

**Before The
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

In the Matter of)	
)	
Fostering Innovation and Investment in the Wireless Communications Market)	GN Docket No. 09-157
)	
A National Broadband Plan For Our Future)	GN Docket No. 09-51
)	

REPLY COMMENTS OF AT&T INC.

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REPLY COMMENTS OF AT&T INC.

Pursuant to the Notice of Inquiry (“*Notice*”) released by the Commission on August 27, 2009,¹ AT&T Inc. (“AT&T”) submits the following reply comments.

INTRODUCTION AND SUMMARY

Everyone agrees that the U.S. wireless industry is one the most innovative industries of any kind anywhere. By allocating licensed spectrum to sustain multiple competing carriers and allowing carriers flexibility to establish the business models, relationships, and service plans that they believe will best meet diverse customer needs, the Commission has fostered a competitive marketplace that has produced truly extraordinary levels of innovation and investment. As the comments document, each layer of the nation’s wireless ecosystem has been characterized by constant innovations that have dramatically increased the value of wireless services and that are transforming critical aspects of the national economy. Additional announcements continue to pour in: new handsets (*e.g.*, from new entrants Garmin and Dell), new devices (*e.g.*, new “e-readers” from Amazon and Barnes & Noble), new app stores (*e.g.*, the Microsoft Windows

¹ Notice of Inquiry, *Fostering Innovation and Investment in the Wireless Communications Market; A National Broadband Plan For Our Future*, FCC 09-66, GN Docket Nos. 09-157, 09-66 (rel. Aug. 27, 2009) (“*Notice*” or “*Inquiry*”).

Mobile Marketplace and Sprint), new unlimited pricing plans (*e.g.*, T-Mobile), new cross-layer collaborations (*e.g.*, a Verizon/Google Android partnership), and much more. The reality that rapid innovation is occurring throughout the wireless ecosystem is so obvious and undeniable that many of the usual doomsayers (who can usually find “problems” in any marketplace) did not even bother to file.

The wireless industry has been *so* overwhelmingly innovative, and wireless innovations are so pervasively and dramatically changing the way Americans use wireless services, that, ironically, this very success has created an imminent threat to future innovation: rapidly increasing demand for licensed mobile wireless services threatens to swamp the relatively limited amount of allocated spectrum. As Chairman Genachowski recently stated, “the biggest threat to the future of mobile America is the looming spectrum crisis.”² The Commission faces a race against time to identify, reallocate, auction, and clear the necessary spectrum (and allow time for carriers to build out) before the explosion in demand outstrips existing supply.

The stakes are immense and go far beyond merely assuring future wireless innovation. As commenters of all types have explained, wireless services are enabling revolutionary advances in health care, energy use and control, public safety, environmental management, education, and homeland security. There soon will be hundreds of millions of wirelessly connected machines and business devices improving the nation’s productivity, competitiveness, health, and safety in myriad ways. Solving the spectrum crisis is essential if the Commission is to avoid widespread harms to consumers and to the many critical facets of the national economy that increasingly rely upon wireless services.

² Prepared Remarks of Chairman Julius Genachowski, America’s Mobile Broadband Future, International CTIA Wireless I.T. & Entertainment, San Diego, California, at 4 (delivered Oct. 7, 2009) (“Genachowski CTIA Speech”).

For these reasons, the comments overwhelmingly confirm that the promptest possible reallocation of large amounts of spectrum to licensed mobile services should be the alpha and omega of the Commission's wireless innovation policy. Correlatively, there is broad agreement that the Commission must ensure that carriers have the tools they need to make effective and efficient use of currently licensed spectrum. In this regard, the Commission should maintain its established policies of granting carriers maximum flexibility to use and manage their licensed spectrum, and it should take additional steps, including adopting a shot clock for the tower siting process and assuring prompt and vigorous enforcement of existing interference protection rules.

Conversely, the impending spectrum crisis means that the Commission should not adopt rules or policies that would even *risk* limiting the ability of carriers to make effective use of the currently licensed mobile spectrum. A handful of commenters have nonetheless seized upon this proceeding to urge the adoption of a set of remarkably self-serving proposals that would demonstrably prevent carriers from using available spectrum efficiently to meet soaring demand. These proposals would be contrary to the public interest under any circumstances; they should be unthinkable under the current circumstances.

First, the Commission should reject proposals by small carriers to prevent larger carriers from acquiring additional spectrum through either secondary market transactions or auctions. Those proposals would violate the public interest and the law in almost every imaginable way. They would prevent future innovations by the carriers who have been responsible for some of the most significant developments in the wireless ecosystem, *and* they would impose massive disruptions on the customers of these carriers.

Second, the Commission also should reject proposals by a small minority of ill-informed commenters, led by Google, who urge the Commission to mandate that mobile service licensees

share their spectrum with third parties at no charge. In particular, these commenters urge the Commission to open licensed spectrum to competing unmanaged secondary uses through underlays, overlays, relaxation or reduced enforcement of both in-band and out-of-band interference limits, restrictive technical standards on primary use receivers and other measures. The short answer to these proposals is that they rest entirely on false premises that licensed mobile service spectrum lies fallow today and that technology advances now allow third party use of licensed spectrum without adversely affecting the quality of or bandwidth available for the licensee's mobile wireless services. More fundamentally, the Commission should not attempt to *mandate* sharing of licensed spectrum under any circumstances. Carriers have every incentive to employ effective technologies to improve spectral efficiency and to enter market transactions to allow truly compatible shared uses of spectrum, and history abundantly confirms that consumers will fare far better under a regime that relies upon licensees' powerful economic incentives to manage their spectrum efficiently rather than command and control regulation or the free-for-all Google apparently contemplates.

Third, the Commission should resist calls for net neutrality regulation that would force all participants in the wireless ecosystem to adopt a Commission-prescribed business model of "openness." Those measures would outlaw existing business models that are attractive to tens of millions of customers, eliminating choices for consumers, while also compromising carriers' ability to manage competing demands on their networks. Google is the only commenter in this proceeding that offers even lukewarm support for wireless net neutrality rules, and even Google recognizes that the existing net neutrality principles could not be applied to wireless networks without modification "because of technological differences and bandwidth constraints."

Finally, the Commission should reject attempts by a handful of rural and regional wireless carriers to use this docket to propose rules that are transparently designed to protect individual competitors *from* the pressures of competition. These carriers urge the Commission to abrogate exclusive distribution arrangements that have been engines of innovation to the benefit of consumers and competition. They further advocate “data” roaming requirements that would affirmatively discourage broadband investment and make it even more difficult for carriers that have made 3G and 4G investments to predict and manage the soaring demands on their networks. And they advocate re-regulation of legacy special access rates, at a time when fiber and wireless backhaul arrangements are exploding. These proposals would demonstrably retard competition, innovation, and broadband deployment and have no place in this docket (or any other).

AT&T organizes the remainder of these Reply Comments in three parts. Part I demonstrates that there is an extraordinary consensus that all layers of the wireless ecosystem are remarkably innovative and that the Commission’s overriding objective should be to re-allocate, auction, and clear more licensed mobile spectrum and adopt rules that will enable carriers to make the most efficient use of previously licensed spectrum. Part II addresses the various proposals that seek to limit the ability of carriers to make maximum efficient use of the currently licensed spectrum by imposing spectrum caps, auction credits, and mandatory sharing requirements. Part III addresses the anti-innovation proposals to bar the use of exclusive distribution arrangements, to mandate “data” roaming, to impose net neutrality requirements and to re-regulate certain special access rates.

I. THE COMMISSION'S EXISTING POLICIES HAVE RESULTED IN EXTRAORDINARY INNOVATION, AND THE COMMISSION'S PRIME OBJECTIVE NOW SHOULD BE TO ALLOCATE ADDITIONAL LICENSED MOBILE SPECTRUM AND TO ENHANCE THE ABILITY OF CARRIERS TO MAKE EFFICIENT USE OF IT.

All agree that the Commission's longstanding wireless policies have been astonishingly successful. As Cellular South explains, "[t]he Commission is right to claim that its policies have helped to foster a wireless ecosystem rich with value chains marked by technological innovation and robust investment."³ By allocating sufficient spectrum to support multiple carriers, by auctioning spectrum to the highest bidder, by giving each licensee property rights in the spectrum that include protection from interference, and by giving each licensee the flexibility to provide service through whatever arrangements are believed optimal, the Commission established a regulatory environment that harnesses market forces to reduce the cost and improve the quality of wireless services. Competitive pressures have driven carriers to invest hundreds of billions of dollars in developing technology, establishing and upgrading their networks, improving the quality of their services, developing innovative pricing plans for services and handsets to meet diverse customer needs, entering into the relationships that enabled the development and widespread adoption of smart phones, and establishing the platforms that have enabled thousands of third party developers to create hundreds of thousands of wireless applications in the last two years alone. And carriers are now making the multi-billion dollar investments in 4G technology that can usher in even more remarkable innovations.

However, all agree that innovation in the wireless industry will not continue – *unless* the Commission can quickly provide much more licensed spectrum to wireless carriers. The explosive innovations have caused extremely rapid growth in mobile wireless traffic at the same

³ Cellular South, at 3.

time that wireless networks are approaching the technological limits of efficient spectrum use. Unless the Commission now reallocates much more licensed spectrum to mobile wireless services, innovation will slow, and there will be serious impairment of services that have become increasingly essential to many facets of the nation and its economy. Even under the best of circumstances, it will take years for the Commission to reallocate, auction, and clear spectrum, so the Commission must begin this process at once. In the meantime, it is absolutely critical that the Commission do what it can to assure that carriers are able to make the maximum, efficient use of the limited spectrum now allocated to mobile wireless services and do nothing to inhibit its use. This requires that the Commission exercise its authority to reduce state law and other barriers to the efficient use of spectrum and that it radically improve the enforcement of the existing rules protecting licensees from interference. It also requires that the Commission maintain and strengthen the policies that grant carriers maximum flexibility in using licensed spectrum and reject proposals that would limit the spectrum available for mobile wireless uses, either directly or indirectly.

A. All Agree That The Nation's Wireless Industry Is Characterized By Extraordinary Investment And Innovations And That Wireless Services Are Increasingly Essential To Health Care, Energy, Homeland Security, And Countless Other Critical Facets Of the Nation's Economy.

There is no dispute about the characteristics of today's wireless industry. Commenters have introduced a veritable mountain of evidence that confirms the central points made in AT&T's opening comments. Not even the usual naysayers dispute these facts.

First, as the comments overwhelmingly demonstrate, extraordinary levels of investment and innovation have occurred and are occurring at all levels of the wireless industry: from

carriers, to infrastructure manufacturers, to firms operating at the network's edge.⁴ The innovations and multi-billion dollar investments of carriers have resulted in networks of ever-increasing capabilities, and these investments have enabled and spurred investments by device manufacturers and applications developers.⁵ Indeed, as the comments also demonstrate, much significant innovation in the wireless industry has come from carrier contributions, both individually and through collaborations between carriers and firms operating at different levels of the wireless ecosystem. In this regard, game-changing innovations have been produced by

⁴ See, e.g., CTIA, at 16-40 (documenting this innovation); Ericsson, at 6 (“Ericsson focuses on combining infrastructure deployments with targeted communications solutions that open the doors to social and economic development for communities in extremely meaningful ways”); Motorola, at 7-9; (“Motorola is continuously looking for ways to bring innovative wireless solutions to new markets and has an unparalleled depth of experience in each of the markets identified in the NOI”); Qualcomm, at 4-25 (“Qualcomm is a world leader in developing innovative digital wireless communications technologies and enabling products and services based on the digital wireless communications that it develops” and describing its “innovation in mobile broadband air interfaces,” “innovations to expand the capacity of mobile broadband networks,” “innovations in chipsets for mobile broadband devices,” “innovations to improve the wireless user experience,” “innovations in wireless services,” and “innovation in machine to machine communications, including smartgrid”); T-Mobile, at 2-11 (“The robust competition in the wireless market drives innovation at all levels and by all players, old and new; in turn, innovation and investment promote competition, which continues to enhance consumer welfare”; “[i]nnovation, both at the core and at the edge of the wireless platform, has accelerated in recent years”).

⁵ See, e.g., American Telemedicine Association, at 1-4 (attributing the growth in telemedicine in part to “advances in wireless and related communications technology”); Continua, at 10-12 (“Wireless networks are paramount to this nation’s infrastructure and technology ecosystem. Wireless technologies and mobile broadband are continually driven to evolve air interfaces, improve the efficient utilization of spectrum, increase the capacity that networks can absorb and improve powerful mobile devices that are offered over various bands and technologies”); Motorola, at 4-7 (Motorola spends approximately \$4.1 billion in R&D per year”); Qualcomm, at i, 2 (“Qualcomm spends billions of dollars annually to develop innovations extending to every aspect of wireless communications”); T-Mobile, at 2-15 (“Wireless carriers invested billions each year to improve coverage, capacity and quality of the service they provide”); Verizon, at 5-41, 72-84 (Verizon wireless “has invested more than \$50 billion on network infrastructure alone, not counting spectrum acquisition costs, since it was formed”); AT&T, at 35-40 (describing AT&T’s investments in innovation across the wireless ecosystem).

vertical arrangements in which carriers share risks and rewards with firms operating at different levels of the wireless value chain.⁶

Second, as the comments also overwhelmingly confirm, wireless services have become critical to innumerable facets of the nation's economy, and further innovations that are now underway promise to transform life in the nation in even more profound ways. New applications of wireless technology are revolutionizing activities that range from the provision of health care, to the control of energy grids, to the fostering of green technologies, to improving education, to the protection of homeland security, to the manufacture and delivery of virtually all other goods and services.⁷ It is no exaggeration to say that the growth and expansion of wireless services is

⁶ See, e.g., Qualcomm at 3-8 (describing Qualcomm many "partnerships with other companies"); Verizon, at 5-41, 72-84 ("innovation has been driven by wireless carriers through improvements they have made to their networks as well as through collaborations with equipment manufacturers and application developers"); AT&T, at 40-46 ("vertical collaborations are catalysts for evolutionary adaptation").

⁷ See, e.g., American Telemedicine Association, at 1-4 ("Once characterized as only point-to-point video conferencing . . . telemedicine now encompass a wide variety of applications linking hospitals to specialty services, providing outsourced clinical services, providing remote monitoring services and consumer-based healthcare"); Continua, at 4-8 ("the U.S. healthcare industry is evolving by harnessing the power of modern wireless telecommunications in order to create efficiencies and improve patient care and wellness"); CTN, at 2-7 (the Commission's recent transition to the 2.5 GHz band to better accommodate both video and broadband services has cleared the way for educators to offer new tools for learning and development throughout the nation"); Ericsson, at 6-13 ("Ericsson successfully leverages public and private sector interests with technological innovations to combat the challenges to accessing healthcare, education, and commerce faced by populations around the world"); Motorola, at 7-9 (describing Motorola's innovations in "health care services", "energy conservation", "education", and "public safety"); T-Mobile, at 6-15 (describing T-Mobile's "smart grid development"); Verizon at 72-82 (Verizon Wireless also offers a variety of services and products to advance important social welfare goals, from public safety/homeland security to energy conservation to health care to education"); Western Wireless Health Institute, at 2-7 ("Devices and products used for wireless health now include 'end-to-end' systems powered by advanced chipsets with integrated support for numerous technologies which power devices such as wearable sensors. Medical devices are beginning to integrate wireless digital functionalities for licensed wide areas and unlicensed local areas"); WiTricity, at 2-8 (wireless technology for charging electric devices such as electric cars and mobile devices); AT&T, at 38-40 (describing application innovations from AT&T Labs).

now critical to the nation's health, safety, and welfare and that the nation's dependence on wireless services is increasing with each passing moment.

Finally, the comments overwhelmingly confirm that this extraordinary level of investment and innovation is directly attributable to the Commission's longstanding, bipartisan policy of relying on market forces to reduce the cost and improve the quality of wireless services. Because it allocated sufficient spectrum to support multiple carriers and gave each carrier the flexibility to develop the business plans and relationships that it believes will best meet the varied needs of customers, the Commission unleashed the forces of competition.⁸ The record is filled with evidence of this dynamic process of action, reaction and constant innovation as each carrier (and its collaborators in other layers of the wireless ecosystem) continually strives to make wireless services more valuable to some segment of the nation's population. As Chairman Genachowski recently stated, the existence of hundreds of thousands of applications makes it easy to forget the "hard work and billions of dollars that went into developing the technology, the network, the operating system, [and] the transaction platform."⁹ As the comments and economist declarations explain, this work and investment occurred because of competitive pressures created by the Commission's longstanding policy of letting marketplace forces determine the rates, terms, and conditions of wireless services.¹⁰

⁸ Michael L. Katz, *Market-Based Spectrum Policy To Promote Efficient Wireless Innovation And Investment*, ¶¶ 14-53 (Nov. 5, 2009) ("Katz Reply"), attached hereto.

⁹ Genachowski CTIA Speech, at 2.

¹⁰ See Paper by Michael L. Katz, *Public Policy Principles For Promotion Efficient Wireless Innovation And Investment*, ¶¶ 42-62 (Sep. 30, 2009) ("Katz Paper"), attached to AT&T's September 30, 2009 Comments in this proceeding; Declaration of Thomas Hazlett, ¶¶ 8-24 ("Hazlett Decl."), attached to AT&T's September 30, 2009 Comments in this proceeding; Gerald Faulhaber and David J. Farber, *Innovation In The Wireless Ecosystem: A Customer-Centric Framework*, at 27, ("Faulhaber & Farber"), attached to AT&T's September 30, 2009 Comments in this proceeding. See also, e.g., CTIA at 67-69; Cellular South, at 3-4; Ericsson, at 19-21;

All these points have been documented in rich detail in the comments, and there is no dispute about any of them. But each of these points is dramatically confirmed by some of the developments that have occurred in the few short weeks since the initial comments were filed in this proceeding. As a result of a collaboration between Amazon and AT&T, there is now a new version of the Kindle that allows downloads in over 100 countries.¹¹ As a result of a collaboration between Verizon Wireless and Google, Verizon will soon offer two new Android-based handsets.¹² As a result of a collaboration between AT&T and AOL, persons with hearing disabilities may now use real-time instant messaging relay services to better communicate with standard telephone users.¹³ As a result of a new collaboration between WalMart and TracFone, Walmart customers can purchase “no-contract services” that “include a \$30 ‘All You Need’ option featuring 1,000 minutes, 1,000 texts and 30MB of mobile web access per month – unlimited monthly minutes, text and web access cost \$45.”¹⁴ Finally, during these few weeks,

Google, at 16; MetroPCS at 33; Mercatus, at 2-4; Sprint, at 5-7; T-Mobile, at 22-23; US Cellular, at 24-25; Verizon, at 159-64.

¹¹ Steven Levy, *Kindle Goes International — With a Little Help From AT&T*, Wired, Oct. 6, 2009, <http://www.wired.com/gadgetlab/2009/10/international-kindle/>; Olga Kharif, *Amazon Kindle Goes International*, BusinessWeek, Oct. 7, 2009, http://www.businessweek.com/the_thread/techbeat/archives/2009/10/amazon_kindle_g.html; Darren Murph, *International Kindle Ships October 19 to Over 100 Countries for \$279*, Engadget, Oct. 7, 2009, <http://www.engadget.com/2009/10/07/international-kindle-ships-october-19-to-over-100-countries-for/>.

