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# VOLUNTARY INCENTIVE AUCTIONS: THE BENEFITS OF A MARKET-BASED SPECTRUM POLICY

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## I. INTRODUCTION

Mobile services have evolved dramatically in the industry's short technological lifetime, moving from high-priced, brick-sized devices offering basic phone service to reasonably priced, miniature computers with the ability to make phone calls and provide broadband Internet access. Apple's iPhone embraced the revolution of the mobile industry when it was introduced in 2007. In the past four years, mobile data-traffic and consumer subscribership have increased considerably in the United States.<sup>1</sup> While these trends likely will continue,<sup>2</sup> an impending shortage of commercial radio spectrum could limit the extent of this growth.<sup>3</sup>

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<sup>1</sup> See generally Adam Bryant, *iSee Into the Future, Therefore iAm*, N.Y. TIMES, July 1, 2007, <http://commcns.org/ty6O9c>. *In re* of Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993; Annual Report and Analysis of Competitive Market Conditions with Respect to Mobile Wireless, Including Commercial Mobile Services, *Fourteenth Report*, 25 F.C.C.R. 11407, ¶ 4 (May 20, 2010) [hereinafter *14th Wireless Report*].

<sup>2</sup> See Rob Pegoraro, *The Wide Wireless Word at CES*, WASH. POST (Jan. 8, 2011), <http://commcns.org/uPE9uv>; FCC, MOBILE BROADBAND: THE BENEFITS OF ADDITIONAL SPECTRUM 4-5 (2010) [hereinafter COMMISSION SPECTRUM REPORT]. See also CISCO, CISCO VISUAL NETWORKING INDEX: GLOBAL MOBILE DATA TRAFFIC FORECAST UPDATE, 2010-2015, at 5 (2011) [hereinafter CISCO MOBILE DATA TRAFFIC REPORT].

<sup>3</sup> Julius Genachowski, Chairman, FCC, Prepared Remarks, *America's Mobile Broadband Future*, INTERNATIONAL CTIA WIRELESS I.T. & ENTERTAINMENT (Oct. 7, 2009), available at <http://commcns.org/vDMNEQ> (explaining "the biggest threat to the future of mobile in

The National Broadband Plan reevaluated the U.S. spectrum policy in part because the unprecedented growth in the commercial mobile broadband industry has created unsustainable demands on spectrum upon which next-generation wireless services rely.<sup>4</sup> Federal Communications Commission (“Commission” or “FCC”) staff<sup>5</sup> released the National Broadband Plan in March 2010, which called for the FCC to make 500 megahertz (“MHz”) of spectrum “newly available for mobile broadband use [by 2020]” and advised that 300 MHz of that 500 MHz should be repurposed by 2015 to address the spectrum crunch.<sup>6</sup> Additionally, it suggested that Congress should authorize the FCC to conduct voluntary incentive auctions because doing so would enable the Commission to unleash a meaningful amount of spectrum for mobile broadband in a quick enough time period.<sup>7</sup>

The Commission has released notices of inquiry and proposed rulemaking seeking public comment on these recommendations to make additional spectrum available for mobile broadband use.<sup>8</sup> In addition, members of the 112th Congress have addressed this National Broadband Plan objective by introducing several bills that would grant the FCC voluntary incentive auction authority.<sup>9</sup> The National Broadband Plan’s proposed voluntary incentive auction scheme calls for the FCC to implement rules allowing incumbent broadcast television licensees to voluntarily relinquish 120 MHz of spectrum for competitive bidding by next-generation users.<sup>10</sup> Proceeds from these voluntary incentive auctions would be split amongst the U.S. Treasury and incumbent licensee participants.<sup>11</sup> Regardless of the percentage of money that incumbent licensees collect, voluntary incentive auctions would make additional spectrum available for mobile wireless while protecting incumbent

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America is the looming spectrum crisis”).

<sup>4</sup> See Jim Carney et al., *Overview of the National Broadband Plan*, 18 COMMLAW CONSPECTUS 517, 529 (2010) [hereinafter *National Broadband Plan Overview*]. See also Julius Genachowski, Chairman, FCC, Remarks as Prepared for Delivery, CTIA WIRELESS 2011 (Mar. 22, 2011), available at <http://commens.org/tC5mcm>.

<sup>5</sup> Congress directed the FCC staff to release a report on broadband. This staff report should be distinguished from official rulemaking or adjudication that is subject to judicial review under the Administrative Procedure Act. See American Recovery and Reinvestment Act of 2009 Pub. L. No. 111-5, § 6001(5). See also FCC, CONNECTING AMERICA: THE NATIONAL BROADBAND PLAN, at v (2010) [hereinafter NATIONAL BROADBAND PLAN].

<sup>6</sup> NATIONAL BROADBAND PLAN, *supra* note 5, at 84.

<sup>7</sup> *Id.* at 81-83.

<sup>8</sup> FCC, *National Broadband Plan: Year 1 Progress Report*, BROADBAND.GOV, <http://commens.org/vb60UR> (last visited Dec. 15, 2011).

<sup>9</sup> Spectrum Optimization Act, S. 415, 112th Cong. (2011); Public Safety Spectrum and Wireless Innovation Act, S. 28, 112th Cong. (2011); Reforming Airwaves by Developing Incentives and Opportunistic Sharing (RADIOS) Act, S. 455, 112th Cong. (2011); Spectrum Inventory and Auction Act of 2011, H.R. 911, 112th Cong. (2011).

<sup>10</sup> NATIONAL BROADBAND PLAN, *supra* note 5, at 88.

<sup>11</sup> *Id.* at 81-82.

licensees' interests and reducing the nation's public debt.<sup>12</sup>

This Note contends that Congress should equip the FCC with authority to implement voluntary incentive auctions as a means to repurpose commercial spectrum for mobile wireless use. First, it examines the current statutory structure governing commercial spectrum, trends in mobile wireless technology, and the importance of unleashing spectrum for mobile broadband. Next, it discusses the interests of different stakeholders—facilities-based wireless, broadcast television, and mobile satellite services (“MSS”) licensees—and explores the commercial spectrum reform actions of both the FCC and Congress. Part IV proposes that Congress authorize the FCC to conduct voluntary incentive auctions because doing so would help avert the mobile spectrum crisis while reducing national debt and protecting incumbent licensees. Finally, this Note concludes that the market-based policy inherent to voluntary incentive auctions would result in the most efficient and highest valued use of commercial spectrum.

## II. BACKGROUND

This section outlines the FCC's current authority to assign and repurpose spectrum licenses for commercial use. Additionally, it discusses the accelerated adoption rate of commercial mobile broadband services and how increased data traffic has impacted commercial spectrum holders, who have fostered innovative practices, economic growth, and job creation during the industry's short life span. Finally, this section examines why repurposing additional spectrum for mobile broadband is vital to meeting consumer demand and promoting spectral efficiency.

### A. The Current Statutory Structure Governing Commercial Spectrum Use

The FCC issues licenses for commercial use of radio spectrum to applicants who further the “public interest, convenience, and necessity.”<sup>13</sup> Broadcast television stations and mobile service providers are among these FCC licensees.<sup>14</sup> Section 309(j) of the Telecommunications Act of 1996 directs the FCC to grant spectrum licenses to one of the competing applicants through a

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<sup>12</sup> *Id.* at 82. See also CTIA THE WIRELESS ASS'N & CONSUMER ELEC. ASS'N, BROADCAST SPECTRUM INCENTIVE AUCTIONS 2 (2011) [hereinafter BROADCAST SPECTRUM INCENTIVE AUCTIONS] (demonstrating that the auction of 120 MHz of underutilized broadcast television spectrum will produce more than \$33 billion in net proceeds for the U.S. Treasury).

