, state Attorneys General affirmatively require carriers to monitor CSCs and protect the customers.[94] It is imperative that the Commission continue to recognize the benefits conferred on consumers by allowing carriers the flexibility to quickly and effectively respond to consumer concerns and demands without regulatory intervention.

CTIA agrees with Twilio that economic growth in the mobile application sector of the wireless ecosystem should be encouraged,[95] but regulation by the FCC will not foster such growth. While Twilio claimed that "[d]evelopers are reluctant to create new applications knowing they are susceptible to being shut down by a carrier,"[96] the fact that the app world has grown exponentially over the last year proves that argument false. Over the past year, the application sector of the wireless ecosystem has experienced tremendous growth and innovation.[97] The wireless ecosystem is competitive, demonstrated in part by the robust innovation and dynamism of the mobile application sector, and regulatory intervention by the FCC is unwarranted.

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[94] *See, e.g.*, Fla. Att'y Gen'l., Assurance of Voluntary Compliance (outlining these requirements for AT&T, Verizon, and M-Qube), *available at* http://myfloridalegal.com/webfiles.nsf/WF/MRAY-7CAJ86/$file/ATTAVC.pdf; http://myfloridalegal.com/webfiles.nsf/WF/KGRG-7TAJQ2/$file/VerizonAVC.pdf; http://myfloridalegal.com/webfiles.nsf/WF/MRAY-7J4RKA/$file/m-QubeAVC.pdf.

[95] Twilio Comments at 5.

[96] *Id*. at 8.

[97] CTIA Comments at 30-34.

IV. CONCLUSION

Any rational analysis of the wealth of data provided by CTIA and other commenters – including carriers, industry associations, manufacturers, and operating system developers – will lead to the conclusion that the wireless ecosystem is by its nature competitive, spurring innovation to the benefit of U.S. consumers. CTIA and other commenters have clearly demonstrated that the mobile wireless market is robustly competitive. Contrary to the assertions of some commenters, at every level of the wireless market, participants compete fiercely for consumers – improving the quality and price of services, devices and networks. CTIA urges the Commission to rely upon the record before it and find in the *Sixteenth Report* that the mobile wireless market is subject to effective competition.

Respectfully submitted,

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December 20, 2011