¹² Press Release, Verizon, Groundbreaking Agreement Between Verizon Wireless and Google to Leverage High-Speed Network and Open Android Platform for Wireless Innovation (Oct. 6, 2009) (<http://news.vzw.com/news/2009/10/pr2009-10-05g.html>); T-Mobile, at 10 (A number of commenters note that “in the last two years, some of the most advanced handsets in the world have been launched in the U.S.,” including the Apple iPhone 3G, the T-Mobile G1, Samsung’s Instinct, the Motorola Cliq, four new Blackberry devices, and the Palm Pre).

¹³ Press Release, AT&T, AT&T Premieres Real-Time IM Relay For Customers with Hearing and Speech Loss (Sept. 28, 2009) (<http://www.att.com/gen/press-room>).

¹⁴ See, Jason Ankeny, *Wal-Mart Offering Unlimited Voice, Web and Text for \$45 a Month*, FierceWireless, Oct. 14, 2009, <http://www.fiercemobilecontent.com/story/walmart-offering-unlimited-voice-web-and-text-45-month/2009-10-14#>.

two new entrants (Dell and Garmin) have announced wireless handsets;¹⁵ Sprint announced that it will open another new app store;¹⁶ T-Mobile announced several new non-contract unlimited rate plans, as well as new contract-based unlimited plans;¹⁷ many other new devices have been announced;¹⁸ Microsoft has opened an applications store called Windows Mobile Marketplace,¹⁹ hundreds of new applications have been announced, and there have been important developments affecting machine-to-machine applications.²⁰ These recent events vividly confirm

¹⁵ Michelle Megna, *Dell Chief Confirms Android Handset*, InternetNews.com, Oct. 16, 2009, <http://www.internetnews.com/bus-news/article.php/3844251>; Marin Perez, *AT&T Launching Location-Centric Garmin Nuvifone*, InformationWeek, Sept. 29, 2009, http://www.informationweek.com/news/personal_tech/smartphones/showArticle.jhtml?articleID=220300280.

¹⁶ Jason Ankeny, *Sprint to open mobile app store in 2010*, Fierce Wireless (Oct. 30, 2009), <http://www.fiercemobilecontent.com/story/sprint-launch-mobile-app-store-2010/2009-10-30>.

¹⁷ Phil Goldstein, *T-Mobile debuts new unlimited calling plans*, Fierce Wireless (Oct. 26, 2009), http://www.fiercewireless.com/story/t-mobile-debuts-new-unlimited-calling-plans/2009-10-26?utm_medium=rss&utm_source=rss&cmp-id=OTC-RSS-FW0.

¹⁸ Press Release, Verizon, *Wake Up Humans: DROID By Motorola Goes on Sale Early* (Nov. 3, 2009) (<http://news.vzw.com/news/2009/11/pr2009-11-03.html>); Press Release, Motorola, *Verizon Wireless and Motorola Announce Motorola Barrage* (Oct. 1, 2009) (<http://mediacenter.motorola.com/content/detail.aspx?ReleaseID=11911&NewsAreaID=2#>); Press Release, Nokia, *All-day mobility comes to the U.S. with Nokia Booklet 3G for AT&T* (Oct. 13, 2009) (<http://www.nokia.com/press/press-releases/showpressrelease?newsid=1347278#>); Press Release, HTC, *HTC Unveils First Windows® Phone with HTC Sense, the HTC HD2* (Oct. 6, 2009) (<http://www.htc.com/us/press.aspx?id=112668&lang=1033>); Press Release, LG, *A Touchscreen Phone That Has Never Been Simpler To Use* (Sept. 30, 2009) (http://www.lge.com/about/press_release/detail/22012_1.jhtml); Press Release, RIM, *RIM Introduces the New BlackBerry Bold 9700 Smartphone* (Oct. 21, 2009) (<http://press.rim.com/release.jsp?id=2567>).

¹⁹ Sean Ludwig, *Hands On with the Windows Mobile Marketplace*, PCMag, Oct. 8, 2009, <http://www.pcmag.com/article2/0,2817,2354012,00.asp>. In fact, many commenters catalogue the rapidly growing market for wireless applications, as numerous new “app stores” have opened in 2009 and are quickly adding applications and winning customers. *See, e.g.*, AT&T, at 14-18; CTIA, at 39, Mercatus, at 8-9; Sprint, at 26-28; T-Mobile, at 11; Verizon, at 17-18.

²⁰ *See, e.g.*, Peter Svensson, *Next: the Pill Bottle Cap with a Cell Phone*, Associated Press, Oct. 7, 2009,

that innovation and investment in the wireless industry is occurring at a torrid rate and that the Commission's primary task should be to maintain the policies that have produced this remarkably vibrant industry.

B. The Wireless Industry Cannot Continue To Develop Unless The Commission Takes Immediate Steps To Allocate More Licensed Mobile Spectrum.

The commenters also agree that the wireless industry will not be able to continue to innovate and deliver its essential services to the nation unless the Commission immediately begins effectively to address the looming spectrum crisis.²¹

The wireless industry is now being threatened by its own successes. The rapid pace of innovation has led to explosive growth in wireless traffic. In the past year, wireless subscribership increased by 15 million (up 6 percent), wireless MOUs increased to 1.1 trillion (up 3 percent),²² text messages increased to 740 billion within the first half of 2009 (up 50

http://www.google.com/hostednews/ap/article/ALeqM5gtbT9m6EuPMpEnrQ4BxWfLR_zCywD9B6GA6G0.

²¹ Ericsson, at 13 (Spectrum is *the* critical component in wireless innovation. If spectrum is not available in a timely manner, if the spectrum environment is not suitable . . . or the technical rules for spectrum are not clear and appropriate, innovation is stymied"); Motorola, at 6 ("[i]t is . . . imperative that the Commission maximize the availability of spectrum"); Qualcomm, at i-iii ("The single most important step the Commission can take to spur greater innovation in wireless is to allocate and auction a steady stream of unencumbered licensed spectrum, certainly in the hundreds of MHz, for mobile broadband"); Sprint, at 2-5 ("[s]pectrum is a critical input for mobile communications services"); T-Mobile, at 17-24 ("Providing the marketplace with additional licensed spectrum is the single most important step the Commission could take to both preserve and stimulate mobile innovation and competition"); Verizon, at 138-148 ("The continued growth of innovative wireless products and services requires the identification of additional spectrum for future use"). *See also* AT&T, at 68-29; CTIA, at 69-75; Google, at 16-18; MetroPCS, at 18-19.

²² *See* CTIA – The Wireless Association, *Semi-Annual Wireless Industry Survey*, at 7 (Oct. 7, 2009), http://files.ctia.org/pdf/CTIA_Survey_Midyear_2009_Graphics.pdf.

percent from last year),²³ and wireless broadband has exploded. AT&T's wireless data traffic has increased 5,000% in the last three years.²⁴ Commenters note Cisco's recent study estimating that mobile data and Internet traffic may increase by a factor 66 over the next four years.²⁵ Indeed, Chairman Genachowski recently acknowledged that "by some estimates mobile data usage will grow from 6 petabytes per month in 2008 to nearly 400 petabytes per month in 2013,"²⁶ and CTIA predicts that wireless data traffic will be many hundred times its current level in as few as five years.²⁷

The rapid, and rapidly accelerating, increases in demand for wireless services will result in severe spectrum shortages if actions are not undertaken immediately. In recent years, carriers have made multi-billion dollar investments that have dramatically improved the efficiency with which they can carry wireless traffic over the relatively small amount of spectrum made available for mobile wireless uses in the United States. In consequence, the capacity of U.S. wireless networks have increased tenfold over the last eight years.²⁸ However, carriers and

²³ See Press Release, CTIA – The Wireless Association, CTIA – The Wireless Association Announces Semi-Annual Wireless Industry Survey Results (Oct. 7, 2009) (<http://www.ctia.org/media/press/body.cfm/prid/1870>).

²⁴ See AT&T, at 26; C. Moffett *et al.*, Bernstein Research, *Weekend Media Blast: Title (Part II) . . . Bandwidth Arbitrage* (Oct. 9, 2009) ("[b]y some accounts, *total* traffic on AT&T's wireless network has doubled in just the past five months.") (emphasis in original); see also, e.g., Clearwire, at 10 ("A single smart phone consumes 30 times the spectrum of a traditional handheld device with average customer usage patterns, and a single connected notebook or laptop computer consumes 450 times that amount"); T-Mobile, at 18 ("since T-Mobile began offering its G1 smartphone, customers of that device use 50 times the data of the average T-Mobile customer.").

²⁵ See, e.g., Verizon, at 143.

²⁶ Genachowski CTIA Speech, at 5.

²⁷ CTIA, at 71. See also Dan Meyer, Spectrum Demand To Hit "Crisis" Level By 2015, RCR Wireless News (Nov. 3, 2009).

²⁸ See AT&T, at 31; Hazlett Decl. ¶ 46. See also Faulhaber & Farber, at 8-12; Katz Paper ¶¶ 18-23, 45-47.

manufacturers now agree that “a technological limit is approaching for which more spectrum is the only solution.”²⁹ The data-intensive innovations and services of the near future will require far more bandwidth and capacity than is currently available, and therefore virtually all commenters agree that “more exclusive use spectrum must be made available for the industry to support the future demand for wireless broadband applications and continue the extraordinary investment and innovation of the past two years.”³⁰ As Chairman Genachowski recently stated, “[e]ven with innovative spectrum policies and innovative new technologies, experts believe we are way too likely to be caught short,”³¹ and “the biggest threat to the future of mobile America is the looming spectrum crisis.”³²

The situation is urgent. There is broad agreement that, to meet growing demand in the industry, the Commission should auction somewhere from 800 MHz to 1.284 GHz of new spectrum for commercial mobile uses as soon as possible.³³ As many commenters point out, however, at present there is only a small amount of unassigned spectrum available to be

²⁹ T-Mobile, at 18; *see also, e.g.*, AT&T, at 78-80; Qualcomm, at 12-14; CTIA October 5, 2009 *Ex Parte*, at 15; Verizon, at 91-97; Genachowski CTIA Speech, at 4; *see also* Verizon, at 142 (3GPP and ITU studies say spectrum situation is at “at the precipice” because of convergence of mobility and broadband Internet).

³⁰ Verizon, at 91-92; MetroPCS, at 18-19 (“[t]he Commission’s top priority must be to auction the current paired spectrum it has available and identify and allocate additional spectrum on a going forward basis if it wants the favorable trend [in innovation] to continue”); *see also* AT&T, at 68-71; Verizon, at 138-139; Google, at 4; Sprint, at 3-5; T-Mobile, at 3; Faulhaber & Farber, at 22-24.

³¹ Genachowski CTIA Speech, at 5.

³² *Id.* at 4.

³³ CTIA, at 73 (Commission should commit to auctioning 800 MHz of new spectrum over the next six years); Ericsson, at 15 (“1,280 to 1,720 MHz . . . will be needed to support both 2G/3G and 4G technologies”); T-Mobile, at 3-4 (Commission should “commit to allocating and auctioning an additional 800 MHz of spectrum for commercial mobile broadband use throughout the United States”); Google, at 17 (estimates of spectrum are as high as 1280 MHz); *see also* Faulhaber & Farber, at 22; AT&T, at 69.

auctioned,³⁴ and it is woefully insufficient to meet the projected shortages.³⁵ Accordingly, to meet this crisis, the Commission will have to undertake a broad reallocation of spectrum assignments. The process of reallocation will undoubtedly prove to be a complex undertaking. “[I]t takes years to reallocate spectrum and put it to use,” and “there are no easy pickings on the spectrum chart.”³⁶ But as the Chairman said: “we have no choice.”³⁷ Wireless services have become essential to the nation’s global competitiveness and well being, and future innovations will benefit the nation in ways that cannot be imagined today.

There is not a moment to lose. In undertaking these reassignments, the Commission will be engaged in a race against time. To prevent substantial public interest harms, the Commission must reallocate, auction, and clear the spectrum, and it must take these steps in sufficient time to assure that carriers may build out and make effective use of the new spectrum *before* demand for wireless services exceeds the capacity of the currently allocated spectrum.

These challenges are immense. As Verizon notes, it took the Commission nearly a decade to organize and conduct the auctions for the relatively small amount of new spectrum recently allocated to mobile wireless uses (and in some cases the prior uses of the spectrum are

³⁴ As AT&T has explained, the 1755-80 band can and should be paired with now-orphaned AWS spectrum band (2155-2175 MHz band) and auctioned off. AT&T, at 70. This approach would both provide much needed paired spectrum and harmonize the U.S. allocation of such spectrum with much of the rest of the mobile wireless world, which already operates in these spectrum bands. *Accord* Ericsson, at 14 (“if spectrum is not globally harmonized transformative technologies and services developed in other markets cannot easily be integrated into and adapted to the U.S. market”).

³⁵ *See, e.g.*, T-Mobile, at 20 (situation is “increasingly serious” because limited spectrum available to be auctioned and nothing else is planned); Sprint, at 3 (Commission should immediately license “the 50 MHz of unassigned spectrum that sits idle in the Commission’s ‘spectrum warehouse’”); *see also* Verizon, at 139, 144; AT&T, at 68-69.

³⁶ Genachowski CTIA Speech, at 6; *Accord* Ericsson, at 15 (“Because the time needed to identify and allocate spectrum suitable for wireless services is on the order of 10 years, the U.S. must act expeditiously to identify and allocate more spectrum for mobile services”).

³⁷ Genachowski CTIA Speech, at 6.

still being cleared).³⁸ The task here is far larger. Successful completion of these tasks will require a number of rulemakings. It will require auctions. It will also require the Commission to work effectively with Congress, the NTIA, and other elements of the federal government.³⁹ This effort can succeed only if the Commission makes spectrum reallocation a top priority and begins work immediately.

There is also broad agreement that, to maximize innovation, this new spectrum should be *licensed*.⁴⁰ While unlicensed uses are valuable and have a place in the wireless ecosystem, the commenters are almost unanimous that the new spectrum that is needed today must be licensed in order to provide the incentive to build new, state-of-the-art wireless networks. As Qualcomm points out, for example, unlicensed spectrum is best suited to uses that require very short ranges (*i.e.*, within a single building), such as Wi-Fi connections or cordless phones, because the

³⁸ Verizon at 141 (recognizing that “while the AWS-1 and 700 MHz bands will play a crucial role in wireless innovation going forward, the Commission took more than a decade to allocate and auction these bands”); *id.* at 180-81.

³⁹ *See, e.g.*, Google, at 17-18 (“Google supports a reallocation of government spectrum” and Commission should work with NTIA); MetroPCS, at 16 (“the agency needs to coordinate with NTIA to identify other spectrum below 2.5 GHz suitable for reallocation from government use to commercial uses”); AT&T, at 71 (“AT&T supports efforts to conduct a comprehensive inventory of government spectrum use and needs that will greatly advance the goal of prompt and efficient spectrum allocations”); Verizon, at 141 (“Congress, NTIA, and the Commission must act quickly to commence this important process [of allocating spectrum to mobile use]”).

⁴⁰ AT&T, at 75-86; Ericsson, at 17 (“The Commission should designate new allocations for licensed uses,” “unlicensed services are not a substitute for licensed services”); Sprint, at 3-4, 20 (“empirical experience indicates that exclusive commercial spectrum assignments are integral to achieving the high speed, ubiquitous, highly robust wireless broadband services that the Commission is charged with facilitating in its national broadband plan initiative”); T-Mobile, at 17-23 (“Although unlicensed services have a place in delivering mobile broadband and other wireless applications, the Commission should cease further unlicensed allocations until sufficient spectrum is made available to support current and future demand for licensed wireless services”); Vodafone, at 6 (“We . . . continue to see the licensing on an exclusive rights basis as likely to yield the best returns from spectrum for large scale mass market wireless applications”); Verizon, at 102-05, 144-46 (“Given ample spectrum already allocated for unlicensed operations, the Commission should focus on allocating spectrum for licensed use”); *see also* Clearwire, at 3, 10-11; MetroPCS, at 3; Faulhaber & Farber, at 22-24; Qualcomm, at 27-36.

potential for interference for such geographically limited uses is relatively low.⁴¹ Today's powerful wide-area networks – like the next generation digital networks that carriers will be building in the coming years – require enormous investments in equipment that can sustain signals over much longer distances, and the quality of service on such networks depends critically on holding interference to an absolute minimum.⁴²

As many commenters reiterate, without the guarantee of exclusive use, no carrier would invest the billions necessary to build next generation wide-area networks.⁴³ As MetroPCS says (at 44), “history shows there is no widespread deployment of costly complex systems in the absence of license exclusivity.” Indeed, if anything, the commenters agree that there is currently an imbalance in the Commission's allocations in favor of unlicensed uses. In recent years, the Commission has walled off large swaths of spectrum for unlicensed uses – including some extremely valuable spectrum that would be perfectly suited to commercial mobile networks. As many commenters explain, the Commission should now redress that imbalance by re-allocating

⁴¹ Qualcomm, at 36-38; *see also, e.g.*, Vodafone, at 6 (“Vodafone sees limited interest in unlicensed, cognitive or other shared spectrum applications” and has “therefore been critical of the European Commission's proposals to change European licensing processes and establish a presumption in favor of unlicensed spectrum”).

⁴² *See, e.g.*, AT&T, at 75-91; Clearwire, at 11-12; CTIA, at 80-82, 89-90; Sprint, at 18-22; Qualcomm, at 33-36; T-Mobile, at 23.

⁴³ *See, e.g.*, AT&T, at 75-86; Clearwire, at 3, 10-11 (Licensed spectrum “encourages the large long-term investments needed for substantial infrastructure development. Without the certainty that characterizes licensed spectrum Clearwire and other facilities-based innovators and competitors simply would not be able to bring their innovations to consumers”); Ericsson, at 17, 19 (“Incumbents are also less likely to innovate in a band when the RF environment is unpredictable. This, in turn, affects investment and the deployment of broadband services that will benefit consumers.” “Ericsson supports the Exclusive Use model for licensing”); MetroPCS, at 3; Faulhaber & Farber, at 22-24; Qualcomm, at 27-36; Sprint, at 3-4; T-Mobile, at 17-23; Verizon, at 102-105, 138-148. Clearwire learned this the hard way. It began with a strategy of building a nationwide network using unlicensed spectrum, but soon abandoned that strategy and shifted to purchasing licensed spectrum. *See, e.g.*, Clearwire at 11 (“without the certainty that characterizes licensed spectrum Clearwire and other facilities-based innovators and competitors simply would not be able to bring their innovations to consumers”).

unlicensed spectrum to mobile service and by, in all events, providing that all the new mobile spectrum is to be licensed.⁴⁴

Finally, it should be emphasized that licensing additional mobile spectrum will in no way preclude mobile spectrum sharing arrangements when they make technical and economic sense given the spectrum demands of primary users. As Dr. Farber and Dr. Faulhaber explain, carriers will then have ample incentive to engage in these arrangements, and such market-based mechanisms will allow widespread use of these arrangements *without* degrading mobile wireless services.⁴⁵

C. In The Meantime, The Commission Should Take Steps To Maximize The Ability Of Carriers To Make Efficient Use Of Currently-Allocated Spectrum.