<sup>13</sup> 47 U.S.C. § 309(a) (2006).

<sup>14</sup> 47 U.S.C. § 309(b) (2006). Noncommercial, federal government use of spectrum is managed by the National Telecommunications and Information Association (“NTIA”). See *also id.* § 305.

system of competitive bidding.<sup>15</sup> The Commission has not always issued licenses in this manner. Prior to receiving auction authority from Congress in 1993,<sup>16</sup> the FCC relied on uncontested hearings, comparative hearings, and lotteries to grant spectrum licenses to applicants.<sup>17</sup>

Congress directed the Commission to “promot[e] economic opportunity and competition” and “avoid excessive concentration of licenses” by awarding licenses to a “wide variety of applicants.”<sup>18</sup> Congress believed that auctions would increase spectral efficiency by issuing licenses to those who considered spectrum the most valuable and auctions could assign spectrum to licensees in a timelier manner than comparative hearings.<sup>19</sup>

Auctions have been a reasonably effective way to assign spectrum licenses that productively use the airwaves. However, the state of commercial radio spectrum does not necessarily reflect market-based realities due to what some have called the Commission’s command-and-control approach.<sup>20</sup> For example, the FCC “allocate[s] spectrum into bands, prescribe[s] the services for which most of these bands may be used, and supervise[s] the process of assigning exclusive usage rights to particular licenses”<sup>21</sup> rather than assigning spectrum for flexible uses.<sup>22</sup> Additionally, the FCC statutory framework restricts licensees’ property interests in spectrum because buyers or lessees in any secondary market transactions must use the spectrum for the same service for which the FCC has assigned the license.<sup>23</sup>

The FCC’s ability to encourage the most efficient use of spectrum is limited because the statutory mechanisms for managing commercial spectrum tend to suppress the Commission’s capability to repurpose spectrum with market-based solutions. The Commission repurposes spectrum either by revoking,

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<sup>15</sup> *Id.* § 309(j) (exempting public safety radio services, broadcast licensees replacing analog signals with digital television service, noncommercial educational broadcast stations, and public broadcast stations from auctions).

<sup>16</sup> Omnibus Budget Reconciliation Act, Pub. L. No. 103-66, § 6002, 107 Stat. 312 (1993).

<sup>17</sup> See JONATHAN E. NUECHTERLEIN & PHILIP J. WEISER, *DIGITAL CROSSROADS: AMERICAN TELECOMMUNICATIONS POLICY IN THE INTERNET AGE* 236 (2007) [hereinafter *DIGITAL CROSSROADS*]; *Ashbacker Radio Corp. v. FCC*, 326 U.S. 327, 333 (1945); *Johnston Broadcasting Co. v. FCC*, 175 F.2d 351, 353-54, 359 (D.C. Cir. 1949); 47 U.S.C. § 309(i) (2006).

<sup>18</sup> 47 U.S.C. § 309(j)(3). See also *FCC v. NextWave Pers. Commc’ns Inc.*, 537 U.S. 293, 296 (2003).

<sup>19</sup> *About Auctions*, FCC, <http://commcns.org/s7e2mM> (last visited Dec. 15, 2011).

<sup>20</sup> See, e.g., *DIGITAL CROSSROADS*, *supra* note 17, at 238; NATIONAL BROADBAND PLAN, *supra* note 5, at 78-79; FCC SPECTRUM POLICY TASK FORCE, REPORT OF THE SPECTRUM RIGHTS AND RESPONSIBILITIES WORKING GROUP 2-5 (2002).

<sup>21</sup> *DIGITAL CROSSROADS*, *supra* note 17, at 239.

<sup>22</sup> See NATIONAL BROADBAND PLAN OVERVIEW, *supra* note 4, at 530.

<sup>23</sup> *DIGITAL CROSSROADS*, *supra* note 17, at 231, 243.

revisiting, and revising spectrum allocations<sup>24</sup> or by using coercive authority.<sup>25</sup> However, each of these two mechanisms suffers drawbacks. First, repurposing spectrum by revisiting and revising allocations takes an average of six to thirteen years.<sup>26</sup> Second, the Commission's legal authority to repurpose spectrum forcefully is limited in practice by the various legal remedies available to licensees, which often mire the Commission in litigation.<sup>27</sup> For example, the Supreme Court reversed the FCC's cancellation and proposed re-auction of NextWave's licenses as a consequence for the licensee's failure to make installment payments.<sup>28</sup>

The FCC's auction authority terminates September 30, 2012.<sup>29</sup> The Commission's budget for fiscal year 2012 proposes that Congress extend the FCC's current auction authority indefinitely in light of this September 30 expiration date.<sup>30</sup> Moreover, the budget proposes that Congress grant the FCC authority to implement voluntary incentive auctions as a means to encourage the best and most efficient use of spectrum.<sup>31</sup>

## B. Trends in Mobile Wireless Technology

FCC licenses spectrum to facilities-based mobile wireless providers that offer commercial voice and data services to consumers over shared frequencies.<sup>32</sup> This group is comprised of companies that provide the commercial networks on which Americans rely to operate their smartphones, wireless data cards, and mobile Wi-Fi hotspots.<sup>33</sup> Although these devices are increasingly popular, they consume a great deal of bandwidth, straining spectrum capacity and congesting the shared network.<sup>34</sup>

<sup>24</sup> See 47 U.S.C. § 312(a) (2006). See also NATIONAL BROADBAND PLAN, *supra* note 5, at 79.

<sup>25</sup> FCC v. NextWave Pers. Commc'ns Inc., 537 U.S. 293, 308 n.5 (2003) (stating that "after NextWave prepared a plan of reorganization the FCC asserted that the licenses had been automatically cancelled and gave notice of its intent to reauction them.").

<sup>26</sup> NATIONAL BROADBAND PLAN, *supra* note 5, at 79 exhibit 5-C.

<sup>27</sup> See, e.g., FCC v. NextWave Pers. Commc'ns Inc., 537 U.S. 293 (2003).

<sup>28</sup> See *id.*

<sup>29</sup> 47 U.S.C. § 309(j)(11) (Supp. III 2009).

<sup>30</sup> FCC, FISCAL YEAR 2012 BUDGET ESTIMATES SUBMITTED TO CONGRESS 6 (2011) [hereinafter FCC BUDGET FY 2012].

<sup>31</sup> *Id.*

<sup>32</sup> See 14th Wireless Report, *supra* note 1, ¶¶ 26-38 (separating wireless spectrum licensees into (1) facilities-based, (2) resale/mobile virtual network operator providers, (3) narrowband data providers, and (4) MSS Providers).

<sup>33</sup> *Id.* ¶¶ 138, 144-46.

<sup>34</sup> *Id.* ¶¶ 136-47. See also Charles M. Davidson & Michael J. Santorelli, *Seizing the Mobile Moment: Spectrum Allocation Policy for the Wireless Broadband Century*, 19 COMMLAW CONSPCTUS 1, 65-66 (2010) [hereinafter *Seizing the Mobile Moment*].