But the Commission's efforts to avert a spectrum crisis should not be limited to undertaking the complex task of allocating massive amounts of new spectrum to licensed mobile services. During the lengthy period required to identify, reallocate, auction, and clear spectrum for mobile use, the commenters broadly agree that the Commission should do whatever feasible to assure that carriers do not run out of spectrum in the meantime. This requires that the Commission now adopt measures that will maximize the ability of carriers to make efficient and effective use of the spectrum that is now allocated to mobile wireless services.

⁴⁴ See, e.g., Verizon, at 144-46 (Commission recently has allocated 674-956 MHz to unlicensed uses and only 409 MHz to licensed uses, and Commission should "alleviate the imbalance"); T-Mobile, at 20 (Commission already allocated 698 MHz for unlicensed TV band, and while "unlicensed services have a place in delivering mobile broadband and other wireless applications, the Commission should cease further unlicensed allocations until sufficient spectrum is made available to support current and future demand for licensed wireless services," which will require a "backbone of licensed commercial spectrum for a truly competitive mobile broadband experience to be delivered"); see also Google, at 18 (Commission should take a balanced approach to unlicensed and licensed uses); Gerald R. Faulhaber & David J. Farber, Mandated Spectrum Sharing: A Return To "Command And Control," at 4-6 (Nov. 5, 2009) (unlicensed spectrum should be reallocated to mobile service) ("Faulhaber & Farber Reply"), attached hereto.

⁴⁵ Faulhaber & Farber Reply, at 4-7; see also Katz Reply ¶¶ 13-37.

Conversely, the impending spectrum crisis means that it is imperative that the Commission reject any and all proposals that would even risk limiting the ability of carriers to make effective and efficient use of the spectrum that is currently licensed for mobile wireless services. As detailed in Part II, the Commission should reject the startling proposals that it now adopt rules designed to prevent carriers from using currently licensed mobile spectrum to meet the needs of their wireless customers. The Commission should reject the proposed spectrum caps and similar measures that would prevent large carriers from acquiring the additional spectrum required to provide service to their customers through secondary market transactions or auctions. And the Commission should reject Google's proposals that the Commission shrink the amount of spectrum currently available to wireless carriers by mandating sharing of licensed mobile spectrum with third parties or by granting third parties' express rights to cause interference. These measures would be contrary to the Commission's policy of fostering wireless innovation and investment in any environment, and their adoption should be unthinkable at the time of a looming shortage of spectrum.

As detailed in Part III, the Commission should likewise reject the various proposals to deny carriers flexibility in managing their networks and in entering into the relationships and arrangements that they believe necessary to conserve scarce spectrum and meet the needs of their diverse customers. For example, the proposal to require all wireless carriers to conform to some fixed model of "openness" would flatly deprive carriers of tools that are essential to provide the full range of wireless services at the levels of quality that consumers expect. Similarly, the proposed bans on discrimination could prevent wireless carriers from optimizing their networks for particular devices and engaging in other measures necessary both efficiently to manage usage on their networks and to enable the development of new devices, machine-to-machine

applications, and other innovations. Because marketplace forces are the best possible discipline on carrier business plans, these proposals, too, would be bad policy under any circumstances, and should be entirely out of the question at this time of a looming spectrum crisis.

By contrast, there are several actions that the Commission can and should now take to promote the ability of carriers to squeeze the largest possible amount of traffic into the available spectrum.

Radical Improvement In Prevention Of Interference. As many commenters note, interference from unlicensed uses is now exacting a heavy cost on licensees, and the incidence of harmful interference is increasing, which effectively reduces the amount of spectrum available to wireless carriers. The Commission’s wireless policies depend on effective remedies against harmful interferences.⁴⁶

The record makes clear that interference protections are critical to the goal of maximizing investment and innovation. As Qualcomm has stated (at 34), “[n]o one is going to invest in spectrum and in a network to deploy on the spectrum without an assurance of full interference protection.” Similarly, as Ericsson notes (at 21), “[l]icensees that have low confidence in the stability of their spectrum environment will not deploy their networks or their services as rapidly or as broadly,” and “licensees will not develop *new* features and *new* services to respond to market demands and improve the customer experience, if their spectrum environment is not predictable.”⁴⁷ To maximize incentives for investment and innovation, licensees must have

⁴⁶ See, e.g., AT&T, at 80-87; CTIA, at 80-82; 89-90; Faulhaber & Farber Reply, at 9-11; Qualcomm, at 33-36; T-Mobile, at 23; Sprint, at 20-22; Verizon, at 135-36.

⁴⁷ See also Clearwire, at 11 (while various spectrum sharing proposals “deserve consideration, the Commission must understand that they threaten to undermine certainty for innovators like Clearwire that have made substantial investments to acquire the spectrum rights needed to support their new technologies” and it is critical to “maintain enough regulatory certainty to foster the further development of this and other future technologies”); Qualcomm, at 41

confidence both that the rules strongly protect against possible interference *and* that the Commission will effectively enforce those protections.⁴⁸

Rigorous enforcement of protections against interference are matters of even more acute importance now, when carriers face a looming spectrum crisis. In this environment, it is critical that the Commission devote resources to assuring that harmful interference is promptly remedied.

But as the comments document, the Commission's existing procedures have too often proven incapable of providing even remotely timely relief against known sources of harmful interference. A stark example is the massive interference that has resulted from unlawful marketing of cellular "repeaters" and "boosters" to the general public. Despite detailed showings that these unauthorized uses are causing outages and interfering with public safety, there has been no effective remedy against this interference in the three and a half years since the issue was first raised with the Commission.⁴⁹

AT&T appreciates that there are many demands on the Commission's enforcement resources. But it respectfully submits that the Commission's policies of fostering innovation and investments that benefit the public require a more effective and efficient system for remedying harmful interference.

("Mandating such an overlay or underlay will also have negative consequences from an economic point of view. Licensees will not spend billions of dollars for non-exclusive spectrum licenses, and the value of existing investments in spectrum licenses would be destroyed if anyone – a device manufacturer, a competing network operator, or others – could gain access to the same spectrum for free. In the same vein, a carrier's incentive to invest in its existing network would be lost if that network would be subject to interference from unlicensed devices operating on the same spectrum without having to pay anything for access.").

⁴⁸ Faulhaber & Farber Reply, at 12 ("Why would any firm be willing to invest and innovate in a regime in which the firm's license rights are given away to sharers that break the rules and create interference without fear of punishment or correction? The question answers itself").

⁴⁹ See, e.g., Faulhaber & Farber Reply, at 9-11.

Tower Siting. As AT&T demonstrated in its opening comments and as many commenters have confirmed, there are many jurisdictions in which unreasonable delays in the tower siting process have severely impeded carrier efforts both to make more efficient use of spectrum (*e.g.*, through cell-splitting) and to add new capabilities. AT&T was pleased to hear Chairman Genachowski’s announcement that “the issue of tower siting” “is ripe for action” and that “in the near future [the Commission is] going to move forward with a shot-clock proposal designed to speed the process, while taking into account the legitimate concerns of local authorities.”⁵⁰ And, AT&T applauds the Commission for moving forward on this issue by including it in its agenda for the Commission’s November 18, 2009 open meeting. AT&T urges that the Commission promptly exercise its authority to implement 47 U.S.C. § 332(c)(7)(B) and to adopt rules specifying that local authorities must take final action on a collocation application within 45 days and act on other applications for siting authority within 75 days from submission of the application. If a local authority does not act within those reasonable periods of time, the application should be deemed granted.⁵¹

Consumer Information And Disclosure Standards. Although competition has generally driven wireless carriers to provide customers with the information they need to make to make informed decisions related to their choice of carrier and service plan, there continues to be differences in the amount of disclosure and the manner of disclosure among different carriers that may still result in some customer confusion. Rather than addressing these issues through a

⁵⁰ Genachowski CTIA Speech, at 6.

⁵¹ *See also* Verizon, at 186; T-Mobile, at 29; US Cellular, at 18; Clearwire, at 16; CTIA, at 85. To further facilitate tower siting, AT&T supports the proposal by PCIA and others that the Commission should also pre-empt any state regulation or municipal zoning ordinance related to collocations of antennas on a structure to which antennas are already attached, provided that such collocations do not significantly extend the height of the tower or increase the size of the area needed to support the antennas. Such collocations should be subject only to non-discretionary building or electrical permit pursuant to relevant building codes. *See, e.g.*, PCIA, at 6.

patchwork of state regulations or Commission regulations, AT&T has demonstrated that a better approach would be for the Commission to support a voluntary, industry-driven framework akin to the CTIA Consumer Code, to govern all aspects of the provider-customer relationship.⁵² AT&T has proposed ten principles that could serve as the baseline approach for a collaborative industry effort, and AT&T has proposed adoption of accreditation or enforcement mechanism to instill consumer confidence in the approach.⁵³ In a dynamically evolving industry, such as the wireless industry, an approach that encourages industry-driven standards would be far superior to a regulatory-based approach.⁵⁴

Pole Attachment Rates. As AT&T and Verizon have previously documented, the Commissions' existing rules governing pole attachment rules, different carriers pay dramatically different pole attachment rates for equipment (including wireless equipment) used to provide broadband services, which distorts competition for broadband services and thus adversely affects incentives to invest and innovate.⁵⁵ To address this issue, AT&T and Verizon have proposed a methodology for uniformly computing pole attachment rates for all broadband capable attachments pursuant to its authority under §§ 224 and § 706 of the Communications Act.⁵⁶ Adopting AT&T's and Verizon's uniform pricing proposal for pole attachments would further

⁵² Comments of AT&T Inc., *Consumer Information and Disclosure; Truth-in-Billing and Billing Format; IP-Enabled Services*, CG Docket No. 09-158, CC Docket No. 98-170, WC Docket No. 04-36 (filed Oct. 13, 2009).

⁵³ *Id.*

⁵⁴ *Id.* at 3-4.

⁵⁵ See *Ex Parte* Letter from Robert W. Quinn, Jr. (AT&T) and Susanne A. Guyer (Verizon) to Marlene H. Dortch (FCC), *Implementation of Section 224 of the Act*, WC Docket No. 07-245 (dated Oct. 21, 2008).

⁵⁶ *Id.*

facilitate competition, investment and innovation in the mobile and other broadband marketplaces.

Eliminate Unnecessary Taxes And Fees. As Verizon points out, “[s]tates and local governments continue to impose onerous and discriminatory taxes and fees on wireless companies and subscribers, placing a disproportionate and unnecessary barrier to greater investment and innovation.”⁵⁷ AT&T supports Verizon’s proposal that the Commission should help reduce this obstacle to investment and innovation by encouraging Congress to pass proposed legislation recently introduced in the U.S. House of Representatives as the “Cell Tax Fairness Act of 2009” (H.R. 1521, 111th Cong. (2009)) and a companion bill in the Senate, the “Mobile Wireless Tax Fairness Act of 2009” (S. 1192, 111th Cong. (2009)). As Verizon points out, “these bills would prevent any new discriminatory taxes and fees for five years while states and local authorities work to reform the existing tax system,” which is important because “[e]liminating excessive taxes and fees would be one of the most effective ways to spur investment and encourage innovation.”⁵⁸

Intercarrier Compensation Reform. Finally, adverse effects on wireless services is one of many reasons why the Commission should act now to reform intercarrier compensation. As everyone in the industry agrees, the system of intercarrier compensation is broken and is now distorting investment decisions throughout the industry.

In short, the Commission’s current priorities should be clear. It should immediately commence the complex task of re-allocating, auctioning, and clearing large amounts of new licensed mobile spectrum. In the meantime, it should adopt the measures that will allow carriers to make more efficient use of the limited available spectrum and that are discussed above.

⁵⁷ Verizon, at 190-192.

⁵⁸ *Id.*

II. THE COMMISSION SHOULD REJECT PROPOSALS TO PREVENT CARRIERS FROM USING SPECTRUM CURRENTLY LICENSED FOR MOBILE WIRELESS SERVICES.

Despite the uniform recognition that imminent spectrum shortages threaten to impede innovation and harm the public, a few commenters offer proposals that would exacerbate spectrum shortages, increase the risk of service disruptions, and reduce innovation. Specifically, they urge policies that would prevent AT&T and other larger national carriers from obtaining the additional spectrum they need to meet the needs of their customers and that would prevent carriers from making use of all the spectrum they have purchased by subjecting them to much more harmful interference. These proposals should be summarily rejected. To foster continued innovation and to minimize the risk of service disruptions, the Commission should continue to rely on auctions and secondary market transactions to assure that the spectrum is used most efficiently.⁵⁹

A. The Commission Should Reject Proposals To Prevent Larger Carriers From Acquiring The Additional Spectrum Needed To Serve Their Customers.

There is widespread agreement that the best means of ensuring the most efficient use of licensed mobile service spectrum and of fostering continued innovation is adherence to the Commission's time-tested policy of auctioning new spectrum to the highest bidder and fostering a secondary marketplace in which carriers may purchase or sell licensed spectrum. Because these market-based policies assure that spectrum is devoted to its highest and best uses and are the lynchpin of the wireless industry's extraordinary record of investment and innovation.⁶⁰ Adherence to these policies has heightened importance in times of threatened shortages, for it would clearly harm the public interest to adopt measures that prevent or inhibit carriers from

⁵⁹ Katz Reply ¶¶ 6-37.

⁶⁰ See, e.g., *id.*; AT&T, at 53-68; CTIA, at 75-79; Faulhaber & Farber, at 20-22; Mercatus, at 4-7; Verizon at 100-117.

purchasing additional spectrum needed to provide – and improve – services on which customers depend.

However, certain smaller carriers view this spectrum crisis as an opportune time to make some remarkably self-serving proposals. All of these proposals are designed to prevent larger carriers from acquiring the additional spectrum that they need, while permitting smaller carriers to acquire spectrum at below-market prices. These proposals would subvert the public interest in myriad ways. They would lead to disrupted or degraded service to customers of larger carriers.⁶¹ They would prevent larger carriers from expanding their networks and thereby diminish their incentive and ability to invest and innovate.⁶² They would allocate spectrum to lower value uses and reward firms with no track record of innovation or, in many cases, even of providing wireless services at all.⁶³ Consumers would be the ultimate losers, as their chosen networks would be constrained in their ability to continue offering innovative products and services, and would likely experience degraded service.⁶⁴

The most extreme of these proposals is the suggestion by MetroPCS and RTG that the Commission should re-institute spectrum caps that would prevent AT&T and other large carriers from acquiring additional spectrum either through auctions or through secondary market transactions.⁶⁵ RTG has already raised this issue in a Petition for Rulemaking (RM No. 11498), and comments in that proceeding have thoroughly refuted the claims of RTG and its allies.⁶⁶

⁶¹ Katz Paper, at 14-107; Katz Reply ¶¶ 20-25.

⁶² *Id.*

⁶³ *Id.*

⁶⁴ *Id.*

⁶⁵ RTG at 4; MetroPCS at 7.

⁶⁶ *See also* Katz Reply ¶¶ 20-25.

For present purposes, it suffices to say that spectrum caps were imposed long ago and under very different circumstances. The Commission repealed the caps in 2003. Since then, the Commission has made substantial amounts of additional spectrum available (including 80 MHz of 700 MHz spectrum, 90 MHz of AWS spectrum, and 55.5 MHz of BRS spectrum, with another 30 MHz anticipated from the AWS-2 and AWS-3 spectrum). This spectrum is in the hands of a wide variety of entities providing mobile services and there are active secondary markets that allow carriers to obtain additional spectrum in particular geographic areas. Moreover, consumers today demand more ubiquitous and reliable coverage, more speed and bandwidth for data, more advanced features and functionality, and more value, and elimination of the spectrum caps has allowed carriers to expand their coverage, reduce their costs, and maximize their efficiency. These developments have increased competition, investment and innovation (especially in rural areas), and the winners have been consumers, who have enjoyed better services at lower prices. The only certain result of re-implementing spectrum caps today would be a reduction in investment, innovation and growth.

Arguments that the elimination of the spectrum caps has allowed AT&T and Verizon to ward off new entrants are baseless. These arguments are flatly refuted by the extensive entry by new wireless providers and the extraordinarily rapid growth new and smaller providers since the Commission eliminated spectrum caps.⁶⁷ Moreover, as the Commission has found, its recent

⁶⁷ New providers, such as Cox Cable and Clearwire, continue to enter. News Release, Cox Communications, Cox to Launch Next Generation Bundle With Wireless In 2009, (Oct. 27, 2008), available at http://media.corporateir.net/media_files/irol/76/76341/release102708.pdf; News Release, Clearwire, Clearwire Reports Third Quarter 2008 Results (Nov. 10, 2008), available at <http://newsroom.clearwire.com>. Moreover, regional and smaller providers continue to be the fastest growing providers. Investor Overview, MetroPCS Communications, Inc. to Present at Bank of America Credit Conference (Nov. 18, 2008), available at <http://investor.metropcs.com>; Dan Frommer, Cheap Wireless Service Weathering Downturn: Leap Subscriber Growth Spikes Up (LEAP), Silicon Alley Insider, Aug. 5, 2008, available at

major auction (700 MHz band licenses) resulted in purchases not only by nationwide carriers, but also by a diverse group of new entrants and small regional and rural carriers that acquired spectrum covering almost all of the United States.⁶⁸ MetroPCS itself concedes that over 100 different providers purchased spectrum in this auction.⁶⁹ The proponents of spectrum caps also claim that the absence of caps enabled “anticompetitive” mergers, but the Justice Department and the Commission carefully reviewed each merger and conditioned approval of them on divestitures they deemed appropriate. Rhetoric aside, MetroPCS does not and could not provide any evidence that any merger has been anticompetitive.⁷⁰

In addition to urging spectrum caps, these commenters have argued, in the alternative, that the Commission adopt various proposals that would either prevent larger national carriers from acquiring new spectrum in future auctions altogether or that would require them to pay prices that are far in excess of the market price set in the auction.⁷¹ To justify these proposals,

<http://www.alleyinsider.com/2008/8/cheap-wireless-service-weatheringdownturn-leap-subscriber-growth-spikes-up-leap->

⁶⁸ See Thirteenth Report, *Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993; Annual Report and Analysis of competitive Market Conditions With Respect to Commercial Mobile Services*, WT Docket No. 08-27, ¶ 68 (January 16, 2009) (“*Thirteenth Report*”); see also Verizon, at 106. Given the significant amount of spectrum purchased by new entrants and smaller carriers, claims that smaller carriers lack capital to purchase spectrum is not credible. What would impair access to capital, however, would be to create uncertainty, through restrictive caps on spectrum holdings, interference, exclusive rights, regulation of management, and other anti-innovation proposals made by certain comments.

⁶⁹ MetroPCS, at 7. Suggestions that the larger carriers are “warehousing” spectrum cannot be reconciled with the fact that all of the larger carriers are proposing the allocation of very significant amounts of new spectrum that should be allocated in open auctions, because warehousing strategies cannot work when ample new spectrum is made available. See Katz Reply ¶ 15.

⁷⁰ MetroPCS also proposes that that the Commission “preclude any applicant from acquiring a license that would cause the licensee to exceed the pre-auction spectrum screen in any portion of the license area.” MetroPCS, at 55. This is just a back-door proposal for spectrum caps and should be rejected for the same reasons.