The facilities-based mobile wireless industry has undergone a data revolution from its voice-centric roots.<sup>35</sup> Mobile devices were used initially to make phone calls and nothing else, but today's consumers download applications on their mobile devices for nearly innumerable purposes.<sup>36</sup> Consumers are adopting mobile data services at an exponential rate. The FCC found that "the number of mobile data subscribers [in the United States] more than doubled from 2005 to 2009 and 42 percent of consumers carried a smartphone in 2009, compared to only 15 percent in 2006."<sup>37</sup> Younger generations are adopting mobile data services even more rapidly, as well. For example, Pew Research reported that "81% of adults between the ages 18 and 29 are wireless internet users."<sup>38</sup> Employing mobile broadband compatible devices at formative ages assures that the younger generation will insist on continued, convenient access to the Internet in the future. To meet the projected consumer demand for data services, facilities-based carriers currently are rolling out nationwide next-generation IP-based networks such as Long-Term Evolution ("LTE") and Worldwide Interoperability for Microwave Access ("WiMax").<sup>39</sup>

Consumers' use of mobile services has also caused data traffic to surge. For example, mobile data usage increased 2.6 times from 2009 to 2010<sup>40</sup> and market conditions suggest that this trend will likely increase in coming years.<sup>41</sup> Studies indicate that consumers will demand more mobile data services thereby increasing data traffic on existing spectrum that providers struggle to manage now.<sup>42</sup> The FCC estimated that mobile data traffic will grow "more than twenty times by 2013 . . . reaching thirty-five times 2009 levels by 2014."<sup>43</sup> Cisco Systems predicted that "[m]obile data traffic will grow at a

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<sup>35</sup> *14th Wireless Report*, *supra* note 1, ¶¶ 181-84.

<sup>36</sup> See *Statistics*, FACEBOOK, <http://commcns.org/vml6h4> (last visited Dec. 15, 2011); YOUTUBE, <http://www.youtube.com> (last visited Dec. 15, 2011); *Seizing the Mobile Moment*, *supra* note 34, at 22.

<sup>37</sup> *14th Wireless Report*, *supra* note 1, at 11708 (Baker, Comm'r, concurring).

<sup>38</sup> AMANDA LENHART ET AL., PEW RESEARCH CTR., SOCIAL MEDIA & MOBILE INTERNET USE AMONG TEENS AND YOUNG ADULTS 4 (2010).

<sup>39</sup> See Robert Hahn & Hal J. Singer, *Telecommunications Policy: Why the iPhone Won't Last Forever and What the Government Should Do to Promote Its Successor*, 8 J. ON TELECOMM. & HIGH TECH. L. 313, 345 (2010); Robert W. Crandall, Jeffrey A. Eisenach, & Robert E. Litan, *Vertical Separation of Telecommunications Networks: Evidence from Five Countries*, 62 FED. COMM. L. J. 493, 535 (2009).

<sup>40</sup> David Sarno, *Worldwide Mobile Data Traffic Exploding, Nearly Tripled in 2010*, *Cisco Says*, L.A. TIMES (Jan. 31, 2011), <http://commcns.org/vDaaqY>.

<sup>41</sup> See COMMISSION SPECTRUM REPORT, *supra* note 2, at 17.

<sup>42</sup> John Cox, *Smartphones, Data Hogs Causing Wireless Network Capacity Crunch*, NETWORK WORLD (Nov. 16, 2010), <http://commcns.org/tjdN4G> (stating that "two thirds of wireless carriers say their networks are suffering due to the surge in data traffic").

<sup>43</sup> COMMISSION SPECTRUM REPORT, *supra* note 2, at 9.

[compound annual growth rate] of [ninety-two] percent from 2010 to 2015.”<sup>44</sup> Even the most conservative projections predict mobile data traffic to increase by nearly twenty-five percent before the end of 2015.<sup>45</sup> Regardless of where the precise growth factor ultimately lies, the salient point is that increased adoption and data traffic likely will outrun the services offered by devices that have enabled the success of the mobile industry thus far.

The United States boasts the largest wireless device market in the world, comprised of “at least 33 companies manufacturing more than 630 unique devices for the U.S. market.”<sup>46</sup> The trajectory of best-selling wireless devices over the past five years illustrates that this market rapidly evolved as more consumers adopted mobile broadband services.<sup>47</sup> In 2005, the best selling cellular device was the Motorola RAZR.<sup>48</sup> However, the popularity of the RAZR declined shortly after the Apple iPhone topped the mobile handset sales chart in 2008.<sup>49</sup> As of publication, devices using the Android platform have surpassed the Apple iPhone.<sup>50</sup> The United States is “at the threshold of mobile broadband use, which will combine the must-have wireless device with the must-have content of the Internet.”<sup>51</sup>

Chairman Genachowski noted that mobile broadband is “an essential platform for new products, economic growth and job creation.”<sup>52</sup> Innovation in mobile wireless is important not only to meet consumer demand, but also to

<sup>44</sup> CISCO MOBILE DATA TRAFFIC REPORT, *supra* note 2, at 5.

<sup>45</sup> See COMMISSION SPECTRUM REPORT, *supra* note 2, at 94.

<sup>46</sup> *In re Wireless Telecommunications Bureau Seeks Comment on the State of Mobile Wireless Competition, Comments of CTIA-The Wireless Association*, WT Docket No. 10-133, at 20 (Jul. 30, 2010).

<sup>47</sup> *Demand for Mobile Broadband Drives HSPA Past 500 Million Connections as the Mobile Data Revolution Continues*, GSM WORLD (June 8, 2011), <http://commcns.org/tKvw60>.

<sup>48</sup> See, e.g., Daniel Greenberg, *Cellphone Crib Sheet, Cutting Through All the Talk*, WASH. POST (Nov. 26, 2006), <http://commcns.org/vGjG3P>. See also Stacey Higginbotham & Om Malik, *Forget the iPhone, Can Droid Top the RAZR?*, GIGAOM.COM (Oct. 28, 2009), <http://commcns.org/uFpm7L>.

<sup>49</sup> Alana Semuels, *Razr Loses Sales Edge to iPhone in Shift to Functional Fashion; More U.S. Adults Bought Apple's Device, but Standard Keypads Are Up and Coming*, L.A. TIMES (Nov. 11, 2008), <http://commcns.org/tRAPu6>.

<sup>50</sup> See *Mobile & Smartphone Trends*, NIELSEN.COM, <http://commcns.org/uTLhQK> (last visited Dec. 15, 2011). See also *Android Shakes Up the U.S. Smartphone Market*, THE NPD GROUP (May 10, 2010), <http://commcns.org/u976Rp>; Rob Pegoraro & Sonja Ryst, *Apple Admits iPhone 4 Problem; Software is Flawed Issue Unlikely to Dampen Demand for Smartphone*, WASH. POST (July 3, 2010), <http://commcns.org/srS4jn>; Kevin C. Tofel, *Android Sales Overtake iPhone in the U.S.*, GIGAOM.COM (Aug. 2, 2010), <http://commcns.org/smcCOM>.

<sup>51</sup> Daniel L. Brenner, *Creating Effective Broadband Network Regulation*, 62 FED. COMM. L.J. 13, 51 (2010).

<sup>52</sup> Julius Genachowski, Chairman, FCC, Remarks as Prepared for Delivery: CTIA Wireless 2011 (Mar. 22, 2011), available at <http://commcns.org/tC5mcm>.

spur the U.S. economy.<sup>53</sup> The United States recently faced a recession in which the unemployment rate and national public debt increased contemporaneously with the mobile data revolution.<sup>54</sup> Nonetheless, the mobile wireless industry has been a source of stability and revenue, contributing investment, jobs, and increased productivity to the U.S. economy.<sup>55</sup> For example, “[b]y the end of 2009, U.S. wireless carriers’ cumulative capital expenditures totaled more than \$285 billion, an increase of more than \$20 billion from year-end 2008,” despite the economic downturn.<sup>56</sup> Wireless carriers use this capital to deploy infrastructure such as towers and cell sites, build equipment such as spectral efficiency mechanisms, and offer innovative services and devices to consumers.<sup>57</sup>

Investment in mobile broadband deployment also leads to increased employment opportunities because increased deployment creates an “effect [] similar to building a roadway, which not only generates jobs and income for the builders of the road, but also provides opportunities for others to create new businesses and homes along the roadway.”<sup>58</sup> Chairman Genachowski recognized this roadway analogy when he called for “a laser-like focus on our ‘invisible infrastructure’” to create new jobs, products, and services that will help improve the lives of Americans.<sup>59</sup> Moreover, mobile broadband services have increased job productivity by allowing workers to read and answer e-mails on their own schedules and heed their customers’ requests.<sup>60</sup>

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<sup>53</sup> *In re Promoting More Efficient Use of Spectrum Through Dynamic Spectrum Use Technologies, Notice of Inquiry*, 25 F.C.C.R. 16632, 16655 (Nov. 30, 2010); *In re Promoting Expanded Opportunities for Radio Experimentation and Market Trials under Part 5 of the Commission’s Rules and Streamlining Other Related Rules; 2006 Biennial Review of Telecommunications Regulations – Part 2 Administered by the Office of Engineering and Technology (OET), Notice of Proposed Rulemaking*, 25 F.C.C.R. 16544, ¶¶ 1-2 (Nov. 30, 2010).