⁷¹ See, e.g., MetroPCS, at 52-58.

these commenters argue that (1) larger carriers have far more spectrum than smaller carriers, so it is only “fair” that smaller carrier be given advantages in future auctions; (2) smaller carriers are unable to obtain spectrum in secondary markets; and (3) putting more spectrum in the hands of smaller carriers will enhance wireless coverage in rural areas. None of these claims withstands scrutiny.

The mere fact that larger carriers have more spectrum is a meaningless statistic, because larger carriers also serve far more customers than smaller carriers. This is why AT&T has had a greater need for new spectrum than smaller carriers and why it has bid for (and paid billions of dollars for) more spectrum. Likewise, the claim that smaller carriers cannot obtain spectrum in secondary markets is flatly wrong. The record shows that (in addition to the spectrum that they have purchased in auctions) companies like Leap, U.S. Cellular, Cellular South, Clearwire, and MetroPCS, have in fact amassed very substantial amounts of spectrum in secondary markets.⁷² Indeed, in over 72 percent of all spectrum assignments in 2008, spectrum was acquired by firms that are not affiliated with the so-called big four carriers: AT&T, Verizon, Sprint, or T-Mobile.⁷³ Similarly, nearly half of the spectrum that was sold by these four carriers was transferred to firms unaffiliated with any of them, *i.e.*, to smaller carriers.⁷⁴ It is undeniable that the secondary market for licensed spectrum is extraordinarily robust and that smaller carriers have been the primary purchasers of spectrum in these transactions.⁷⁵

⁷² See, *e.g.*, AT&T, at 72; see also, *e.g.*, CTN, at 7 (“Today there is a robust secondary market for EBS spectrum that has facilitated the delivery of high-quality educational services at reasonable cost, and at the same time, provided commercial entities such as Clearwire Corporation with ample spectrum for nationwide wireless broadband deployments.”).

⁷³ Verizon, at 115.

⁷⁴ *Id.*

⁷⁵ The record further shows that the policies adopted by the Commission in the mid-1990’s and early 2000’s have in fact greatly improved the speed and number of such transactions. The

Nor is there any basis for the claims that rural service will be enhanced if auctions are biased to prevent purchases by larger carriers and to put more spectrum in the hands of smaller carriers. As has been well documented, AT&T is one of the largest rural wireless providers in the U.S. AT&T's wireless network covers close to 95% of the U.S. population, and it covers 76% of the population of rural counties (with a population of 100 persons or less). By contrast, smaller carriers often focus their service expansions in more highly populated areas.⁷⁶ Thus, far from improving service in rural areas, biasing auction results through bidding credits would likely result in degraded service to the millions of customers served by larger carriers.

Beyond that, proposals to “fix” auction results would reduce innovation. For example, MetroPCS’ proposal that the Commission adopt an entirely new “Designated Entity” (“DE”) system in which bidding credits would “be given to applicants in inverse proportion to the amount of attributable spectrum that the applicant holds in the auctioned license territory”⁷⁷ would punish carriers whose investments and innovations have increased demand for their

records shows that the time it takes to obtain regulatory approval for license transfers has fallen from an average of about 151 days in 1998 to an average of just over a month from 2005-2009; the number of approved cellular and PCS transfer/assignments jumped from just one in 1994 to thousands throughout this decade; the overall magnitude of the amount of spectrum that has traded hands in terms of MHz of spectrum times the population it covers has experienced extraordinary growth over the past several years; and small carriers have and continue to expand and upgrade their networks using spectrum purchased (or leased) on secondary markets. See Verizon, at 110-112; John W. Mayo and Scott Wallsten, *Enabling Efficient Wireless Communications: The Role of Secondary Spectrum Markets*, Georgetown Center for Business and Public Policy (June 2009) (“Mayo-Wallsten Paper”), at Table 3, available at http://www.gcbpp.org/files/Academic_Papers/EnablingWirelessCommunicationsJuly2009.pdf; AT&T, at 72-73.

⁷⁶ See, e.g., Paul M. Murdock, *Telecommunications*, Forbes, Dec. 2008, http://www.forbes.com/2008/12/20/wireline-wireless-communication-bigcompanies08-cz_pmm_1222telecom.html (pointing out that MetroPCS and Leap Wireless are focusing their deployment in “large markets,” such as “Boston and New York (MetroPCS) and Baltimore, Washington, D.C., Philadelphia and Chicago (Leap)”).

⁷⁷ MetroPCS, at 52.

services and necessitated the acquisition of additional spectrum.⁷⁸ These carriers would get no or few credits. By contrast, a firm that had never provided wireless service to a single customer would get maximum bidding credits, even if it was a large company. That would have the perverse effect of subsidizing firms that have no track record of investment, innovation, and customer service. To make matters worse, such companies would be eligible for subsidies irrespective of their size and resources.⁷⁹

Finally, a few commenters raise concerns that smaller or regional carriers are disadvantaged in auctions when spectrum covering large geographic areas are sold in single blocks either directly or through the mechanism of combinatorial bidding.⁸⁰ These commenters argue that smaller carriers should not be forced to bid on spectrum that they do not need and that they lack the necessary resources to compete against the larger carriers that typically bid on such spectrum. These carriers therefore argue that all spectrum should be auctioned at the CMA level. AT&T understands these concerns, but this proposal is extreme. If it were adopted, substantial transaction costs would be imposed on carriers who are interested in providing service across larger areas, for they would be required to participate in auctions at the CMA level and then cobble together spectrum through a series of secondary market transactions. It was precisely to avoid these transactions costs that the Commission adopted its current practice of auctioning

⁷⁸ Katz Reply ¶¶ 20-22 (the MetroPCS proposal would “[h]arm[] consumers and distort[] competition” and would deter innovation by serving only as an “innovation tax”).

⁷⁹ MetroPCS’s other justification for this approach is that net revenues to wireless carriers are expected to decline over time, “meaning that discounts on spectrum will be necessary in order for business plans to succeed.” MetroPCS, at 54. But this reasoning is applicable to all spectrum users, and it is therefore no reason to discriminate against large spectrum holders in spectrum auctions. Moreover, the auction mechanism will address this issue. If spectrum-based revenues are expected to decline, so too will the winning bids in spectrum auctions, because bidders will necessarily account for those declines in valuing the spectrum and their corresponding bids.

⁸⁰ See MetroPCS, at 11; NTCA, at 3; RTG, at 3.

some spectrum in larger geographic blocks and some spectrum at the CMA level.⁸¹ The Commission's historic policy of auctioning spectrum in various geographic blocks to accommodate the needs of all types of carriers represents a far more reasonable accommodation between the interests of regional and national carriers.⁸²

B. The Commission Should Reject Proposals To Force The Sharing of Licensed Mobile Spectrum.

The comments overwhelmingly oppose proposals for forced sharing of licensed mobile spectrum through underlays, overlays, or opportunistic use with cognitive radios, and for good

⁸¹ See, e.g., *In re Service Rules for the 698-746, 747-762 and 777-792 MHz Bands*, 22 FCC Rcd. 15289, ¶ 81 (2007) (“700 MHz Order”) (“With regard to the size of geographic service areas, the use of REAGs for the Upper 700 MHz Band C Block also will provide a number of benefits. First, as the Commission noted in adopting the AWS-1 band plan, the use of REAGs may meet the needs of carriers interested in creating a large regional or nationwide service area, which may be especially important for new entrants. In particular, the use of large geographic service areas helps reduce transaction costs to both auction participants seeking to aggregate adjoining smaller geographic areas at auction and licensees seeking to consolidate such areas post auction. At the same time, REAGs are not so large as to preclude medium-sized providers from acquiring them at auction. For example, in the auction for AWS-1 licenses, MetroPCS acquired a REAG license for the highly populated Northeastern U.S., and Cricket acquired a REAG license for the Central U.S.”); *id.* ¶ 82 (“Whether used for providing service over a region or aggregated to provide nationwide service, because REAGs represent larger geographic areas, they help lower the costs of acquiring a larger customer base to achieve economies of scale. To the extent licensees are better able to create large service areas and achieve economies of scale, they are better able to offer new and innovative services, including advanced broadband services. When combined with a large spectrum block, the use of REAGs may be even more effective in promoting these benefits, especially the provision of wireless broadband services.”).

⁸² Sprint (at 13-15) raises the additional issue that it sometimes has difficulty working with incumbents that occupy spectrum that has been repurposed and that Sprint now holds, and, in particular, that these incumbents can be slow to relocate to other spectrum. Sprint makes a number of proposals for Commission involvement on this issue. AT&T understands both sides of this issue, because AT&T is both an incumbent in spectrum that has been reallocated and AT&T holds licenses for spectrum that is occupied by incumbents. AT&T generally has had success in addressing relocation issues in both circumstances. However, AT&T agrees with Sprint (at 14-15) that precluding incumbents from recovering negotiation costs related to their spectrum relocation and to allow them to recover only the actual costs of relocation may better align incentives for incumbents to more quickly negotiate and implement relocation terms.

reason.⁸³ While these arrangements may warrant consideration in spectrum licensed for broadcasting or similar stationary point-to-point (or multipoint) uses, they cannot be responsibly considered for licensed *mobile* spectrum. As Qualcomm explains, “[t]echnically, spectrum overlays or underlays simply will not work and will cause interference.”⁸⁴ More specifically, the comments confirm that forced sharing arrangements would inherently reduce the amount of spectrum available for licensed mobile use, and the interference caused by mandatory sharing would significantly degrade licensed services, resulting in slower speeds, blocked/dropped calls, and even outages.⁸⁵

⁸³ See, e.g., AT&T, at 75-86; Clearwire, at 11-12 (“Underlays and overlays may limit a spectrum-constrained network provider’s ability to manage its spectrum to the detriment of its customers. Moreover, a spectrum owner’s needs will change over time, so that an underlay or overlay arrangement that may provide efficient spectrum today, may weaken the means to manage congested network traffic down the road”); Ericsson, at 17, 20 (“The flexibility of use is an important facilitator of innovation because carriers can evolve their networks and grow the services they offer consumers without regulatory impediments or secondary uses that may have unintended consequences – such as a rising noise floor”; “[t]he mere possibility that the Commission may authorize new, incompatible services in adjacent spectrum that could impact existing networks and services hampers investment”); Qualcomm, at 39-42 (“the Commission should not compel spectrum underlays or overlays because they are not technically feasible, they discourage investment in licensed networks and services, and they devalue licensed spectrum”); Verizon, at 132-138 (“Implementing such [sharing] mechanisms in exclusive use bands would cause significant damage to existing networks and the consumers who rely on them, would undermine incumbent licensees’ exclusive rights and deter innovation and investment, including further investment in technologies designed to maximize spectral efficiency”). See also Faulhaber & Farber, at 20-22; Katz Reply ¶¶ 28-32.

⁸⁴ Qualcomm, at 39.

⁸⁵ See, e.g., AT&T, at 75-86; Qualcomm, at 39-42 (“mandating any unlicensed overlay or underlay in a licensed band will unquestionably cause interference and will degrade service for US wireless subscribers”); Sprint, at 17-20 (“Authorizing underlays or overlays in CMRS bands would discourage innovation by operators, raise the costs for expansion of wireless broadband coverage, and deprive consumers of higher-speed broadband services that they desire”); Verizon, at 132-38 (underlays and overlays would “cause significant damage to existing networks and the consumers who rely on them”). See also Katz Reply ¶¶ 28, 33-36 (“public policies that impose mandatory spectrum sharing will tend to undermine innovation and investment”); Faulhaber & Farber, at 20-22; Faulhaber & Farber Reply, at 2 (“market-based sharing is far preferable to command-and-control mandated sharing”).

Nonetheless, Google suggests that the Commission should study these forced sharing proposals and should consider adopting rules that would make it more difficult for mobile radio licensees to avoid (and stop) harmful interference. Google appears to base these suggestions on a belief that (1) mobile providers make inefficient use of their spectrum and (2) marketplace forces cannot be relied upon to create spectrum sharing arrangement where they can occur without producing harmful interference. Neither belief is correct.

First, as Qualcomm points out, licensed mobile network operators are “us[ing] all of their spectrum as efficiently as possible.”⁸⁶ Indeed, the comments overwhelmingly demonstrate that U.S. mobile license holders are among the most efficient users of spectrum in the world.⁸⁷ The record shows that because U.S. carriers have increased the capacity of mobile spectrum tenfold in the past eight years, mobile license holders are literally approaching the “theoretical limits” of spectrum use.⁸⁸

Likewise, contrary to Google’s claim, there is no reason for the Commission even to consider the imposition of mandatory sharing requirements through “command and control” regulation. If and when it is the case that technology permits secondary uses of mobile spectrum without causing harmful interference, the marketplace will implement these arrangements. As Drs. Faulhaber and Farber explain in detail, in that event, licensees “will be happy to permit truly non-interfering uses for a competitively determined market price.”⁸⁹ If new uses for spectrum are proven and valuable, they “can certainly pay [their] own way”; “[t]here is no reason that

⁸⁶ Qualcomm, at 40.

⁸⁷ See, e.g., AT&T, at 31; CTIA, at 79-80; Verizon, at 96; Sprint, at 5-7; Clearwire, at 12.

⁸⁸ See AT&T, at 31; Hazlett Decl. ¶ 46. See also Faulhaber & Farber, at 8-12; Katz Paper, at 14-17.

⁸⁹ Faulhaber & Farber, at 21-22.

[any] particular technology should get a free ride on spectrum” through regulatory mandates.⁹⁰ Dr. Faulhaber and Dr. Farber have also explained that the marketplace can and will then develop spectrum management arrangements that will permit the efficient use of licensed spectrum by hundreds or thousands of secondary users – while providing the swift and certain remedies against users who engaged in harmful and unauthorized conduct that the Commission has not been historically able to provide.⁹¹ “There is no market failure here, and therefore no rationale for intervention.”⁹²

Google’s contrary arguments are simply wrong. For example, contrary to Google’s assertion, forced underlay sharing is patently not needed to facilitate the introduction of femtocell technology. All of the national carriers have already embraced femtocell technology. For example, AT&T is now conducting a market test in which its licensed mobile spectrum is used to transmit signals from the handset to the femtocell receiver. This allows AT&T to make even greater use of its licensed spectrum and thus increase spectrum efficiency, and this innovative femtocell network design has the added consumer benefit that it can easily be handed off between the femtocell receivers and cell towers (because they are using the same licensed spectrum).

Notably, AT&T’s innovative femtocell implementation could not have been accomplished through forced spectrum sharing. Because the femtocell network uses AT&T’s licensed mobile spectrum, it is critical that AT&T be able to manage potential interference

⁹⁰ *Id.*

⁹¹ *Id.*

⁹² *Id.* at 22. *See also* Faulhaber & Farber, at 1-13; Faulhaber & Farber Reply, at 4; Katz Reply ¶¶ 33-37 (“reliance on secondary markets and other economic incentives can be expected to lead to more efficient deployment of broadband wireless networks and other new technologies than would creation of government-mandated underlay rights.”).

among femtocell receivers and between femtocell receivers and AT&T's traditional cell sites. AT&T carefully manages these networks by ensuring proper spacing among femtocell sites (and from cell towers), and maintaining dynamic control of the power levels of the femtocell receivers, so that it can adjust power levels to minimize or eliminate interference with other AT&T femtocell networks or cell towers. AT&T also includes the ability to turn a particular femtocell network off if it is causing unexpected interference.

Because license holders efficiently use their spectrum and have every incentive to adopt new technologies – including spectrum sharing technologies – without sharing mandates, there are no legitimate reasons for the Commission to adopt such mandates.⁹³ The risks in adopting such mandates, however, are enormous. As a technical matter, the comments show that forced sharing would reduce the amount of licensed mobile spectrum available to the primary licensee, and would cause increased noise and interference and thus further reduce the amount of useable licensed mobile spectrum.⁹⁴ As Sprint demonstrates, for example, “even a small increase in

⁹³ See Katz Reply ¶ 9; Faulhaber & Farber Reply, at 4-5.

⁹⁴ See, e.g., AT&T, at 81 & n.240; see also Ericsson, at 17 (“[I]ntroducing unlicensed usage in a licensed band creates uncertainty with regards to the RF environment and makes locating and rectifying the source of interference extremely difficult. Incumbents are also less likely to innovate in a band when the RF environment is unpredictable. This, in turn, affects investment and deployment of broadband services that will benefit consumers.”); Clearwire, at 3 (“The Commission should ensure and improve the predictability associated with licensed services, rather than undermining predictability by initiating new proceedings that call licensees’ rights into question”); Qualcomm, at 39 (“Technically, spectrum overlays or underlays simply will not work and will cause interference. As shown herein, mobile broadband systems require full protection from interference. Mobile broadband technology is not designed to permit unlicensed devices to transmit “on top” or “underneath” the licensed transmitters, *i.e.*, within the same spectrum band. Rather, mobile broadband systems enable communications over wide areas, and to maintain the link from a licensed devices to its nearest base station requires the absence of any interference.”); Sprint, at 19 (“Today’s wireless 3G and 4G networks, which are designed to take advantage of low noise floors to provide higher data rates, would automatically respond to higher noise floors by slowing the maximum data rate to consumers.”); Verizon, at 134-135 (“Any addition of overlays and/or underlays would serve only to decrease spectral efficiency. Indeed, where spectrum rights are non-exclusive, licensees can not capture the benefits from deploying

noise of 1-2 db would trigger a 33% reduction in data rates for some users and areas where the highest data rates could be provided would be substantially reduced in size.”⁹⁵

In addition to these significant technical problems with mandatory spectrum sharing, there are serious economic concerns. Mandatory spectrum sharing would unquestionably reduce incentives to use mobile licensed spectrum more efficiently. Licensees have strong incentives to use their spectrum efficiently to maximize its value, but interlopers have no such incentives. Rather, every potential interloper’s incentive is to use as much spectrum as possible at the lowest cost, ultimately resulting in the well-known “tragedy of the commons,” where the spectrum becomes so overcrowded that it is useful to no one.

In advancing its mandatory sharing proposals Google does not acknowledge, much less address, the potential for forced sharing arrangements to degrade the wireless services that customers depend upon. Google’s apparent view is that the Commission’s sole concern should be to provide unbridled freedom to other supposed “innovators” who want to use spectrum for free. It believes that the Commission can be and should be indifferent to the adverse effects of forced sharing on customers who depend on wireless service or on the ability of carriers, equipment manufacturers, and applications to benefit consumers through innovations and investments that enhance the capabilities of wireless services. That is nonsense. Not only is there unlicensed spectrum available for this use, Google would have any “tragedy of the commons” move over to the licensed bands as well. In this misguided “spirit,” Google offers several proposals.

spectrum-conserving technology, nor will they have the incentive to invest in it, and operators will be forced to respond with costly measures to regain the lost capacity.”).

⁹⁵ Sprint, at 19; *see also* Qualcomm, at 40 (“compensating for a 1 dB increase in noise temperature, a licensee would have to increase the number of cell sites by 12-17%, and impossible task given the limitations imposed by zoning regulations and other practical difficulties in identifying locations for new towers”).