<sup>54</sup> *Household Data Annual Averages: 1. Employment Status of the Civilian Noninstitutional Population, 1940 to Date*, BUREAU OF LABOR STATISTICS, available at <http://commcns.org/va3LKK> (last visited Dec. 15, 2011); U.S. TREASURY, DEBT POSITION AND ACTIVITY REPORT JULY 2011, available at <http://commcns.org/sJh7AJ> (last visited Dec. 15, 2011).

<sup>55</sup> *14th Wireless Report*, *supra* note 1, ¶ 225.

<sup>56</sup> *In re Wireless Telecommunications Bureau Seeks Comment on the State of Mobile Wireless Competition, Comments of CTIA-The Wireless Association*, WT Docket No. 10-133, at 20 (July 30, 2010).

<sup>57</sup> *See 14th Wireless Report*, *supra* note 1, ¶ 4.

<sup>58</sup> Alan Pearce & Michael S. Pagano, *Accelerated Wireless Broadband Infrastructure Deployment: The Impact on GDP and Employment*, 17 MEDIA L. & POL’Y 11, 13 (2009).

<sup>59</sup> Julius Genachowski, Chairman, FCC, Prepared Remarks, *FCC Spectrum Summit: Unleashing America’s Invisible Infrastructure* at 2 (Oct. 21, 2010), available at <http://commcns.org/t7tLoz>.

<sup>60</sup> ROGER ENTNER, CTIA WIRELESS, THE INCREASINGLY IMPORTANT IMPACT OF WIRELESS BROADBAND TECHNOLOGY AND SERVICES ON THE U.S. ECONOMY 2 (2008); Jana M. Luttenegger, *Smartphones: Increasing Productivity, Creating Overtime Liability*, 36 IOWA J.



### C. The Importance of Unleashing Spectrum for Mobile Broadband

President Obama's goal to provide ninety-eight percent of the country with next-generation, high-speed wireless coverage recognizes the myriad benefits of mobile broadband services.<sup>61</sup> However, the National Broadband Plan cautioned that without new spectrum for mobile broadband, the nation risks "higher prices, poor service quality, an inability for the United States to compete internationally, depressed demand and, ultimately, a drag on innovation."<sup>62</sup> Therefore, to "connect[] every part of America to the digital age,"<sup>63</sup> President Obama emphasized the need to unleash adequate spectrum for wireless networks to have the capacity to support commercial networks, devices, and applications.<sup>64</sup>

Spectrum capacity relates to the amount of data a network can carry and depends on three factors: spectral efficiency of wireless technologies, the number of cell sites used to provide service, and available spectrum.<sup>65</sup> Wireless companies use internal resources to improve spectral efficiency and deploy wireless infrastructure to improve spectrum capacity,<sup>66</sup> but their most important asset—spectrum—is obtained through the FCC or through acquisition.<sup>67</sup> For example, six out of the seven strategic rationales for AT&T and T-Mobile's proposed \$39 million merger-acquisition centered on combating spectrum constraints to increase mobile broadband coverage in America.<sup>68</sup> While AT&T ended its bid to buy T-Mobile,<sup>69</sup> the FCC recently approved AT&T's purchase of spectrum from Qualcomm, Inc.<sup>70</sup> Additionally, the FCC is in the midst of reviewing a proposed deal under which Verizon

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CORP. L. 259, 273-74 (2010).

<sup>61</sup> President Barack Obama, Remarks by the President in the State of the Union Address (Jan. 25, 2011), available at <http://commons.org/tUDM4Y>.

<sup>62</sup> NATIONAL BROADBAND PLAN, *supra* note 5, at 77.

<sup>63</sup> State of the Union Address, *supra* note 61.

<sup>64</sup> Memorandum from The White House Office of the Press Sec'y to the Heads of Exec. Dep'ts & Agencies on Unleashing the Wireless Broadband Revolution (June 28, 2010), available at <http://commons.org/vuRbZ9> (instructing the Secretary of Commerce, through the NTIA, to collaborate with the FCC to identify and make available spectrum for commercial mobile broadband use).

<sup>65</sup> See COMMISSION SPECTRUM REPORT, *supra* note 2, at 7.

<sup>66</sup> *Seizing the Mobile Moment*, *supra* note 34, at 27; Ross H. Ernst, *Network Capacity Where Required*, OSP MAGAZINE (Sept. 2006), <http://commons.org/s4uZQ7>.

<sup>67</sup> See discussion, *supra* Part II.A.

<sup>68</sup> *AT&T and T-Mobile USA: The Future of Mobile Broadband*, MOBILIZEEVERYTHING.COM, <http://commons.org/rLvYZs> (last visited Dec. 15, 2011).

<sup>69</sup> Cecilia Kang, *AT&T Gives Up on T-Mobile Merger*, WASH. POST (Dec. 19, 2011), <http://commons.org/uaY0qG>.

<sup>70</sup> *In re Application of AT&T Inc. and Qualcomm Incorporated for Consent to Assign Licenses and Authorizations*, Order, FCC 11-188, WT Docket No. 11-18 (Dec. 22, 2011), available at <http://commons.org/s4Xwv8>.

Wireless has purchased spectrum from three cable giants.<sup>71</sup>

Instead of eradicating whatever competition in mobile wireless that still exists,<sup>72</sup> some frequencies in existing spectrum bands must be repurposed to avert a mobile spectrum crisis and meet consumer demand. The National Broadband Plan determined that frequency allocations in the spectrum bands between 225 MHz and 3.7 GHz would best serve mobile broadband,<sup>73</sup> which FCC licensees and federal government users currently occupy.<sup>74</sup> As discussed below, the FCC is likely to apportion spectrum dedicated for broadcast television and mobile satellite service (“MSS”) for mobile broadband from these bands because the current licensees manage frequencies that are adjacent to existing mobile wireless spectrum bands.<sup>75</sup>

### III. STAKEHOLDERS’ INTERESTS AND GOVERNMENT ACTIONS

The FCC must balance the needs of major stakeholders—the commercial mobile wireless, broadcast television, and MSS industries—to accomplish its objective of repurposing spectrum for mobile broadband services. At this point, the FCC has begun its spectrum-repurposing goal, while Congress contemplates legislation authorizing the agency to implement voluntary incentive auctions.<sup>76</sup> The industry stakeholders’ interests, as well as the Federal government’s progress in repurposing spectrum for mobile broadband, are examined in this part of the Note.

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<sup>71</sup> Press Release, Verizon Wireless, Comcast, Time Warner, And Bright House Networks Sell Advanced Wireless Spectrum to Verizon Wireless for \$3.6 Billion (Dec. 2, 2011), <http://commcns.org/t4fPH0>.