Interference Temperature Rules. Google asks the Commission to reopen the now-terminated proceeding that had addressed whether to adopt “Interference Temperature” rules in order to enable greater use of underlays and overlays.⁹⁶ Under this approach, sensors and other equipment would be installed throughout the nation in order to measure the noise floor in each area for each spectrum band. Based on the data from these devices, the Commission would set an “interference temperature” for each spectrum band at some level above the existing average noise floor but below peak noise levels. Unlicensed devices would be required to have special sensors to continuously monitor RF levels to ensure that their operation does not elevate noise to levels above the interference temperature. This idea was explored by the Commission in a previous proceeding (ET Docket No. 03-237) and ultimately abandoned,⁹⁷ and for very good reasons.

The interference temperature concept was shown to have both theoretical and practical flaws.⁹⁸ AT&T will not repeat all of those showings here, but some of the most intractable issues are worth noting. One of the main conceptual flaws with the interference temperature concept is that it assumes that licensed mobile networks are designed to operate only above a certain noise level, and that an interference temperature set below that noise level would have no impact on the mobile wireless networks. In fact, modern licensed mobile wireless networks use state-of-the art equipment that senses noise levels in real time and expands spectrum use when

⁹⁶ Google, at 22.

⁹⁷ Order, *Establishment of an Interference Temperature Metric to Quantify and Manage Interference and to Expand Available Unlicensed Operation in Certain Fixed, Mobile and Satellite Frequency Bands*, 22 FCC Rcd. 8938 (2007) (terminating proceeding).

⁹⁸ Many of the serious issues raised by the Commenters in the Interference Temperature proceedings are summarized in the Reply Comments of Cingular and BellSouth, ET Docket No. 03-237 (filed May 5, 2004).

noise levels are low and contracts spectrum use when noise levels are higher.⁹⁹ A temperature interference approach, therefore, would reduce the spectrum capacity and quality of mobile networks – quite the opposite of what everyone agrees should happen.

The significant technical barriers to implementing the interference temperature approach would only exacerbate these problems. For example, that approach would require all unlicensed devices that are supposed to operate below the interference temperature to have sensors that, in real time, measure noise levels and that alter their own noise levels to ensure that overall noise levels remain below that interference temperature. But as Google has pointed out in the TV White Spaces proceeding (where it is opposed to mandatory spectrum sensing technologies), there is widespread agreement that “spectrum sensing at this time does not appear to be a reliable method of interference protection”¹⁰⁰ because “sensing technology is still in its nascent stage” and sensing devices are “not able to sense with a high degree of accuracy.”¹⁰¹ Notably, spectrum sensing technology is even more inappropriate in the context of mobile devices. As Google has explained, “[u]nlike TV stations’ always-on, same channel operations, wireless microphone use [like other wireless mobile devices] is sporadic, far shorter in duration . . . and occupies different

⁹⁹ AT&T Interference Temperature Comments, at 6-8, ET Docket No. 03-237(April 5, 2004).

¹⁰⁰ Reply Comments of Google Inc., *Unlicensed Operation in the TV Broadcast Bands*, ET Docket No. 04-186, at 3 (filed May 18, 2009) (citing concurrence by Motorola, Society of Broadcast Engineers, IEEE 802, and others).

¹⁰¹ Opposition and Comments of Google Inc., *Unlicensed Operation in the TV Broadcast Bands*, ET Docket No. 04-186 (filed May 8, 2009) (citing Second Report and Order and Memorandum Opinion and Order, *Unlicensed Operation in the TV Broadcast Bands*, 23 FCC Rcd. 16807, ¶¶ 81-82 (2008)).

spectrum at different times.”¹⁰² Even assuming such equipment exists, one malfunctioning, modified, or otherwise rogue device could disrupt mobile wireless service for an entire area.¹⁰³

The interference temperature approach is also impractical. For example, it would require the Commission frequently to measure the noise floor for every spectrum band in every location to set the “interference temperature” level. But as AT&T and others documented, this task is not only an enormous undertaking, but obtaining and deploying such sensors would be extraordinarily expensive and the results of such measurements would be highly inaccurate for a mobile system where devices are constantly moving in and out of areas.¹⁰⁴

Google asserts that “recent academic research and technological innovation” now “support[s] a fresh look at the interference temperature approach.”¹⁰⁵ But Google relies on an article that merely confirms one of the main problems with the interference temperature approach: “[u]ltimately the resulting performance from [an] interference temperature model is low, compared to the amount of interference it can cause to primary users.”¹⁰⁶ The paper concluded that properly “measuring interference temperature is a tricky task” and offered only

¹⁰² *Id.*

¹⁰³ AT&T, at 80-81 (discussing the serious interference caused by boosters and repeaters); Faulhaber & Farber Reply, at 9-11.

¹⁰⁴ AT&T Interference Temperature Reply Comments, ET Docket No. 03-237, at 14-16 (summarizing comments by Nokia, Agilent, Proxim, Sprint, Motorola, CTIA and others); *see also* Motorola, at 14 (“noise floor measurements in incumbent frequency bands will be extremely difficult to acquire”).

¹⁰⁵ Google, at 23 & n.74 (citing T. Charles Clancy, Dynamic Spectrum Access Using the Interference Temperature Model, *Annals of Telecommunications*, vol. 64, abstract (Aug. 2009), <http://www.cs.umd.edu/~clancy/docs/itma-at08.pdf>. (“Clancy Paper”).

¹⁰⁶ Clancy Paper, at 1.

complex *theoretical* mathematical models for how it might be done.¹⁰⁷ The article thus provides no support for Google’s proposal now to resurrect the old Interference Temperature debate.¹⁰⁸

Cognitive Radio. The interference temperature proposal relies on “cognitive radio,” and Google also separately suggests that cognitive radio can now be relied upon to permit “opportunistic use” of mobile spectrum. In fact, the comments show that forced sharing using “cognitive radio” technology would only reduce the overall amount of usable spectrum available.¹⁰⁹ Although cognitive radio is a highly promising technology, engineers have documented numerous shortcomings in the technology that would result in significant interference with licensed mobile uses if allowed to operate in the mobile licensed spectrum. As Dr. Faulhaber and Dr. Farber explain, cognitive radio is a “great theory,” but there are “many problems” with it and “much experimental work needs to be done to prove in the concept.”¹¹⁰ It is “far from ready for prime time.”¹¹¹

It is therefore simply irresponsible for Google to suggest that the Commission should now consider mandating shared spectrum via cognitive radio. As Google is well aware, and as the comments demonstrate, if a cognitive device is unable to sense spectrum that is in use, it will

¹⁰⁷ *Id.*

¹⁰⁸ “Google [also] recommends that the Commission permit Part 15 unlicensed intentional radiators to operate at low power levels across the RF spectrum, either through underlays or overlays. . . [by] providing that the unlicensed user must either (a) operate at a pre-defined low-power level or (b) reach an agreement with the affected licensee concerning usage at higher-power levels.” Google, at 24. The proposal is perplexing. The Commission’s Part 15 rules already permit operation of devices in licensed spectrum below pre-defined power levels and they already allow an unlicensed user to enter into agreements with licensees to operate at higher power levels. 47 C.F.R. § 15.

¹⁰⁹ AT&T, at 84; Faulhaber & Farber, at 20-22.

¹¹⁰ Faulhaber & Farber Reply, at 2.

¹¹¹ *Id.*

cause significant interference, resulting in degraded service quality and even outages.¹¹² But, as explained above, Google has elsewhere conceded – in arguing *against* using spectrum sensing devices for TV White Spaces – that current spectrum technologies cannot do this: “sensing technology is still in its nascent stage” and sensing devices are “not able to sense with a high degree of accuracy.”¹¹³ As also noted, Google has recognized that there are especially significant difficulties with spectrum sensing technology in mobile networks.¹¹⁴

That is why other advocates of cognitive radio are careful not to recommend that it be used in licensed mobile spectrum. Rather, as Powerwave, for example, observes, “[t]he most important way to promote investment in cellular alternative architectures and new cognitive radio operation is to *set aside bands exclusively for cognitive radio operation*” to facilitate the development of such technology.¹¹⁵ As Powerwave points out, many applications of cognitive radio have been in the context of military programs,¹¹⁶ where interference with other spectrum uses is likely to be far less of an issue – indeed, in some applications, it may be intended.

In any event, once again, marketplace mechanisms will ensure that cognitive radio techniques are introduced into licensed mobile wireless uses where appropriate. For example, AT&T has for years used spectrum sensing technologies that permit a receiver to change bands when interference is detected, thus enhancing the efficiency of AT&T’s network. But it is critical to recognize that the devices using this technology are under the control of AT&T’s

¹¹² See, e.g., AT&T, at 83-84; Faulhaber & Farber, at 20-22.

¹¹³ Opposition and Comments of Google Inc., *Unlicensed Operation in the TV Broadcast Bands*, ET Docket No. 04-186 (filed May 8, 2009) (citing Second Report and Order and Memorandum Opinion and Order, *Unlicensed Operation in the TV Broadcast Bands*, 23 FCC Rcd. 16807, ¶¶81-82 (2008)).

¹¹⁴ *Id.*

¹¹⁵ Powerwave, at 11.

¹¹⁶ *Id.* at 2.

network, which allows AT&T to manage interference by, among other things, ensuring that these in-network devices are fully aware of what spectrum is free (thus addressing the shortcomings with respect to spectrum sensing and other issues) and by providing AT&T with the ability to shut it down if something goes wrong.

Interference. Interference is of critical concern here. Interference, by definition, reduces the amount of usable spectrum available to licensed mobile users, and in some cases interference can significantly degrade mobile wireless services, resulting in dropped and blocked calls or even widespread outages. The commenters thus broadly agree that interference is one of the most important factors that determines the quality and quantity of mobile service.¹¹⁷ For these reasons, a necessary component to ensuring that there is enough usable spectrum available to satisfy future demands is prompt enforcement of policies and rules designed to minimize interference with licensed mobile uses.¹¹⁸

In direct contravention of this imperative, Google now proposes that the Commission significantly *reduce* interference protections for licensed spectrum. Under Google's proposal, anyone should now be permitted to use licensed mobile spectrum unless the licensee can prove that the other user is causing a "significant" risk of harmful interference. This proposal, too, is irresponsible, particularly at the time of an impending spectrum crisis. Under Google's proposal, each unlicensed user would occupy a portion of much needed spectrum. But, as the comments

¹¹⁷ See, e.g., AT&T, at 80-87; CTIA, at 80-82; 89-90; Faulhaber & Farber Reply, at 9-11; Qualcomm, at 33-36; T-Mobile, at 23; Sprint, at 20-22; Verizon, at 135-36.

¹¹⁸ See, e.g., AT&T, at 80-87; CTIA, at 80-82; 89-90; Faulhaber & Farber Reply, at 9-11; Qualcomm, at 33-36; T-Mobile, at 23; Sprint, at 20-22; Verizon, at 135-36. See also, e.g., Spectrum Policy Task Force, Report of the Interference Protection Working Group, Federal Communications Commission, at 3 (Nov. 15, 2002) ("The cumulative impact of the increasing volume and density of radio devices on the RF environment will challenge the Commission's current approaches to interference management"); Spectrum Policy Task Force Report, at 25 ("[t]his challenging issue [of interference] has become even more difficult as a result of the increasingly intensive use of the radio spectrum").

show, the number of devices that can be served by a particular cell tower is inversely related to the amount of noise and interference in that area, which means that the increased noise levels and interference that would necessarily result from allowing additional devices into licensed spectrum would significantly reduce the number of customers that can be served by each cell tower, decrease the range of each cell tower, and result in dropped or blocked calls.¹¹⁹

Far more fundamentally, Google's proposal would literally ring the death knell for licensed mobile services. Under Google's approach, unlicensed users could flood the licensees' spectrum with alternative uses, and licensees would have to divert resources from investment and innovation in their networks to chasing down interfering devices and building cases to "demonstrate" that such devices are causing "significant" harm. But it would be virtually impossible to identify all interfering devices. Many are mobile and could not easily be triangulated, and others would cause only local interference that the licensee may not be aware of.¹²⁰ Even when a licensee does manage to identify an interfering use, it is unclear what it would be required to prove to demonstrate "significant" interference. Google's proposal would also significantly strain Commission resources and licensees would almost certainly flood the Commission with requests to address "significant" interference. In the mean time, customers would blame the *carrier* for their interference-related service problems.

Google's proposal to revise the receiver standards would likewise significantly undermine interference protections, and thus reduce the amount of usable spectrum. As the

¹¹⁹ See, e.g., AT&T, at 81; Qualcomm, at 40 ("a 1 dB increase in noise temperature in a licensed band would cause each CDMA-based cell to suffer a 10-15% decrease in coverage area"); Verizon, at 135-136 (interference from increased noise conditions "would significantly degrade the quality of service received by customers," "includ[ing] dropped calls, blocked calls, reduced voice quality, decreased data throughput, and an inability to locate and E-911 caller"; it would also "impair the network and reduce coverage").

¹²⁰ Accord Qualcomm, at 41 ("unlicensed devices can be mobile, and so the interference can vary in location as the devices move around.").

comments confirm, receiver standards are a completely impractical way to control for interference, which is likely one reason why the Commission chose to take no action in the docket where it previously considered these issues.¹²¹ As an initial matter, there is no need for Commission standards. The best and brightest engineers from all over the world already adopt receiver standards – *e.g.*, the 3GPP, IEEE, and other industry groups – that are then adopted by and implemented by carriers, manufacturers, and other marketplace participants. These standards are constantly being updated to reflect the latest innovations in technology, and thus ensure the most efficient use of spectrum. The Commission is not designed to be a standards setting body. Foisting responsibility for adopting receiver standards onto the Commission would inevitably result in standards being adopted based on existing equipment, and most likely the prevailing models.¹²² As a result, such standards will always be several years behind the current production state of the art and many years behind the development state of the art, and would actually stifle innovation and adoption of technologies by handset manufactures.¹²³

Special Temporary Authority. Lockheed Martin, Boeing and Motorola have raised a complaint relating to the standard conditions that are imposed in grants of Special Temporary Authority (“STA”) for testing devices in licensed spectrum. STAs typically require that the tester obtain permission from licensed users before testing. Unfortunately, it appears that Lockheed Martin and Boeing (and perhaps Motorola) have run into difficulties obtaining

¹²¹ *See, e.g.*, AT&T, at 90; Qualcomm, at 34-35; Motorola, at 12-14; Verizon, at 134-138.

¹²² *See* Katz Reply ¶ 30 (receiver standards “should be determined by market mechanisms rather than imposed by regulators, who are extremely unlikely to possess the information necessary to make the fine grained determinations that would be necessary”).

¹²³ *See, e.g.*, Comments of BellSouth Corporation And Cingular Wireless LLC, *Interference Immunity Performance Specifications for Radio Receivers*, ET Docket No. 03-65 (filed July 21, 2003).

cooperation from certain entities, so they ask the Commission to eliminate that requirement.¹²⁴ But this would throw out the baby out with the bathwater. The consent provisions in STAs are a critical component to protecting against harmful interference. These provisions serve to inform the licensee that there will be a test in its spectrum and to facilitate close coordination between the tester and the licensee. For example, AT&T, which almost always grants STA requests, relies on such conditions to ensure that it is informed when tests are being conducted in its licensed spectrum and to allow it coordinate with the tester, often by having a direct line to the engineers conducting the test so that if harmful interference arises, the test can be terminated while it can be determined how best to proceed with further testing. The better solution to the issue raised by these commenters is to seek ways to resolve the issues with any licensee that are unreasonably denying testing requests, not to jettison important interference safeguards.¹²⁵

C. Proposals To Enhance Secondary Market Transactions And Auctions.

Finally, Google has made proposals that it believes could improve the functioning of secondary spectrum markets. As explained above, these are vibrant markets today, but there is always room for improvement, and some of Google's suggestions bear further examination. Others, however, would be profoundly burdensome and should be rejected.

First, Google asks the Commission to improve secondary "market-driven mechanisms."¹²⁶ It asks that the Commission clarify that all licensees are permitted to transfer or

¹²⁴ See Boeing, at 10-12; Lockheed Martin, at 3-5; Motorola, at 29.

¹²⁵ Sprint (at 20-22) raises concerns about interference from out of band emissions ("OOBEs"), and makes several proposals to better protect incumbents from such interference. AT&T has similar concerns and agrees with Sprint that "the Commission must enforce its OOBE rules in the marketplace." Sprint, at 21. AT&T also agrees that the Commission should do so promptly and "before the non-compliant devices are deployed in quantities that generate noise sufficient to cause widespread disruption to wireless communication." *Id.*

¹²⁶ Google, at 8.

lease spectrum in real-time auctions, in which purchasers would be allowed to use unoccupied spectrum for a given time at given power levels.¹²⁷ Google asserts that 700 MHz licensees are permitted to conduct these real-time auctions and contends that all mobile spectrum licensees should have this same right.¹²⁸ AT&T is not certain that clarification is required. Secondary spectrum markets already support many different ways of transacting, including, among others, arms length agreements, clearinghouses (*e.g.*, Spectrum Bridge), and auctions. But if there is any doubt about the authority of licensees to conduct real-time auctions, AT&T supports Google’s proposed clarification, because it would provide additional ways for carriers to buy and sell spectrum in secondary markets.¹²⁹

But if Google is suggesting that mobile license holders should be *required* to conduct real time auctions, that suggestion clearly should be rejected.¹³⁰ To limit the types of secondary market transactions to “real-time auction” would undermine the Commission’s objective of maximizing the efficient use of spectrum and quickly getting it into the hands of those who need it most. When a licensee wishes to sell or lease spectrum, there will be many instances in which other forms of transactions are far more efficient. Further, it appears that Google’s proposed “real time” auction mechanism would include the forced sharing of spectrum using cognitive devices, but as explained above that will often be a very inefficient – and even damaging – way to allocate spectrum.

Second, Google proposes that the Commission seek to facilitate secondary market transactions by taking steps to improve access to information that is contained in certain

¹²⁷ *See id.* at 11.

¹²⁸ *See, e.g., id.*

¹²⁹ *See* Katz Reply ¶¶ 39-40.

¹³⁰ *Id.*

licensing data bases of the Commission: *e.g.*, the Universal Licensing System (“ULS”), Broadcast Radio and Television Electronic Filing System (“CDBS”), and the Table of Frequency Allocations.”¹³¹ Google proposes that the Commission permit “user searches by multiple parameters, such as frequency band or geographic area, thus making it possible for a user to readily determine, for example, all licensees within a specified frequency range, or all licensed spectrum within a particular market.”¹³² AT&T has always found the Commission’s existing systems to be quite robust. However, if improvements to the user interface for these systems could further enhance access to information for secondary market transactions, AT&T supports these improvements.¹³³

Third, Google proposes the adoption of new data reporting requirements for licensees. In particular, it proposes that, in each service area for which it is licensed, each licensee should be required to compile and submit “the frequencies on which operations have been conducted; location and operating parameters of each transmitter; whether each transmitter operated continuously or intermittently; and spectrum occupancy measurements.”¹³⁴ In the case of mobile spectrum licensees, this proposal is absurd and should be rejected out of hand.¹³⁵ First, it is completely impractical, because mobile wireless licensees could not possibly provide accurate information about the “location . . . of each transmitter.” There are nearly 300 million mobile transmitters (*i.e.*, wireless handsets and other devices) that are constantly moving throughout the United States. Second, it would be unduly burdensome, because it would require the

¹³¹ Google, at 6; *see also* Spectrum Bridge, at 2-3 (finding the Commission’s existing databases “incomplete and in some cases inaccurate” and “difficult to search”).