<sup>72</sup> “An Act to promote competition and reduce regulation in order to secure lower prices and higher quality services for American telecommunications consumers and encourage the rapid deployment of new telecommunications technologies.” Telecommunications Act of 1996, 104 Pub. L. No. 104, 110 Stat. 56 (1996) (emphasis added); Eyder Peralta, *Would AT&T Merger With T-Mobile Hurt Consumers?*, NPR BLOG (Aug. 31, 2011), <http://commcns.org/sR8ctP>. The merger also may violate antitrust law, but that analysis is beyond the scope of this Note.

<sup>73</sup> NATIONAL BROADBAND PLAN, *supra* note 5, at 75, 80, 84.

<sup>74</sup> *Radio Frequency Spectrum Allocations in the United States*, NAT’L. TELECOM. INFO. ASSOC., <http://commcns.org/t7LIso> (last updated Dec. 2005).

<sup>75</sup> See generally NATIONAL BROADBAND PLAN, *supra* note 5, 75-98; *In re Innovation in the Broadcast Television Bands: Allocations, Channel Sharing and Improvements to VHF, Notice of Proposed Rulemaking*, 25 F.C.C.R. 16,498, ¶¶ 1-3 (Nov. 30, 2010) [hereinafter *Broadcast Innovation NPRM*]; *In re Fixed and Mobile Services in the Mobile Satellite Service Bands at 1525-1559 MHz and 1626.5-1660.5 MHz, 1610-1626.5 MHz and 2483.5-2500 MHz, and 2000-2020 MHz and 2180-2200 MHz, Notice of Proposed Rulemaking and Notice of Inquiry*, 25 F.C.C.R. 9481 (July 15, 2010) [hereinafter *MSS NPRM*].

<sup>76</sup> *Incentive Auctions*, FCC, <http://commcns.org/rK4pRU> (last visited Dec. 15, 2011).

## A. Stakeholders' Interests

This section first delves further into the arguments of facilities-based wireless licensees that additional spectrum is needed within a short time period. Next, it discusses the downward trending market for broadcast television and analyzes broadcast television licensees' advocacy efforts to orchestrate incentive auctions in a way that can fully protect their interests. Finally, it addresses MSS licensees' attempts to supply additional spectrum for mobile broadband.

### 1. Facilities-Based Wireless Licensees

Due to the constraints on wireless commercial networks, telecommunications industry leaders warned that innovation in mobile broadband technologies will halt without additional frequencies at the FCC's Spectrum Summit in October 2010.<sup>77</sup> On the same day, the FCC released a report estimating that the demand for mobile data will exceed capacity by 2013.<sup>78</sup> Wireless industry representatives posit that the Commission's prediction underestimates the proliferation of consumers using smart mobile devices that rely on commercial networks.<sup>79</sup> Notwithstanding, industry personnel and the Commission agree that current spectrum allocations for mobile broadband cannot satisfy presumptive usage growth.<sup>80</sup> Spectrum therefore must be freed to support further innovation in mobile wireless technology.<sup>81</sup>

The mobile wireless industry is willing to pay for additional spectrum, as well.<sup>82</sup> Commercial mobile licensees have purchased spectrum in past FCC auctions at \$2.67, \$1.29, and \$0.978 per MHz-POP.<sup>83</sup> Extrapolating these spectrum valuations, 120 MHz of broadcast television spectrum would be valued at approximately \$99 billion, \$48 billion, or \$36 billion, respectively.<sup>84</sup>

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<sup>77</sup> Memorandum from Wilkinson Barker Knauer LLP on Summary of FCC's Spectrum Summit (Oct. 22, 2010) (on file with author).

<sup>78</sup> See COMMISSION SPECTRUM REPORT, *supra* note 2, at 2.

<sup>79</sup> Howard Buskirk & Yu-Ting Wang, *Genachowski Renews Warnings of Spectrum Crisis*, COMM. DAILY, at 2 (Oct. 22, 2010).

<sup>80</sup> See NATIONAL BROADBAND PLAN, *supra* note 5, at 75.

<sup>81</sup> See NATIONAL BROADBAND PLAN OVERVIEW, *supra* note 4, at 529.

<sup>82</sup> See BROADCAST SPECTRUM INCENTIVE AUCTIONS, *supra* note 12, at 12.

<sup>83</sup> "Dollars per megahertz of spectrum, per person reached (\$ per megahertz-pop) is the convention used to estimate the market value of spectrum." NATIONAL BROADBAND PLAN, *supra* note 5, at 102 n.86. See BROADCAST SPECTRUM INCENTIVE AUCTIONS, *supra* note 12, at 8.

<sup>84</sup> See BROADCAST SPECTRUM INCENTIVE AUCTIONS, *supra* note 12, at 8. *But see* JEFFREY A. EISENBACH, REVENUES FROM A POSSIBLE SPECTRUM INCENTIVE AUCTIONS: WHY THE CTIA/CEA ESTIMATE IS NOT RELIABLE 1 (2011) (explaining that the precise revenues from

This comparison is not an entirely precise gauge, however, because wireless carriers would consider the following factors to increase market value: lower frequency bands, larger swaths of spectrum in terms of bandwidth, and spectrum in markets with greater population densities.<sup>85</sup> Wireless carriers are likely to pay more for lower frequencies because they can support greater data throughput and provide enhanced propagation features in these bands.<sup>86</sup> Carriers would regard larger swaths of spectrum in terms of bandwidth as more valuable because effective LTE services require contiguous frequencies.<sup>87</sup> Lastly, greater population densities would garner more attention from wireless carriers because spectrum is congested in these market areas, which is where more potential customers reside.

## 2. *Broadcast Television Licensees*

Broadcast television licensees offer free, over-the-air (“OTA”) television via 6 MHz channels licensed by the FCC.<sup>88</sup> Broadcast television spectrum is celebrated for its desirable propagation characteristics,<sup>89</sup> yet only ten percent of U.S. consumers utilize free OTA television because most consumers choose to subscribe to pay-TV services that are not delivered through the airwaves.<sup>90</sup> Consequently, the wireless industry suggests that a portion of the broadcast television spectrum should be repurposed for mobile broadband because “the benefits of over-the-air broadcast can be enjoyed by virtually every American citizen *without the use of over-the-air broadcast spectrum*.”<sup>91</sup>

Trends in OTA broadcast television and mobile broadband services are at odds with Congress’ directive for the FCC to promote efficient use of

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proposed incentive auctions are unknowable because the structure of the auctions is not determined and history of auctions cannot be relied upon).

<sup>85</sup> JOHN STONE & MATTHEW YUKELSON, NEAR EARTH LLC, WIRELESS SPECTRUM: INVISIBLE REAL ESTATE 5, 16, 28 (2008).

<sup>86</sup> MOTOROLA, INC., SPECTRUM ANALYSIS FOR FUTURE LTE DEPLOYMENTS 3 (2008); NATIONAL BROADBAND PLAN, *supra* note 5, at 85.

<sup>87</sup> MOTOROLA, INC., MOTOROLA LTE SOLUTIONS: THE TD-LTE ADVANTAGE 3 (2010).

<sup>88</sup> *Hearing to Address Spectrum and Public Safety Issues Before the H. Subcomm. on Commc’ns & Tech. of the H. Comm. on Energy and Commerce*, 112th Cong. 2 (2011) (statement of Sen. Gordon H. Smith, President and Chief Executive Officer, National Association of Broadcasters). *See also* Television Broadcast Stations, 47 C.F.R. § 73.601 (2010).

<sup>89</sup> *See, e.g.*, Henry A. Waxman, *Opportunities and Challenges in an Ever-Evolving Communications Landscape*, 19 COMMLAW CONSPECTUS i, v (2010).

<sup>90</sup> *See* FCC, OBI TECHNICAL PAPER NO. 3, SPECTRUM ANALYSIS: OPTIONS FOR BROADCAST SPECTRUM 7 exhibit A (2010) (the majority of Americans subscribe to satellite and cable pay-tv services).

<sup>91</sup> *In re Innovation in the Broadcast Television Bands: Allocations, Channel Sharing and Improvements to VHF*, *Comments of CTIA-The Wireless Association*, ET Docket No. 10-235, at 7 (Mar. 18, 2011) (*italics in original*).

commercial spectrum. Though the Commission would like to carry out the National Broadband Plan's recommendation of repurposing 120 MHz of broadcast television spectrum for mobile broadband,<sup>92</sup> its revisiting and revising process takes an average of six to thirteen years and forcible spectrum repurposing faces seemingly interminable judicial review.<sup>93</sup> Additionally, even if a broadcast television licensee initiated a private transaction to sell its spectrum rights, the buyer would be required to continue providing broadcast television with its newly acquired spectrum.<sup>94</sup> The Commission requested that Congress authorize it to conduct voluntary incentive auctions because the FCC's current statutory is not enough to meet Congressional intent of promoting efficient use in a timely manner.<sup>95</sup>

The National Association of Broadcasters ("NAB") maintains that they do not oppose voluntary incentive auctions, but their lobbying efforts likely will be the FCC's biggest obstacle in acquiring voluntary incentive auction authority.<sup>96</sup> NAB joined with broadcast TV networks and organizations to launch the Future of TV Coalition in November 2011,<sup>97</sup> an entity through which NAB intends "to reassert [itself] in the debate" over contemplated voluntary incentive auction legislation.<sup>98</sup> The coalition's website – a website sponsored by NAB – urges Website visitors to "take action now"<sup>99</sup> and "Tell Your Member of Congress" that proposed spectrum auctions "threaten" local TV without protecting TV viewers like the Website visitor herself.<sup>100</sup> Though arguably vehement in attempting to persuade constituents to engage their members of Congress on this issue, the NAB/Coalition website neither refers to the broadcast industry's contrary advocacy position on voluntary incentive auction authority nor identifies the full nature of the contemplated

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<sup>92</sup> NATIONAL BROADBAND PLAN, *supra* note 5, at 76, 84, 88-89.

<sup>93</sup> See discussion, *supra* Part II.A.

<sup>94</sup> See DIGITAL CROSSROADS, *supra* note 17, at 243.

<sup>95</sup> See FCC BUDGET FY 2012, *supra* note 30, at 6.

<sup>96</sup> *Advocacy*, NAT'L ASS'N OF BROADCASTERS, <http://commcns.org/sNHQde> (last visited Dec. 15, 2011). For example, in the early 2000s, local broadcasters effectively quashed attempts to reform the FM radio spectrum with "no political constituency of comparable significance on the other side of [the] debate." See DIGITAL CROSSROADS, *supra* note 17, at 241.

<sup>97</sup> Press Release, Nat'l Ass'n of Broadcasters, *The Future of TV Coalition Launches to Support Preservation of Free and Local Television* (Nov. 1, 2011), *available at* <http://commcns.org/sBIJux>.

<sup>98</sup> Juliana Gruenwald, *New Broadcaster Coalition Says Future of TV Is Bright*, NAT'L J. (Nov. 1, 2011), <http://commcns.org/u5TGks> (quoting Gordon Smith, President and CEO, Nat'l Ass'n of Broads.).

<sup>99</sup> THE FUTURE OF TV.ORG, <http://commcns.org/vhwpQR> (last visited Dec. 15, 2011); *Terms of Use*, NAB.ORG, <http://commcns.org/updidk> (last visited Dec. 15, 2011).

<sup>100</sup> *Take Action Now!*, THE FUTURE OF TV, <http://commcns.org/sYssCv> (last visited Dec. 15, 2011).

legislation.<sup>101</sup> The Future of TV Coalition simply demonstrates the extent to which NAB elicits support for action that the trade association tolerates as long as adequate protections for incumbent broadcast TV licensees.<sup>102</sup>

In its official comments filed with the FCC and in hearings before Congress, NAB requests that Congress direct the FCC to complete two tasks prior to incentivizing any incumbent licensees to offer spectrum for competitive bidding.<sup>103</sup> First, NAB proposes that any legislation would require the FCC to perform a spectrum inventory to explore technical solutions in existing flexible use bands.<sup>104</sup> Second, NAB asks Congress and the FCC to ensure that every element of the contemplated incentive auction authority be completely voluntary in order to further the public interest.<sup>105</sup> These demands would be problematic for the Commission because a spectrum inventory could delay incentive auctions and a *completely* voluntary requirement could imply that non-participating broadcasters' technical specifications and regulatory rights should be wholly unaffected if Congress acts.<sup>106</sup>

Nonetheless, the Federal government has mechanisms to address NAB's two-fold request.<sup>107</sup> With regards to a spectrum inventory, the FCC already has begun to assess how spectrum is used through its Spectrum Dashboard, an initial inquiry into a more comprehensive inventory that the Chairman has vowed to continue.<sup>108</sup> Members of Congress also have included spectrum inventories in proposed legislation.<sup>109</sup> However, the Commission maintains

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<sup>101</sup> *Shaping the Future*, THE FUTURE OF TV, <http://commcns.org/vbzeIQ> (last visited Dec. 15, 2011). The Coalition/NAB Website explains that the "federal government is making decisions" yet the legislation contemplates only *voluntary* incentive auctions and the Website also documents that "advancing the future of [OTA TV] and wireless services are not mutually exclusive goals" though NAB maintains in hearing testimony and FCC filings that both can be accomplished with the right legislation. *Id.*

<sup>102</sup> Brendan Sasso, *Feud Between Wireless Companies and Broadcasters Turns Ugly*, THE HILL (Nov. 2, 2011), <http://commcns.org/w0KPKu>.

<sup>103</sup> *Promoting Broadband, Jobs and Economic Growth Through Commercial Spectrum Auctions: Hearing Before the H. Subcomm. on Commc'ns and Tech. of the H. Comm. on Energy and Commerce*, 112th Cong. 5 (2011) (statement of Todd F. Schurz, President and Chief Executive Officer, Schurz Communications, Inc., on behalf of the National Association of Broadcasters), available at <http://commcns.org/rqKIbr>.

<sup>104</sup> *Id.* at 15-17.

<sup>105</sup> *Id.* at 4.

<sup>106</sup> *Id.* See also Larry Downes, *I Want My Spectrum Inventory*, FORBES (Mar. 3, 2011), <http://commcns.org/twzfd3>.

<sup>107</sup> See generally OBI TECHNICAL PAPER NO. 3, *supra* note 90.

<sup>108</sup> Spectrum Dashboard, REBOOT.FCC.GOV, <http://commcns.org/t9Vxmd> (last visited Dec. 15, 2011); *Net Neutrality and Internet Regulation, Warranted or More Economic Harm than Good: Hearing Before the Subcomm. on Commc'ns and Tech. of the H. Comm. on Energy and Commerce*, 112th Cong. 4 (2011) (statement of Julius Genachowski, Chairman, Federal Communications Commission).