¹³² Google, at 7; *see also* Spectrum Bridge, at 2.

¹³³ *See also* Katz Reply ¶¶ 17, 41.

¹³⁴ Google, at 7.

¹³⁵ *See also* Katz Reply ¶ 22.

development of entirely new systems and constant database management and reporting, to which each carrier would likely have to devote a large number of personnel. Third, this proposal raises significant security issues, particularly to the extent that it would make publicly available, core network designs, locations, and operating capacities of the mobile networks that are a critical component of this Country's emergency and homeland security infrastructure. Fourth, such a reporting requirement would raise significant trade secret issues, because the location, design, use, and other characteristics of licensed networks are highly proprietary and competitively sensitive.

Fourth, the comments confirm that Commission should not adopt spectrum user fees as a means to encourage license holders to transfer underutilized spectrum.¹³⁶ As AT&T and others have demonstrated, the secondary market for mobile wireless spectrum already addresses this issue; licensees already have every incentive to lease or transfer spectrum to higher valued uses.¹³⁷ User fees would be nothing more than a tax on licensed mobile spectrum, and it is settled in economics that taxing an input to production can only result in *lower use* of that input and correspondingly reduced incentives to invest in innovation for that input.¹³⁸

In any event, the comments confirm¹³⁹ what the Commission has repeatedly held: it “does not currently have statutory authority to impose spectrum user fees.”¹⁴⁰ The winning

¹³⁶ See, e.g., AT&T, at 74; MetroPCS, at 46; Qualcomm, at 47-48; Verizon, at 148-154.

¹³⁷ See, e.g., AT&T, at 74; Hazlett Decl. ¶ 39; Faulhaber & Farber, at 21-22.

¹³⁸ See, e.g., Qualcomm, at 47 (“Nothing will chill innovation more than adding yet another financial burden to the carriers”).

¹³⁹ See, e.g., Verizon, at 148-154; AT&T, at 74.

¹⁴⁰ Notice of Proposed Rulemaking, *Implementation of Sections 309(j) and 337 of the Communications Act of 1934 as Amended*, 14 FCC Rcd. 5206, ¶ 76 (1999); see also Report and Order and Notice of Proposed Rulemaking, *Flexibility for Delivery of Communications by Mobile Satellite Service Providers in the 2 GHz Band, the L-Band, and the 1.6/2.4 GHz Bands*, 18 FCC Rcd. 1962, ¶ 102 (2003) (rejecting proposal to assess user fees on mobile satellite

bidder at an auction pays the market value of the use of the spectrum, and an additional “user fee” that also is based on market value would be a tax that the Commission cannot impose absent clear Congressional authorization.¹⁴¹ In addition, where spectrum has been auctioned without a user fee, subsequent imposition of such a fee could give rise to “unreasonable secondary retroactivity,” because it would undermine “substantial past investment incurred in reliance upon the prior rule.”¹⁴²

service licensees for additional spectrum rights granted in the order because the Communications Act “does not clearly authorize” such fees); Third Memorandum Opinion and Order, *Replacement of Part 90 By Part 88 to Revise the Private Land Mobile Radio Services and Modify the Policies Governing Them and Examination of Exclusivity and Frequency Assignments Policies of the Private Land Mobile Services*, 14 FCC Rcd. 10922, ¶ 26 (1999) (noting that a prior proposal for user fees for Private Land Mobile Radio spectrum “was premised on Congress giving the Commission statutory authority to impose such fees,” but that this authority “was not forthcoming”); Remarks of Jonathan S. Adelstein [former] Commissioner, Federal Communications Commission, “*New Frontiers in Wireless Policy: A Framework for Innovation*,” Silicon Flatirons Telecommunications Program University of Colorado at Boulder (Apr. 9, 2003), available at 2003 FCC Lexis 1953, at *11-*12 (advocating “consideration by Congress of a grant of spectrum user fee authority to the FCC” so that the Commission would “have the discretion to impose [spectrum user] fees”).

¹⁴¹ *National Cable Television Ass’n, Inc. v. United States*, 415 U.S. 336, 340-43 (1974) (construing statute not to authorize the Commission to levy a fee that is unrelated to the value of a license because such an assessment would be a “tax[]” that only Congress can impose); *Skinner v. Mid-America Pipeline Co.*, 490 U.S. 212, 217 (1989) (“Congress must indicate clearly its intention to delegate to the Executive the discretionary authority to recover administrative costs not inuring directly to the benefit of regulated parties by imposing additional financial burdens, whether characterized as ‘fees’ or ‘taxes’”).

¹⁴² *Bowen v. Georgetown Univ. Hosp.*, 488 U.S. 204, 220 (1988) (Scalia, J., concurring); see *Celtronix Telemetry, Inc. v. FCC*, 272 F.3d 585, 588 (D.C. Cir. 2001) (noting that the D.C. Circuit has treated Justice Scalia’s concurring opinion in *Bowen* as “substantially authoritative”) (citing *Bergerco Canada v. U.S. Treasury Dep’t*, 129 F.3d 189, 192-93 (D.C. Cir. 1997)).

III. THE COMMISSION SHOULD CONTINUE TO AFFORD CARRIERS FLEXIBILITY TO MANAGE THEIR NETWORKS AND MEET THE NEEDS OF CUSTOMERS, AND THE COMMISSION SHOULD REJECT PROPOSALS TO REGULATE “OPENNESS”, EXCLUSIVITY ARRANGEMENTS, STANDARD SETTING, TEXT MESSAGING, AND BACKHAUL.

Finally, a handful of commenters have seized on this proceeding to urge abandonment of pro-competitive policies that the Commission has maintained through both Democratic and Republican administrations over the past two decades and that have been instrumental to the wireless industry’s extraordinary record of investment and innovations. Individual commenters now ask the Commission to impose “openness” requirements on wireless networks, to ban exclusive handset arrangements, to dictate roaming arrangements for data services, to intervene in industry standard setting processes, and to regulate the rates, terms, and conditions of wireless text messaging and backhaul services.

These proposals all represent a retreat from the Commission’s longstanding policy of granting carriers flexibility to experiment with different business models, vertical relationships, and service arrangements and of relying on marketplace forces to assure that customers receive the services that they want at competitive prices. Moreover, they do so in the absence of any evidence of market failure and without regard for their potential to impair the ability of carriers to manage their networks to conserve scarce spectrum and to enter into arrangements required to implement important new innovations. These proposals thus would defeat the Commission’s policy of promoting innovation, and are manifestly inappropriate in the face of the looming spectrum crisis.

A. The Innovation and Investment In Today’s Wireless Industry Is A Product Of The Longstanding Policy Of Permitting Carriers To Experiment With Business Plans, Vertical Relationships, And Service Arrangements.

As T-Mobile correctly states, “the wireless market is as robust, open, and dynamic as it is today because the Commission took a deregulatory approach early on, allowing competition to

promote consumer welfare and drive innovation.”¹⁴³ The Commission granted licensees the flexibility to adopt whatever business plans, vertical relationships, and service arrangements they believe will best meet the needs of their diverse customers, and the results have been a stunning success.

In CTIA’s words, “[c]ompetitive pressure” has driven “wireless companies to invest billions of dollars each year to expand their service territories, improve the quality of their service, increase the capacity of their networks, and bring innovative services to consumers across the country.”¹⁴⁴ It is because of experimentation and competitive pressures that carriers developed the term plans for service and handsets that have proven so popular. It is because of carriers’ innovative business and service arrangements that smartphones have been so successfully deployed and broadly adopted, that platforms were developed that allow thousands of firms to develop applications that run on each device, and that over 100,000 applications have been developed in the past two years. This open market exists at the network’s edge because carriers were free to experiment with alternative business models and service arrangements. As T-Mobile correctly states (at 15), “[t]he thousands of independent application providers, search engines, equipment manufacturers, and content providers that have developed around the edge of the wireless ecosystem exist only because competition forces wireless carriers to invest in and expand their markets and develop the platform on which all these businesses thrive.”

These foundational policies that drive intense carrier competition and investment are more important now than ever. Carriers will have to spend many more billions of dollars to

¹⁴³ T-Mobile, at 32-33; *see also, e.g.*, Verizon, at 102 (“exclusive use licensing model has provided carriers with a powerful incentive to upgrade technology to increase the quality of their services and to expand the number of users and devices that communicate on their spectrum”).

¹⁴⁴ CTIA, at 6; *see also* T-Mobile, at 9 (“Wireless carriers invest billions each year to improve the coverage, capacity, and quality of the wireless service they provide”).

deploy next generation networks. AT&T is enhancing the speeds of its 3G network and will upgrade to LTE in 2011; Verizon will begin deploying LTE in 2010; Clearwire's WiMAX network is up and running in 14 cities and is planned for 80 markets by the end of 2010; T-Mobile is spending \$5 billion to expand and upgrade its 3G network; MetroPCS plans to deploy a 4G LTE network next year; and many other carriers are similarly upgrading their networks.¹⁴⁵ And the 4G equipment investments are only part of the story. Carriers must make massive additional investments (over \$20 billion in 2008 alone) to improve the efficiency of their operations and network management systems.¹⁴⁶ Carriers will not make these investments unless they know that they will have the freedom to enter the service and business relationships that are required to capitalize on these massive investments.¹⁴⁷ As Ericsson notes (at 20), "flexibility of use [of spectrum] is an important facilitator of innovation because carriers can evolve their networks and grow the services they offer customers without regulatory impediments."

These regulatory freedoms are especially important in light of how the wireless ecosystem has evolved. As the capabilities of networks and devices have increased, the need for novel business relationships between carriers, manufacturers, and other participants in the

¹⁴⁵ CTIA, at 62-65; AT&T, at 26-27 ("In just the past two years, AT&T spent more than \$38 billion to upgrade its wireline and wireless networks, and AT&T will spend between \$11 and \$12 billion in the next year and a half within the current 3G framework to increase available bandwidth by deploying new cell sites, adding spectrum and upgrading to HSPA 7.2 Mbps."); T-Mobile, at 9 ("T-Mobile is spending \$5 billion this year to upgrade its 3G network"); Sprint, at 5-6 ("Sprint and Clearwire are offering "WiMAX services in 14 markets, including Baltimore, Atlanta, Las Vegas, and Portland, covering more than 10 million people," and plan on 80 markets by year-end 2010).

¹⁴⁶ CTIA, at 12 ("[b]ecause of this significant investment by service providers, wireless connectivity is virtually ubiquitous and growing daily in terms of speed, capacity, capability, coverage, and usefulness").

¹⁴⁷ *See, e.g.*, Google, at 16 ("[f]lexibility of spectrum use should be an integral part of Federal spectrum policy because it increases innovation and competition and helps to ensure that spectrum is devoted to its highest and best uses").

ecosystem has also increased. As the commenters broadly recognize, wireless networks and services today are so complex that carriers frequently must enter into collaborative relationships with other participants in the wireless ecosystem to design products and services and to optimize their performance. Important new innovations thus often require carriers to enter into contracts that provide for the sharing of risks and rewards with manufacturers, operating systems developers, applications developers, and many others.¹⁴⁸ If the Commission is to continue to maximize investment and innovation in wireless services, all players in the wireless ecosystem need the confidence that they will be permitted to enter into creative business arrangements and partnerships, so that innovations can be brought to market without fear that the Commission will second-guess the “appropriateness” of their business models.

The comments are replete with examples that illustrate the success of the Commission’s longstanding policies. The comments show that many carriers have partnered with device manufacturers to design carrier-specific devices.¹⁴⁹ Indeed, carriers have joined various alliances, such as the Open Handset Alliance, “a group of 47 technology and mobile companies,” with the goal of developing innovative wireless offerings.¹⁵⁰ Carriers are also heavily involved in working with applications developers to develop applications, and many commenters discuss the numerous programs in existence in which carriers give vital assistance to applications

¹⁴⁸ CTIA, at 15 (as the market has evolved, “the focus [now] is on speed, capacity and capability as service providers *work with others* in the mobile wireless ecosystem to provide high speed broadband, video, and other multi-function capabilities” (emphasis added)).

¹⁴⁹ *E.g.*, T-Mobile, at 39 (“in certain circumstances, T-Mobile collaborates closely with a manufacturer to design unique, T-Mobile focused handsets”); *see also* Verizon, at 57-58; AT&T, at 45-46 & n.143.

¹⁵⁰ T-Mobile, at 13; *see also* Verizon, at 31; Motorola, at 26.

developers.¹⁵¹ In many ways, these partnerships have become the defining feature of wireless competition today.

This regulatory flexibility will be especially important as carriers branch out to work with non-traditional device manufacturers to develop machine-to-machine wireless applications.¹⁵² Commenters have provided scores of specific examples of innovations in these areas, and new ones are constantly being announced. In just the few weeks since initial comments were filed in this proceeding, for example, AT&T and Numerex have announced a collaboration to enhance the wide array of machine-to-machine services they [already] provide to energy, healthcare and security companies.¹⁵³ The potential for machine-to-machine wireless applications is unlimited, and it is impossible today to predict all the different ways in which wireless capabilities might someday be incorporated into consumer products and machinery – and the type of service and business arrangements that may be required for these innovations to be economic.

¹⁵¹ *See, e.g.*, AT&T, at 38-40 (describing the many ways AT&T works with developers to create applications for devices); Verizon, at 31, 84-90 (describing Verizon’s Open Development Initiative, LTE Innovation Center, Joint Innovation Center, and the LiMo Foundation); Sprint, at 6, 28-29 (“Clearwire launched a 4G WiMAX Innovation Network in Silicon Valley with a goal of harnessing the concentration of developer talent in Silicon Valley to accelerate the pace at which mobile broadband services are being developed and to act as a catalyst for new and compelling Internet applications,” and Sprint has its own developer programs); T-Mobile, at 13 (T-Mobile’s Creation Center, which is its “advanced product and service design group, which focuses on developing innovative services to promote the wireless user experience” and has “engineers and developers . . . designing innovative, next-generation services and applications”).

¹⁵² CTIA, at 16 (“With wireless networks continuing to evolve, increased functionality and reliability allow providers to expand the use of the network for a variety of developing services and applications in areas like machine-to-machine, smart grid, mobile learning, and mobile health”).

¹⁵³ Press Release, AT&T, AT&T and Numerex Team to Address M2M Enterprise Needs (Oct. 7, 2009) (<http://www.att.com/gen/press-room?pid=5097&cdvn=news&newsarticleid=27210>).

The comments further confirm that it is carrier innovation and vertical collaborations that drive these next generation services.¹⁵⁴ Carriers work with chip makers to create chipsets for these applications; carriers work with device makers to develop new devices that can incorporate the new chipsets; and carriers optimize, upgrade, and develop innovative systems to integrate these new systems into their networks.¹⁵⁵ Moreover, carriers, including AT&T, Verizon and Sprint, have opened entire research labs devoted entirely to testing, fine tuning and certifying these devices for use on their networks.¹⁵⁶

Smart grid and health care technology are two examples of where innovation has been especially robust. Carriers, manufacturers, and utilities are teaming up to develop and deploy smart grid technology that can do everything from monitoring (and in some instances controlling) household HVAC and other systems, to coordinating, monitoring, and controlling a utility company's electrical grid systems.¹⁵⁷ In healthcare, carriers, manufacturers, hospitals and doctors are teaming up to develop and deploy innovative services that, among many other things, monitor, and in some cases report to a doctor, a patient's glucose levels, heart rate, and other vital signs, or that can even remind a patient to remember to take medication (and how much to take).¹⁵⁸ Just weeks ago, AT&T and Vitality Inc. announced a collaboration to connect wireless

¹⁵⁴ See, e.g., AT&T, at 40-46; Verizon, at 6-8; T-Mobile, at 12-15; Sprint, at 23-26; Qualcomm, at ii.

¹⁵⁵ See, e.g., AT&T, at 50; Verizon, at 90; T-Mobile, at 39; Sprint, at 23-26; Qualcomm, at 14-18; Motorola, at 25-26.

¹⁵⁶ AT&T, at 47; Verizon, at 48; Press Release, Sprint, Sprint Announces New Emerging Solutions Unit to Bolster M2M and Mobile Computing Portfolio, Accelerate Delivery to Marketplace (Oct. 6, 2009) (http://www.businesswire.com/portal/site/cnnmoney/index.jsp?ndmViewId=news_view&newsId=20091006006188&newsLang=en&ndmConfigId=1000618&vnsId=33).

¹⁵⁷ See, e.g., AT&T, at 43-44, 48-49, 102-104; Verizon, at 76-81; T-Mobile, at 14-15; Qualcomm, at 24-25; Ericsson, at 13; Motorola, at 8.

¹⁵⁸ AT&T, at 39, 48; Verizon, at 81-83; Ericsson, at 8-9; Motorola, at 8.

pill bottle tops to a station no bigger than a night light that can track whether the pill top has been opened at the proper time and can initiate reminders to the patient to take her medication. In the future, it is anticipated that the service will be able to inform relatives or doctors if a patient fails to take prescribed medication at the prescribed time.¹⁵⁹

If maximum innovation and investment are to continue, the Commission must maintain its policies that grant carriers freedom to collaborate with others, to experiment with different value propositions, and to offer the service options that they believe customers want, including a wide variety of more managed and more customizable options for consumers.

B. The Commissions Should Reject the Proposals To Abrogate Its Long Standing and Time-Tested Policy Of Relying On Marketplace Forces To Assure The Reasonableness Of Carrier Practices.

As Dr. Katz explains,

One of the widely recognized benefits of relying on competitive market forces rather than regulatory fiat is that regulators inevitably lack the information necessary to determine which supplier actions will maximize consumer welfare. . . . [N]etwork management provides a prime example. The complexity of wireless network management makes it impossible for the Commission to determine the most efficient management practices. This conclusion is a statement about the difficulty of the management problem, not a criticism of the Commission's abilities. This conclusion is also a clear indication that consumer interests are better served by allowing operators to choose their own network management policies. Like the Commission, network operators face a problem that is too difficult to solve with certainty. But this is precisely why consumer welfare is best promoted by relying on competitive market forces. Those network providers that through hard work or luck implement the most efficient network management practices will prosper financially. Those network providers that adopt inefficient network management practices (or practices that consumers find objectionable) will face

¹⁵⁹ Peter Svensson, *Next: the Pill Bottle Cap with a Cell Phone*, Associated Press, Oct. 7, 2009, http://www.google.com/hostednews/ap/article/ALeqM5gtbT9m6EuPMpEnrQ4BxWfLR_zCywD9B6GA6G0.

pressures to change and will suffer adverse commercial consequences if they do not.¹⁶⁰

Nonetheless, some parties ask the Commission to retreat from its long-standing reliance on market forces to drive innovation and deliver high quality services at reasonable prices. They do so despite the fact that there is no “market failure” or any basis for a change in the Commission’s wireless policies. The Commission should reject these misguided proposals. They would not only impede innovation and investment, but also would interfere with the ability of carriers to manage their networks to conserve spectrum.