<sup>109</sup> See, e.g., Reforming Airwaves by Developing Incentives and Opportunistic Sharing (RADIOS) Act, S. 455, 112th Cong. § 3 (2011); Public Safety Spectrum and Wireless

that an inventory depends on a particular allocation, so rather than reviewing assignments across the full electromagnetic spectrum, the Commission intends to assess usage in the spectrum bands between 225 MHz and 3.7 GHz.<sup>110</sup>

With regards to the second request, the FCC compiled a comprehensive technical paper to analyze how spectrum can be repurposed on a completely voluntary basis and identified reasons why broadcasters would be interested in participating in voluntary incentive auctions.<sup>111</sup> For example, a broadcast licensee may realize that their spectrum is more valuable in an auction than in its current use or that it could continue broadcasting in HDTV while sharing a portion of their six MHz channel.<sup>112</sup> However, broadcasters commented that the technical paper's conclusions require further examination before the FCC can determine its proposed auctions would be voluntary and serve the public interest.<sup>113</sup>

### 3. *MSS Licensees*

MSS provides mobile broadband services via satellite on spectrum bands with excellent propagation characteristics.<sup>114</sup> Unlike facilities-based wireless licensees, MSS providers do not offer retail mobile and data services to typical American consumers.<sup>115</sup> Instead, MSS consumers include “the oil industry, maritime users, public safety agencies, and other government/military

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Innovation Act, S. 28, 112th Cong. § 103 (2011).

<sup>110</sup> William Lake, Chief, Media Bureau, FCC, Remarks to the National Alliance of State Broadcaster Associations: The FCC's Incentive Auction Proposal: New Options for Broadcasters (Feb. 28, 2011), available at <http://commcns.org/tkCdL9>. The FCC's *White Spaces Order* attempts to ensure that spectrum is used more flexibly by reserving spectrum for unlicensed mobile broadband use in unused frequencies of the broadcast television band. However, the FCC's Office of Engineering and Technology must develop a geo-location database to prevent interference in the television band before anyone can take advantage of the FCC's flexible approach to spectrum management. Only when it completes its comprehensive inventory of the 225 MHz to 3.7 GHz frequency bands and culminates the White Spaces proceeding will the FCC satisfy the first of NAB's two requests. See generally *Unlicensed Operation in the TV Broadcast Bands*, 75 Fed. Reg. 75,814 (Dec. 6, 2010) (to be codified at 47 C.F.R. pts. 0 and 15).

<sup>111</sup> OBI TECHNICAL PAPER NO. 3, *supra* note 90, at 4.

<sup>112</sup> *Id.* at 1.

<sup>113</sup> See *In re Innovation in the Broadcast Television Bands: Allocations, Channel Sharing and Improvements to VHF*, *Comments of Cox Media Group, Inc.*, ET Docket No. 10-235, at 2 (Mar. 18, 2011); *In re Innovation in the Broadcast Television Bands: Allocations, Channel Sharing and Improvements to VHF*, *Comments of the National Association of Broadcasters and the Association for Maximum Service Television, Inc.*, ET Docket No. 10-235, at 11-12 (Mar. 18, 2011).

<sup>114</sup> *14th Wireless Report*, *supra* note 1, ¶ 36; NATIONAL BROADBAND PLAN, *supra* note 5, at 87.

<sup>115</sup> *14th Wireless Report*, *supra* note 1, ¶ 36.

operations.”<sup>116</sup> The FCC has exercised its ability to grant MSS licensees the flexibility to modify their services. Specifically, operators of MSS may apply to supplement these mission-critical services by re-using the same frequencies to operate terrestrial base stations and mobile terminals along with its space station.<sup>117</sup> In addition, Congress authorized the Commission to decide whether MSS would be considered a Title II common carrier.<sup>118</sup> The FCC has promulgated that most MSS licensees providing commercial mobile radio service directly to end users are subject to Title II regulations.<sup>119</sup> This flexible allowance, along with the MSS spectrum band’s superior propagation characteristics, has led the FCC to set a goal of dedicating 90 MHz in the MSS spectrum bands for accelerated mobile broadband infrastructure build-out by 2015.<sup>120</sup>

The biggest concern of MSS licensees is whether their investments will be protected.<sup>121</sup> Having invested tremendous capital to launch satellites into orbit and comply with relevant international rules, licensees fear that the FCC’s goal of efficient spectrum use will not account for the complex deployment issues unique to their industry.<sup>122</sup> Meanwhile, the FCC has granted waivers to MSS applicants seeking to make their spectrum available for flexible use by facilities-based wireless services.<sup>123</sup> For example, LightSquared obtained an FCC waiver and invested millions of dollars to deploy a wholesale, nationwide, next-generation LTE network for commercial service providers.<sup>124</sup> Both

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<sup>116</sup> *Id.*

<sup>117</sup> 47 U.S.C. § 303(y) (2006); *In re 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; Review of the Spectrum Sharing Plan Among Non-Geostationary Satellite Orbit Mobile Satellite Service Systems in the 1.6/2.4 GHz Bands, Report and Order and Notice of Proposed Rulemaking*, 18 F.C.C.R. 1962 (2003), *modified by Order on Reconsideration*, 18 F.C.C.R. 13590 (2003), *reconsidered in part in Mem. Opinion and Order and Second Order on Reconsideration*, 20 F.C.C.R. 4616 (2005) (“*ATC Second Reconsideration Order*”); NATIONAL BROADBAND PLAN, *supra* note 5, at 87-88.

<sup>118</sup> 47 U.S.C. § 153(51) (2006).

<sup>119</sup> 47 C.F.R. § 20.9(a)(10) (reserving its power to authorize MSS licensees, providing a space segment for CMRS are regulated on a non-common carrier basis).

<sup>120</sup> NATIONAL BROADBAND PLAN, *supra*, note 5, at 84.

<sup>121</sup> *See e.g., In re Fixed and Mobile Services in the Mobile Satellite Service Bands at 1525-1559 MHz and 1626.5-1660.5 MHz, 1610-1626.5 MHz and 2483.5-2500 MHz, and 2000-2020 MHz and 2180-2200 MHz, Comments of GlobalStar Inc.*, ET Docket No. 10-142, at 25-26 (Sept. 30, 2010).

<sup>122</sup> *See e.g., Satellite Indus. Ass’n, Satellite Industry Association’s Views on the 2008 President’s Budget Request Re: Spectrum Auctions and Fees*, <http://commcns.org/uo4jJr> (last visited Dec. 15, 2011); *Comments of GlobalStar Inc.*, *supra* note 121, at 26.

<sup>123</sup> *See, e.g., In re LightSquared Subsidiary LLC; Request for Modification of its Authority for an Ancillary Terrestrial Component, Order and Authorization*, 26 F.C.C.R. 566 (Jan. 26, 2011).

<sup>124</sup> *See generally In re Fixed and Mobile Services in the Mobile Satellite Service Bands at 1525-1559 MHz and 1626.5-1660.5 MHz, 1610-1626.5 MHz and 2483.5-2500 MHz, and*



BestBuy and Leap Wireless have contracted with LightSquared to use its LTE network, which the company had hoped to unveil in the first quarter of 2012.<sup>125</sup>

Although LightSquared claims that its LTE network will “transform[] the U.S. wireless industry,” its deployment may be delayed due to interference concerns.<sup>126</sup> Specifically, the Departments of Defense and Transportation have expressed concerns over the potential interference that LightSquared’s network could cause to GPS technologies.<sup>127</sup> As a result, the FCC required LightSquared to work with GPS companies to examine interference issues and report its findings to the Commission before Lightsquared can proceed with its wholesale-only wireless broadband network business proposal.<sup>128</sup> The FCC issued a Public Notice in September 2011 stating that additional testing is needed to ensure terrestrial services offered by LightSquared will not cause harmful interference with GPS operations.<sup>129</sup> As this article is sent to publication, it appears that LightSquared has raked up their lobbying efforts to fight the uphill battle against GPS manufacturers and federal agencies as MSS licensee prepares for another interference test upcoming during January 2012.<sup>130</sup>

## B. Government Action

The concerns of these industries reflect the significant lengths companies will take to protect their spectrum from being repurposed forcibly for another use.<sup>131</sup> Congress and the FCC recognize that spectrum is a critical asset for these and other industries to provide radio services effectively to end users, as evidenced by each entity’s repeated policy objective to avoid harmful interference from and to neighboring frequencies. This section explicates the

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2000-2020 MHz and 2180-2200 MHz, *Comments of LightSquared Subsidiary LLC*, ET Docket No. 10-142 (Sept. 15, 2010).