Proposed “Openness” And “Net Neutrality” Requirements. The Commission has initiated a separate proceeding to address the question whether the Commission should adopt net neutrality regulations on providers of landline Internet access services and if so, whether it should also extend those requirements to wireless networks, in whole or in part. AT&T will provide its views on these questions in its comments in this separate docket.

Exclusive Handset Arrangements. The comments once again confirm that exclusive handset arrangements promote competition, investment and innovation.¹⁶¹ This is on top of the enormous record already compiled in the ongoing proceeding addressing RCA’s petition for rulemaking, which contains significant economic testimony, data, and other evidence that fully documents the pro-competitive nature of these arrangements.¹⁶² Exclusivity arrangements align

¹⁶⁰ Katz Reply ¶ 8.

¹⁶¹ See, e.g., AT&T, at 64-65; Katz Paper, at 45-49, T-Mobile, at 38 (“Eliminating these agreements will erode, not enhance, competition and—more specifically—innovation.”).

¹⁶² See, e.g., Reply Comments of AT&T Inc., *Wireless Telecommunications Bureau Seeks Comment On Commercial Mobile Radio Services Market Competition*, WT Docket No. 09-66, Exhibit A (Declaration of Michael Katz), ¶¶ 41-44 (filed July 13, 2009) (“Katz CMRS Decl.”); Comments of AT&T Inc., *Petition for Rulemaking Regarding Exclusivity Arrangements Between Commercial Wireless Carriers and Handset Manufacturers*, RM-11497, attached Declaration of Michael Katz ¶ 9 (Feb. 2, 2009) (“Katz Handset Decl.”).

the incentives of carriers and manufacturers in ways that allow new phones to be deployed more quickly and effectively; they increase the carrier's incentives to make network investments in support of new handsets and to promote such handsets in the first place by eliminating free rider problem and other impediments to investment; and they provide the economic certainty to handset manufacturers that allows them to invest and experiment with innovative offerings.¹⁶³ Each time a carrier and a manufacturer launch a new phone that proves successful, competition intensifies and consumers benefit, both from access to the exclusive handset and from the new innovations, features, and often lower prices from the competitive responses to the new offering.¹⁶⁴ The fact that exclusives provide many pro-competitive benefits has led device makers to enter into such deals with both large *and smaller* carriers.¹⁶⁵

¹⁶³ See, e.g., T-Mobile, at 38 (“handset exclusivity arrangements promote innovation by allowing carriers to undertake the investments necessary to develop cutting-edge devices. . . . Without exclusivity arrangements, innovative devices such as the T-Mobile myTouch™ and the SideKick, for example, might never have been developed at all.”).

¹⁶⁴ T-Mobile, at 39 (“notwithstanding the exclusive arrangements that characterize the introduction and adoption of many devices, the resulting innovation quickly filters throughout the rest of the wireless market, benefiting a broad range of carriers and, most importantly, consumers. . . . For example, the introduction of the iPhone motivated Sprint to develop the touchscreen Samsung Instinct and Verizon Wireless to work with Blackberry to introduce the Storm. Indeed, this dynamic aptly illustrates the power of competition to fuel innovation.”); see also *id.* (“the Commission should be careful to recognize the special nature of exclusive arrangements that are designed to protect a device developed specifically for – and with substantial input of – a specific carrier. For example, in certain circumstances, T-Mobile collaborates closely with a manufacturer to design unique, T-Mobile-focused handsets. The resulting devices showcase customized features and functionalities that deliver a distinct T-Mobile-branded user experience and address the preferences of T-Mobile subscribers. In such cases, extended exclusive distribution is appropriate to protect T-Mobile’s substantial investment, its brand, and its contribution of significant intellectual property.”). See also AT&T, at 64-65 (citing declaration of Professor Michael Katz); Bennett, Richard, Sharing the Risks of Wireless Innovation, The Information Technology & Information Foundation (Oct. 2009) (study finding myriad benefits of exclusive handset arrangements).

¹⁶⁵ See, e.g., Press Release, Leap Wireless, Cricket Launches Ultra Sleek A100 (Feb. 18, 2009) (<http://phx.corporate-ir.net/phoenix.zhtml?c=191722&p=irol-newsArticle&ID=1257470&highlight=>); Press Release, U.S. Cellular, U.S. Cellular and LG Slide in to the Holidays with ‘Rhythm’ (Nov. 21, 2008)

No one disputes that exclusive arrangements promote *innovation*, and therefore those opposed to exclusive handset arrangements can rely only on unsupported assertions concerning competition. U.S. Cellular (at 10) for example argues that exclusive arrangements result in “less competition based on wireless network quality and wireless services prices.” To the contrary, the undisputed record evidence shows that wireless carriers compete fiercely on price, and that mobile wireless prices in the U.S. have been falling for years and are among the lowest in the world.¹⁶⁶ Wireless carriers also obviously compete in terms of coverage and quality, as their billions of dollars of annual investment and the many advertisements concerning the speed and reliability of the various carriers’ networks attest. Moreover, U.S. Cellular’s complaint that exclusive arrangements deny customers in rural areas access to the best handsets has been thoroughly refuted; some of the most popular handsets on the market are not exclusive, and as the record in the RCA proceeding shows, small rural carriers offer handsets with the latest features and capabilities. And, of course, as was further shown in the RCA proceeding, the largest carriers offer service throughout the country, including in the vast majority of rural areas.

In short, the question is not whether certain individual carriers are benefiting from exclusive arrangements, but whether carriers are allowed to continue to differentiate themselves from their competitors and to engage in exclusive arrangements which promote competition and innovation for the marketplace overall. The evidence is overwhelming that exclusive arrangements are not only pro-competitive but have had a profoundly beneficial impact on wireless innovation. Courts have repeatedly held that exclusive arrangements can provide

(http://www.uscc.com/uscellular/SilverStream/Pages/x_page.html?p=a_press081121); Press Release, Cellular South, Cellular South and Kyocera Wireless Make M-Commerce Connection (Mar. 21, 2007) (<https://www.cellularsouth.com/news/2007/20070321.html>).

¹⁶⁶ Verizon, at 22 & n.71; T-Mobile, at 38 & n.125; Sprint, at 22.

substantial, pro-competitive benefits,¹⁶⁷ and those seeking restrictions on such arrangements here are really seeking protection *from* competition – not benefits for consumers.¹⁶⁸

Standard Setting and 700 MHz Handsets. The industry standard setting process is a forum in which carriers, manufacturers, and others hammer out the standards that have enabled the manufacture of innovative infrastructure, equipment, and wireless devices. It has been enormously successful over the years, and the *NOI* notes the Commission has never interfered with this process. Cellular South now asks the Commission to forbid carriers from seeking devices that comply with standards developed through this process, and it urges the Commission effectively to change the rules of the 700 MHz auction after the fact.

Cellular South asserts that AT&T (along with Verizon) has used its influence as a major wireless carrier to dissuade equipment manufactures from making devices and equipment that would operate on the lower A Block.¹⁶⁹ Cellular South asserts that Verizon Wireless is encouraging the manufacturer of devices that operate only in the upper C Block spectrum that Verizon purchased in Auction 73, and AT&T similarly seeks equipment that operates only in the

¹⁶⁷ See, e.g., *Continental T.V., Inc. v. GTE Sylvania Inc.*, 433 U.S. 36, 58-59 (1977) (exclusive arrangements should be presumptively lawful in all but a few carefully defined circumstances).

¹⁶⁸ These misguided attempts to make all wireless competitors “equal” in terms of what they offer is reminiscent of Kurt Vonnegut’s classic story “Harrison Bergeron,” about a distant time in which “everybody was finally equal.” “They were equal every which way. Nobody was smarter than anyone else. Nobody was better looking than anybody else. Nobody was stronger or quicker than anybody else. All this equality was due to the 211th, 212th, and 213th Amendments to the Constitution, and to the unceasing vigilance of agents of the United States Handicapper General.” The intelligent were fitted with transmitters that “every twenty seconds or so . . . would send up some sharp noise to keep people like [them] from taking unfair advantage of their brains.” The strong were burdened with weights, and the beautiful were made to wear masks. The people were told that this equalization was necessary because without it “pretty soon we’d be right back to the dark ages again, with everybody competing against everybody else.” Kurt Vonnegut, *Harrison Bergeron* (1961), available at <http://instruct.westvalley.edu/lafave/hb.html>.

¹⁶⁹ Cellular South at 8-15.

lower B and C Blocks. This same argument also is the subject of a recent petition for rulemaking¹⁷⁰ and will be addressed as necessary there, but in any case, there is no merit to Cellular South's claims.

Cellular South acknowledges that the 3GPP equipment standards for the 700 MHz band include a number of different band classes. Band class 17 supports lower B Block and lower C Block spectrum; Band Class 13 supports only the upper C Block; and Band Class 12 supports the lower A Block, B Block, and C Block. Contrary to Cellular South's assertions, AT&T has actually gone out of its way to support the Band Class 12 standards that support Cellular South's lower A Block spectrum. It was AT&T that initially developed and introduced the standards for Band Class 12 in the 3GPP standards-setting process.¹⁷¹ Further, contrary to what Cellular South implies, it was *not* AT&T or Verizon that introduced Band Class 17 to the 3GPP standards; that was Motorola (originally Band Class 15, later changed to Band 17).¹⁷²

As the Motorola's 3GPP submission makes clear, it proposed Band Class 17 for technical reasons: "to address possible co-existence issues with High Power TV broadcast transmission in the Channel 51 and other broadcast transmission in channel 55 (Block D) and channel 56 (Block E)."¹⁷³ Motorola's proposed 3GPP standards for Band Class 17 includes state-of-the-art technology that allows AT&T and other B and C Block licensees to avoid unacceptable interference from these broadcasts. For these technical reasons (not competitive ones as Cellular

¹⁷⁰ See Petition of 700 MHz Block A Good Faith Purchasers Alliance, *Petition for Rulemaking Regarding the Need For 700 MHz Frequency Blocks* (FCC filed Sept. 29, 2009).

¹⁷¹ See Cingular Wireless, Overview of 700 MHz Band in the U.S., 3GPP RSG RAN WG4, R4-070116 & R4070118 (Feb. 16, 2007).

¹⁷² Motorola, TS36.101: Lower 700 MHz Band 15 (now Band 17), 3GPP TSG RAN WG4 Meeting #47, RA 081108 (April 5-9, 2008) ("This document is presented as a discussion paper to evaluate the need for a new operating band to support block B and block C in the lower 700 MHz band.").

¹⁷³ *Id.*

South alleges), AT&T has supported Band Class 17 and is focusing on devices that comply with that standard.

It is true that the technology used in the Band Class 17 standards to avoid this harmful interference is incompatible with the A Block spectrum that is directly adjacent to the these high powered broadcasts,¹⁷⁴ and that Band Class 17 devices therefore cannot be used with the A Block spectrum that Cellular South holds. But that is an unavoidable technical consequence of the state-of-the art technology necessary to protect AT&T's spectrum from interference from the television transmissions. There is no feasible and effective technology for mitigating interference from channels 51, 55, and 56 that also leaves intact full access to adjacent spectrum, including A Block. Rather, state of the art technology for addressing such interference necessarily exhibit "roll off," which is an engineering term referring to the fact that *more* bandwidth than the theoretical minimum must be blocked to avoid interference. Since A Block is directly adjacent to the interfering channels, Band Class 17 technology is necessarily incompatible with it.

AT&T's decision to pursue equipment that is compatible with Band Class 17 is an entirely appropriate attempt for AT&T to realize the value of the investment it made in the 700 MHz auction. AT&T, like all other bidders, carefully researched the technical characteristics of the various blocks of spectrum up for auction. Based on this investigation, AT&T knew that the A Block spectrum was located next to high powered broadcast stations that would risk interference, while the C Block was encumbered with burdensome, experimental "open access"

¹⁷⁴ None of these issues should be a surprise to Cellular South. The interference issues associated with Band A were well known before Cellular South purchased it – even Cellular South acknowledges that there are significant "interference issues in the Lower A block." Cellular South, at 10. Indeed, as Cellular South concedes, to use Band A at all requires "filters" that can only "lessen the interference problems." *Id.*

conditions. Therefore, based on the rules as they existed at the time of the auction, AT&T bid more money to obtain the B Block spectrum, and ultimately paid an average of \$3.15 per MHz POP (as opposed to an average of \$1.13 per MHz POP for the A Block spectrum and an average of \$0.76 paid for the C Block spectrum). By insisting that AT&T cannot pursue equipment that will minimize interference in its spectrum, Cellular South is effectively trying to change the rules after the auction, and force AT&T to accept costs that it already bid billions of dollars to avoid.

Cellular South's radical proposal that the Commission "require that equipment developed and manufactured for use in the 700 MHz Band should be usable in all paired commercial spectrum blocks in the Band"¹⁷⁵ could only harm consumers, because it would require AT&T to use devices that are more prone to interference, resulting in lower quality service, less coverage, less capacity, and increased incidents of blocked and dropped calls. Moreover, in many areas, AT&T would likely have to deploy additional equipment and technology to address the most extreme interference problems, which would divert resources away from investment, innovation and expansion. Increasing all 700 MHz carriers costs by forcing them to adopt technology more susceptible to interferences is likely to have a far greater adverse impact on rural deployment than requiring Cellular South to obtain its own devices designed for Band Class 12.

Finally, Cellular South does *not* say that it will not be able to obtain Band Class 12 devices. There are several carriers with spectrum in Band Class 12 both in the U.S. and in other countries as well (including countries that do not have the same interference issues that exist here). Accordingly, there is no basis for Cellular South's doomsday prediction that it will not be able to obtain any devices for its spectrum.

¹⁷⁵ Cellular South, at 15. Indeed, only Upper 700 MHz C Block licensees, who have explicit unlocking and open access requirements could arguably be required to include all paired 700 MHz frequencies in their devices.

Roaming. The Commission's automatic roaming rules require wireless carriers to entertain reasonable requests to accommodate roaming on voice networks in areas where the requesting carrier lacks its own spectrum rights.¹⁷⁶ Those rules are working well; indeed, no party submits credible evidence to the contrary. Nonetheless, and predictably, a few commenters rehash their threadbare assertions that the Commission should expand roaming entitlements, so that automatic roaming would be available even in areas in which the requesting carrier holds its own spectrum, and even for wireless services that are not interconnected with the PSTN.¹⁷⁷ AT&T and others have repeatedly demonstrated that radically extending the Commission's roaming rules in this way is unnecessary, would significantly undermine incentives for investment, innovation, and expansion of existing networks, and would be unlawful.¹⁷⁸ AT&T will not fully repeat those arguments here, but the main points are as follows.

There is absolutely no basis for the Commission to conclude that market-based solutions are inadequate to address legitimate roaming needs. Even before the Commission crafted automatic roaming regulations in 2007, AT&T had (as it does today) reciprocal roaming agreements with the vast majority of GSM carriers in the United States.¹⁷⁹ That will continue with or without a Commission mandate. Indeed, AT&T is a net *purchaser* of roaming arrangements, and thus has every incentive to enter into fair and reasonable reciprocal roaming arrangements with other carriers.

¹⁷⁶ See Report and Order and Further Notice of Proposed Rulemaking, *Reexamination of Roaming Obligations of Commercial Mobile Radio Service Providers*, 22 FCC Rcd. 15817, ¶¶ 23, 28 (2007) (“*Automatic Roaming Order*”).

¹⁷⁷ See, e.g., MetroPCS, at 27-29; U.S. Cellular, at 14-17; T-Mobile, at 24-26.

¹⁷⁸ AT&T July 13 Competition Reply, at 42-50; AT&T Sep. 30 Competition Comments, at 89-94; Reply Comments of AT&T, *Re-examination of Roaming Obligations of Commercial Mobile Radio Service Providers*, WT Docket No. 05-265 (filed Nov. 28, 2007); Verizon, at 92.

¹⁷⁹ AT&T Sept. 30 Competition Comments, WC Docket No. 09-66, at 89-94; see also Verizon at 92-93.

While there is no reason to expand mandatory roaming requirements, there are ample reasons not to. For one thing, it would surely *reduce* incentives for investment, innovation, and expansion. A requesting carrier would have less incentive to make full use of its spectrum and to build out its own network if it could easily free ride on existing networks, and the providing carrier – which otherwise has strong incentives to build out its network to compete based on geographic coverage – would have greatly reduced incentives to do so if its competitors would be given automatic and immediate access to that buildout. Mandatory data roaming could also place undue strain on the providing carriers’ networks, reducing the value of those networks to customers. Carriers already are scrambling to accommodate the explosive growth in bandwidth consumption, and the looming spectrum crisis will make that endeavor ever more challenging. To establish additional roaming mandates in this environment would be irresponsible, and to do so while simultaneously proposing net neutrality requirements that limit the network management tools available to carriers should be unthinkable. The Commission has barely even begun to consider the challenges of wireless network management, and it certainly has not considered the ramifications of net neutrality or data roaming, much less both, in a spectrum-constrained environment. Finally, and in all events, extending the current roaming rules to data would be unlawful exercise of Title I, Title II, or Title III authority.¹⁸⁰

Japan Communications Inc.’s (“JCI”) proposal to prohibit carriers from negotiating “no parking” provisions into their roaming arrangements would be even more problematic. As an initial matter, the proposal is even more unnecessary than a roaming mandate. No parking provisions, which preclude carriers from relying principally on another carrier’s network to

¹⁸⁰ See AT&T July 13 Competition Reply, WC Docket No. 09-66, at 45-48 (setting forth the legal impediments to adopting such rules under Title I, II, or III); Reply Comments of AT&T, *Re-examination of Roaming Obligations of Commercial Mobile Radio Service Providers*, WT Docket No. 05-265 (filed Nov. 28, 2007).

provide service, reflect that the particular terms of a roaming arrangement were developed to address the costs and other issues related to *roaming*, and were not intended to be used as the principal means of providing service to any customer. Those provisions reflect the fact that there are other marketplace solutions – *e.g.*, resale arrangements – for carriers that seek to rely principally on another carrier’s network to provide service, and such resale arrangements are quite common and underlie the thriving and successful MVNO marketplace¹⁸¹ (JCI itself touts its success and achievements under such resale arrangements).¹⁸² But beyond that, JCI’s proposal would take all of the harms of a mandatory roaming requirement and exacerbate them. To an even greater extent, it would (i) reduce incentives for requesting carriers to build out their networks; (ii) reduce incentives for host carriers to build out their networks; (iii) reduce the value of existing networks to customers by significantly increasing traffic, and hence congestion; and (iv) increase roaming costs and hence rates because host carriers must account for the fact that the requesting carrier would be able to sell devices that are predominantly, rather than occasionally, used on the host carrier’s network. Any expansion of roaming requirements, especially JCI’s radical proposal, should thus be rejected as unnecessary and harmful.

Backhaul. As has been well documented in this and other proceedings, wireless providers will need substantial additional backhaul capacity to carry the enormous increases of wireless data and voice traffic from cell sites to their switching centers and that wireless carriers already can choose among many competing wireline and wireless backhaul providers in both urban and rural areas.¹⁸³ However, it is critical to ensure that there continues to be sufficient

¹⁸¹ Verizon, at 40-41.

¹⁸² JCI, at 5.

¹⁸³ Comments of AT&T Inc. On NBP Public Notice # 11, Impact of Middle and Second Mile Access on Broadband Availability and Deployment, GN Docket Nos. 09-47, 09-51, 09-137, at 5-8 (filed Nov. 4, 2009) (describing wireline and wireless rural backhaul options); High-Capacity

point-to-point wireless spectrum available to ensure the future availability of wireless backhaul alternatives, especially for more remote rural areas where it is often much less to deploy wireless backhaul than fiber facilities (which typically requires trenching, access to rights-of-way, permits, long fiber facilities, and other costly functions and facilities). As FiberTower's Vice President of Government and Regulatory Affairs has explained, "[y]ou can literally cover over a hundred miles [with wireless backhaul] and you're talking less than \$100,000 in equipment rather than millions to put in fiber."¹⁸⁴ Accordingly, AT&T urges the Commission to set aside additional spectrum between 4GHz and 10GHz for point-to-point services, to further facilitate the provision of backhaul to more remote areas.¹⁸⁵ As AT&T has previously demonstrated, this spectrum is well-suited for high-capacity point-to-point services and it is already widely used for this purpose.¹⁸⁶

The Commission should not, however, distort the competitive marketplace and effectively deter the use of wireless backhaul services by adopting the proposals of Sprint and T-Mobile to mandate rate reductions and adopt other regulations on ILEC wireline special access DS1 and DS3 services. As Chairman Genachowski recently indicated in a letter to Senator Inouye, the Commission will soon issue a Public Notice seeking comment on the appropriate

Services: Abundant, Affordable, and Evolving (attached to Letter From Glenn T. Reynolds (USTelecom) to Marlene H. Dortch (FCC), WC Docket No. 05-25 (July 16, 2009).

¹⁸⁴ Pressure Grows on FCC to Release Wireless Backhaul Notice, *Communications Daily* (Apr. 7, 2009).

¹⁸⁵ *See, e.g.*, Comments of AT&T Inc. On NBP Public Notice #6, Spectrum for Broadband, GN Docket Nos. 09-47, 09-51, 0137 (filed Oct. 23, 2009) ("AT&T NBP Public Notice # 6 Comments").

¹⁸⁶ *See, e.g., id.* ("point-to-point microwave is a very efficient use of spectrum; at present, the 6 GHz microwave band is home to over 32,000 active licenses comprising over 78,000 unique frequency/path combinations. . . . [I]t also represents a unique allocation in that the average path length is extremely long").

“analytic framework for analyzing the markets for special access services.”¹⁸⁷ It is already clear that Sprint and T-Mobile’s “analytic framework” would be grossly inappropriate, and although AT&T will address these issues in detail in response to the upcoming Notice, it will comment briefly here.

First, Sprint and T-Mobile’s claim that their only choice for backhaul is the ILECs’ DS1 and DS3 services strains credulity. Everyone agrees that as the wireless industry transitions to 3G and 4G networks, the wireless industry can no longer rely on legacy copper DS1s and DS3s, but instead will need high-capacity fiber and microwave special access facilities.¹⁸⁸ The record compiled here and in other Commission proceedings confirms that numerous competitors are responding to this enormous market opportunity and rushing to deploy high capacity backhaul to meet the growing demand for wireless services.¹⁸⁹ Sprint’s own partner, Clearwire, acknowledges here (at 15) that it “self-provisions backhaul wherever possible,” and Clearwire has emphasized elsewhere that it has found self-provisioning economical almost everywhere. Indeed, it relies on microwave backhaul for 90 percent of its needs.¹⁹⁰ T-Mobile has also

¹⁸⁷ Letter from Chairman Julius Genachowski to Senator Daniel Inouye, October 6, 2009, at 1.

¹⁸⁸ In that regard, T-Mobile misinterprets the latest evidence from the Commission’s broadband workshops. T-Mobile claims (at 26-27) that the participants argued that special access was the “bottleneck,” but in fact what they said was that it was *becoming* the bottleneck – meaning that legacy DS1s were becoming inadequate to handle the quickly increasing levels of traffic on wireless networks. See AT&T, at 97-100; see also Telecommunications Manufacturer Coalition, at 3-4 (“Any benefit from resulting from government-mandated price decreases would be short-lived in any event since the question of whether today’s special access prices are cost-based is becoming less and less important with each passing month given that wireless carriers, one of the largest users of special access the most vocal critic of special access pricing, are rapidly replacing special access circuits with Ethernet circuits”).

¹⁸⁹ See AT&T, at 98-99.

¹⁹⁰ Yankee Group 4G Network Backhaul Summit, *PowerPoint Presentation of John Saw, CTO, Clearwire*, Sept. 15, 2009, (“90% of Clearwire cell sites use microwave backhaul; Largest wireless backhaul network in North America”).

explained that it has an increasing array of backhaul options.¹⁹¹ And no one seriously contends that higher capacity circuits are not intensely competitive: it has long been settled that ILECs have no special advantage in deploying high capacity facilities,¹⁹² and Sprint itself concedes that there is competition for “higher capacity circuits of multiple DS3s.”¹⁹³ Sprint and T-Mobile are thus, at best, myopic in their advocacy in this area, and that is the most charitable characterization possible.

Artificially slashing prices for DS1s and DS3s, moreover, would conflict with Commission broadband policy because it would only prolong dependence on these legacy facilities and *deter* investment in the higher-capacity facilities that will be necessary to support next generation networks.¹⁹⁴ Indeed, a Sprint executive has already conceded that the fact that

¹⁹¹ Om Malik, *The GigaOm Interview: Cole Brodman, CTO T-Mobile USA*, GigaOm, May 12, 2009, gigaom.com/2009/05/12/the-gigaom-interview-cole-brodman-cto-t-mobile-usa/.

¹⁹² See, e.g., *Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers*, 18 FCC Rcd 16978, ¶ 315 (2003) (the “record evidence reflects competitive deployment of loops at the OCn level and competitive carriers confirm they are often able to economically deploy these facilities to large enterprise customers which use them,” including customers in Tier II and Tier III markets); *United States Telecom Ass’n v. FCC*, 359 F.3d 554, 575 (D.C. Cir. 2004) (upholding FCC finding that OCn loops are competitive); Memorandum Opinion and Order, *Petition of AT&T Inc. for Forbearance Under 47 U.S.C. § 160(c) from Title II and Computer Inquiry Rules with Respect to Its Broadband Services*; *Petition of BellSouth Corporation for Forbearance Under Section 47 U.S.C. § 160(c) from Title II and Computer Inquiry Rules with Respect to Its Broadband Services*, 22 FCC Rcd. 18705, ¶ 25 (2007) (“competing carriers are able economically to deploy OCn-level facilities to the extent that there is demand for such services in AT&T’s incumbent LEC service areas”); Memorandum Opinion and Order, *Qwest Petition for Forbearance Under 47 U.S.C. § 160(c) from Title II and Computer Inquiry Rules with Respect to Broadband Services*, WC Docket No. 06-125, FCC 08-168, ¶ 28 (July 22, 2008) (“competing carriers are able economically to deploy OCn-level facilities to the extent that there is demand for such services”).

¹⁹³ Sprint, at 32.

¹⁹⁴ See also Telecommunications Manufacturer Coalition, at 3-4 (“the risk is that requiring price decreases for the ILECs’ special access services that resulted unintentionally in below-cost pricing would harm investment and innovation in that it would slow the transition from legacy, copper-based TDM special access transmission to the new generation of far more sophisticated fiber, copper, and wireless-based Ethernet transmission”); see also *United States Telecom Ass’n*

DS1s have long been “inexpensive” in the United States has historically deterred deployment of microwave backhaul facilities in this country.¹⁹⁵ And as the Telecommunications Manufacturer Coalition explains, Sprint’s claim (at 31-32) that carrier special access payments to ILECs are displacing investment in alternative backhaul facilities is nonsensical, because “there is already a tremendous amount of investment and innovation in Ethernet transmission today, and the vast majority of that innovation and investment comes from microwave carriers, fiber optic providers, cable TV companies, and other non-mobile carriers.”¹⁹⁶

The notion that allegedly high prices for DS1s and DS3s are deterring investment in wireless innovation is equally absurd. For one thing, neither Sprint nor T-Mobile have ever shown that prices for DS1s and DS3s are too high. Their sole arguments in that regard have involved egregiously failed reliance on ARMIS data¹⁹⁷ or bogus comparisons to TELRIC rates or

v. *FCC*, 290 F.3d 415, 424-25 & n.2 (“low UNE prices” mandated by the Commission have the “direct effect” of “reduc[ing] the incentives for innovation and investment in facilities”).

¹⁹⁵ Stephen Lawson, *Sprint Picks Wireless Backhaul for WiMAX*, The Industry Standard, July 9, 2008, <http://www.thestandard.com/news/2008/07/09/sprint-picks-wireless-backhaul-wimax> (Sprint CTO quoted as saying the reason microwave backhaul not as prevalent here as it is in the rest of the world is that “[r]elatively abundant and inexpensive T-1s have *stifled* the technology here” (emphasis added)); see also Yankee Group, Anchor Report, *Mobile Backhaul: Will the Levees Hold?* (June 2009) (“[w]hen mobile networks were being deployed in the U.S. in the 80s and early 90s, T1 was comparatively inexpensive and spectrum was scarce. In Europe, the dominant technology is microwave because when MNOs were deploying their networks in Europe, spectrum was plentiful and DS1 pricing . . . was extortionary”).

¹⁹⁶ Telecommunications Manufacturer Coalition, at 6.

¹⁹⁷ The Commission has repeatedly rejected the use of service-specific rates of return using ARMIS data, even in this very context. Order And Notice Of Proposed Rulemaking, Special Access Rates for Price Cap Local Exchange Carriers, FCC 05-18, WC Docket No. 05-25, ¶ 129 (Jan. 31, 2005) (“Even if the Commission had enough data, moreover, we question [the] central reliance on accounting rate of return data to draw conclusions about market power. High or increasing rates of return calculated using regulatory cost assignments for special access services do not in themselves indicate the exercise of monopoly power”); Second Report & Order, *Policy and Rules Concerning Rates for Dominant Carriers*, 5 FCC Rcd. 6786, ¶ 380 (1990) (“the collection of rate of return data on an access category or rate element level is improper and unnecessary for price cap LECs”); Order on Reconsideration, *Policy and Rules Concerning*

rates for other “unlike” facilities or services. And, of course, as noted, it hardly behooves Sprint to claim that DS1 rates are too high when its own Chief Technology Officer has claimed that they are so low that they are stifling investment in microwave backhaul facilities, the dominant mode of backhaul throughout the rest of the world. Absent the showing that DS1 and DS3 rates are unlawfully high, claims by Sprint and others that government-mandated reductions in prices for those inputs would allow them to increase broadband investment is no different from arguing that if only the government would force their employees to work for minimum wage (or less) they could use the savings to increase broadband investments. The Commission’s goal clearly is not to facilitate broadband investment at any cost – *e.g.*, undermining special access investment or reducing wages – but to do so in the framework of well functioning competitive markets.

But, in all events, it is hardly the case that wireless innovation is lagging. T-Mobile, for one, is investing \$5 billion this year to upgrade its 3G network¹⁹⁸ – a figure that dwarfs (and thus is obviously unaffected by) whatever savings it could possibly receive from the special access DS1 and DS3 rate reductions it advocates. Sprint’s partner, Clearwire, is also investing billions to deploy a nationwide WiMAX network,¹⁹⁹ complete with self-provided wireless backhaul in most cases. And as noted above, many other carriers are similarly investing billions in network improvements. As the D.C. Circuit held five years ago, facts such as this “clearly show that wireless carriers’ reliance on special access has not posed a barrier that makes entry

Rates for Dominant Carriers, 6 FCC Rcd. 2637, ¶ 199 (1991) (category-specific returns reported in ARMIS “do not serve a ratemaking purpose”). See also Katz Decl. ¶ 71. Even the NRRI’s recent study for NARUC noted that “the RBOCs contend that the ARMIS figures are virtually meaningless,” and concluded: “We agree with the RBOCs.” See Peter Bluhm & Robert Loube, National Regulatory Research Institute, *Competitive Issues in Special Access Markets*, at 70 (rev. ed. 2009).

¹⁹⁸ See T-Mobile Comments, WC Docket No. 09-66, 9, 12 (filed Sep. 30, 2009).

¹⁹⁹ Sprint Comments, WC Docket No. 09-66, at 8 (filed Sep. 30, 2009).

uneconomic,” and the wireless industry is much more competitive and innovative now than in was in 2004.²⁰⁰

Sprint and T-Mobile also assert with no factual support that AT&T and Verizon are executing price squeezes against their wireless competitors.²⁰¹ These irresponsible accusations are not only baseless, they are contradicted by Sprint and T-Mobile themselves: outside the special access sections of their comments both Sprint and T-Mobile demonstrate correctly that the retail wireless marketplace is in fact extraordinarily competitive. These two halves of their comments cannot be reconciled; if the retail wireless marketplace is robustly competitive (and it is), none of their claims about anticompetitive inputs can have any merit.

Text Messaging. One of the great success stories in the wireless industry is text messaging. Carriers compete vigorously for customers by offering a wide array of text messaging plans at ever lower prices, and as prices continue to plummet, output continues to skyrocket: the number of text messages increased to 1.005 trillion in 2008, up from up from 362.5 billion text messages 2007.²⁰²

Myxer nonetheless rehashes factually and legally infirm claims regarding short code marketing campaigns and SMS text messaging that it previously raised in a separate Commission proceeding,²⁰³ and that have nothing at all to do with the issues in this innovation proceeding (or, as Myxer now contends, net neutrality). As was clearly demonstrated in that proceeding, SMS or

²⁰⁰ *United States Telecom Ass’n v. FCC*, 359 F.3d 554, 575 (D.C. Cir. 2004).

²⁰¹ Sprint, at 30-32 (“the current special access rates also discourage investment”); T-Mobile, at 27.

²⁰² Comments of CTIA, *Wireless Telecommunications Bureau Seeks Comment On Commercial Mobile Radio Services Market Competition*, WT Docket No. 09-66, at 43 (June 15, 2009).

²⁰³ Public Notice, *Wireless Telecommunications Bureau Seeks Comment On Petition For Declaratory Ruling That Text Messages And Short Codes Are Title II Services Or Are Title I Services Subject To Section 202 Nondiscrimination Rules*, WT Docket No. 08-7, DA 08-78 (Jan. 14, 2008).

text messaging services are information services, not telecommunications services, and short code translation is not even an information service; short codes are simply a marketing device.²⁰⁴ And as was further demonstrated, it would be both unlawful and unwise, in all events, to compel providers of information services to participate in third party short code-based marketing campaigns.

Myxer provides software that allows a wireless user to create a ringtone from a copyrighted song that the user has obtained elsewhere. Ringtones created by the Myxer software reside on Myxer's servers, and Myxer operates a website that apparently has allowed users to download (free of charge) ringtones created by others (in effect, a Napster for ringtones). Myxer also sells "premium" content including ringtones. AT&T understands that copyright holders have sued Myxer (just as they did Napster and Grokster) alleging that Myxer is distributing copyrighted content without compensating the rights holders.²⁰⁵

Myxer implies that AT&T (and other wireless carriers) are blocking "calls" and preventing wireless consumers from accessing its ringtones (and other content that it distributes). That is patently false. AT&T mobile customers (including iPhone customers) can

²⁰⁴ See, e.g., Comments of AT&T Inc., *Wireless Telecommunications Bureau Seeks Comment On Petition For Declaratory Ruling That Text Messages And Short Codes Are Title II Services Or Are Title I Services Subject To Section 202 Nondiscrimination Rules*, WT Docket No. 08-7, DA 08-78 (filed Mar. 14, 2008) ("AT&T Myxer Comments"); Comments of Verizon, *Wireless Telecommunications Bureau Seeks Comment On Petition For Declaratory Ruling That Text Messages And Short Codes Are Title II Services Or Are Title I Services Subject To Section 202 Nondiscrimination Rules*, WT Docket No. 08-7, DA 08-78 (filed Mar. 14, 2008) ("Verizon Myxer Comments").

²⁰⁵ Giselle Tsurulnik, *Major Record Labels Sue Myxer For Alleged Copyright Infringement*, Mobile Marketer, Dec. 4, 2008, <http://www.mobilemarketer.com/cms/news/legal-privacy/2347.html>. On March 13, 2009, mediabistro.com reported that Arista Records and Sony Music had filed suits against Myxer in California and Florida alleging copyright infringement. Susan Schrank, *Arista, Sony Sue Myxer in Florida*, Mobile Content Today, Mar. 13, 2009, http://www.mediabistro.com/mobilecontenttoday/mobile_music/arista_sony_sue_myxer_in_florida_111331.asp.

use their handsets to call or e-mail Myxer, they can employ browser capabilities to access Myxer's website and, contrary to Myxer's suggestion, they can text Myxer and receive texts back from Myxer. Myxer's beef with AT&T relates to the decision by Myxer's third party SMS aggregator – and not AT&T, as Myxer implies – to suspend participation in Myxer's SMS short code *marketing* campaigns in the wake of the copyright lawsuits. Myxer further complains that Verizon temporarily suspended its participation in Myxer's short code-based marketing, but it fails to note that Verizon acted in response to complaints about copyright violations, and that once Myxer took steps to address those issues, Verizon resumed its participation.²⁰⁶

Regardless, the Commission lacks jurisdiction over short code translation because it is a marketing service, not an information or telecommunications service, as has been asserted by Myxer and others. That is underscored by the remainder of Myxer's gripes, which complain about the terms of its revenue sharing arrangements. Myxer complains that it must share revenue from every premium download it sells with AT&T, unlike Apple, which shares no revenue from the downloads it sells on the iTunes site. Of course, as Myxer concedes, it communicates directly with its customers (who can browse its web site over their mobile devices) and could choose to bill them directly with credit cards, PayPal or other mechanisms. Myxer complains that it must share revenues simply because AT&T, Verizon and other carriers provide billing and collection services (and, as Myxer conveniently fails to note, short code translation services). But AT&T does not perform any short code translations, billing or collection services for Apple; rather Apple has chosen (as Myxer could) to have users order content directly from its web site (rather than through short code translations) and do its own billing and collection. While none of this has anything to do with this proceeding, Myxer's comments provide further support for what

²⁰⁶ Reply Comments of Verizon Wireless, WT Docket No. 09-66, at 78 (filed Oct. 22, 2009).

the record in the 2007 proceeding overwhelmingly demonstrates – there is neither a problem to correct – as Myxer starkly confirms by citing the same years-old anecdotes raised and addressed in the 2007 comments²⁰⁷ – nor legal authority to subject SMS information services to Title II regulation.²⁰⁸

²⁰⁷ Myxer again rehashes an incident where Verizon initially denied a short code request by NARUL – a decision that Verizon reversed the same day that Verizon management became aware of the incident. *See* Verizon Myxer Comments at 20-22. Myxer also rehashes baseless arguments that Verizon should be required to allow advertisements by competitors attempting to use short codes to allow Verizon customers to circumvent Verizon’s wireless services. *Id.*

²⁰⁸ *See, e.g.*, AT&T Myxer Comments, at 8-23; Verizon Myxer Comments, at 29-45.

CONCLUSION

For the foregoing reasons, and for the reasons set forth in AT&T's opening comments, the Commission should adopt AT&T's proposals to foster wireless investment and innovation.

Respectfully Submitted,

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