<sup>125</sup> *LightSquared Plans to Offer 4G Nationwide: CEO*, CNBC.COM (Mar. 23, 2011), <http://commcns.org/rJhDfh>.

<sup>126</sup> *About Us*, LIGHTSQUARED.COM, <http://commcns.org/ryiL3o> (last visited Dec. 15, 2011).

<sup>127</sup> Amy Schatz, *Pentagon Raises Concerns About LightSquared Wireless*, WALL ST. J. (Mar. 31, 2011), <http://commcns.org/u5QVKR>.

<sup>128</sup> *Id.*

<sup>129</sup> Status of Testing In Connection with LightSquared’s Request for ATC Commercial Operating Authority, *Public Notice*, DA 11-1537, IB Docket No. 11-109 (Sept. 13, 2011).

<sup>130</sup> Josh Smith, *Weathering Political Criticism, LightSquared Takes on Detractors*, NAT’L J. (Oct. 26, 2011), <http://commcns.org/sb6Gof>. See also Stephen Lawson, *LightSquared Slams Leak on GPS Tests, Expects to Win*, PC WORLD (Dec. 12, 2011), <http://commcns.org/sq3WKp>.

<sup>131</sup> See, e.g., *FCC v. NextWave Pers. Commc’ns. Inc.*, 537 U.S. 293 (2003) (demonstrating that after the FCC forcefully revoked NextWave’s spectrum to reaction it due to non-payments, the carrier challenged the FCC all the way to the Supreme Court even after filing for bankruptcy in order to keep its spectrum license).

regulatory proceedings and proposed legislation designed to foster incumbent FCC licensees' interests and the National Broadband Plan's goal of repurposing additional spectrum for mobile broadband.

### 1. *The Federal Communications Commission*

In order to auction existing bands of spectrum for mobile broadband use, the Commission has taken steps to ensure that commercial spectrum is being used efficiently and effectively. Specifically, the FCC plans to make 300 MHz of spectrum available by 2015 from the following commercial spectrum bands: (1) 20 MHz in Wireless Communications Services ("WCS"), (2) 90 MHz in MSS, (3) 120 MHz in broadcast television, and (4) 60 MHz in Advanced Wireless Services 2/3 ("AWS").<sup>132</sup> The agency has opened docket proceedings for the WCS, MSS, and broadcast television spectrum bands, but has yet to open inquiry into the National Broadband Plan's AWS spectrum band recommendation.<sup>133</sup>

On May 20, 2010, the FCC released a Report and Order ("WCS Order") amending WCS rules to make 25 MHz of spectrum available immediately.<sup>134</sup> This 25 MHz was located in the 2.3 GHz band shared by Satellite Digital Audio Radio Service ("SDARS") and WCS.<sup>135</sup> The WCS Order requires WCS to be available to forty percent of a license service area's population within three and a half years.<sup>136</sup> However, the WCS Order may fail to meet the Commission's stated goal of "increas[ing] the supply of flexible use spectrum that can be used to address the explosive nationwide growth in consumer demand for mobile broadband services."<sup>137</sup> AT&T challenged the WCS Order as arbitrary and capricious and filed a petition for partial reconsideration, noting that the technical requirements deter broadband build-out within the

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<sup>132</sup> See NATIONAL BROADBAND PLAN, *supra* note 5, at 84 exhibit 5-E (it should be noted that the FCC also plans to auction ten MHz of the D-block to public safety, but this article does not discuss the D-Block reallocation. The conflicting opinions of the FCC, Congress members, and the Obama Administration regarding the D-Block could be the subject of a journal article in itself).

<sup>133</sup> FCC, *National Broadband Plan: Year 1 Progress Report*, BROADBAND.GOV, <http://commcns.org/vb60UR> (last visited Dec. 15, 2011).

<sup>134</sup> *In re* Amendment of Part 27 of the Commission's Rules to Govern the Operation of Wireless Communications Services in the 2.3 GHz Band; Establishment of Rules and Policies for the Digital Audio Radio Satellite Service in the 2310-2360 MHz Frequency Band, *Report and Order and Second Report and Order*, 25 F.C.C.R. 11710 (May 20, 2010) [hereinafter *WCS Order*].

<sup>135</sup> *Id.* ¶ 1.

<sup>136</sup> *Id.* ¶ 3. "The WCS spectrum is separated into paired blocks (A and B) that have been allocated on a regional basis, and unpaired blocks (C and D) that have been allocated over very wide service areas." *Id.* ¶ 6, n.11.

<sup>137</sup> *Id.* ¶ 24.

imposed deadlines.<sup>138</sup> SiriusXM opposed both AT&T's and the WCS Coalition's petitions for reconsideration, challenging that their technical arguments either lacked evidence or directly contradicted the FCC's findings.<sup>139</sup> Unfortunately, the National Broadband Plan's goal of unleashing 20 MHz of additional spectrum for licensed mobile broadband use in the WCS band is on hold until this dispute is settled.<sup>140</sup>

The FCC released a Notice of Proposed Rulemaking and Notice of Inquiry ("MSS NPRM") on July 15, 2010.<sup>141</sup> The MSS NPRM seeks comment on how to increase the value of MSS spectrum. To that end, it includes two proposals to "remove regulatory barriers to terrestrial use" and promote additional investments in MSS bands.<sup>142</sup> The purpose of the proceeding is to increase flexibility and predictability in spectrum management, while also attracting investors to terrestrial wireless and protecting satellite interests in facilitating a 90 MHz allocation for mobile broadband in the 2 GHz band.<sup>143</sup> Comments and reply comments indicate that both facilities-based wireless and MSS licensees support the Commission's proposals.<sup>144</sup>

In November 2010, the FCC released a Notice of Proposed Rulemaking ("Broadcast Innovation NPRM") seeking information on how to promote innovative use of broadcast TV spectrum for mobile broadband while preserving free, OTA broadcasting without interference.<sup>145</sup> Specifically, the

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<sup>138</sup> *In re* Amendment of Part 27 of the Commission's Rules to Govern the Operation of Wireless Communications Services in the 2.3 GHz Band; Establishment of Rules and Policies for the Digital Audio Radio Satellite Service in the 2310-2360 MHz Frequency Band, *Petition for Partial Reconsideration*, WT Docket No. 07-293, IB Docket No. 95-91, GEN Docket No. 90-357, RM-8610, at 2-5 (Sept. 1, 2010). *See also* 5 U.S.C. § 706 (1994).

<sup>139</sup> *In re* Amendment of Part 27 of the Commission's Rules to Govern the Operation of Wireless Communications Services in the 2.3 GHz Band; Establishment of Rules and Policies for the Digital Audio Radio Satellite Service in the 2310-2360 MHz Frequency Band, *SiriusXM Opposition to Petitions for Reconsideration of the WCS Coalition and AT&T Inc.*, WT Docket No. 07-293, IB Docket No. 95-91, GEN Docket No. 90-357, RM-8610, at 1-2 (Oct. 18, 2010). *See also* Tim Warren, *FCC Loosens WCS Spectrum Rules*, COMM. DAILY (May 21, 2010) (explaining the significance of Sirius XM's objection because it was "the most vocal opponent" to the proceeding and the Commission's vote to pass the WCS Order).

<sup>140</sup> *See* NATIONAL BROADBAND PLAN, *supra* note 5, at 85-86. The WCS Order attempted to unleash twenty-five MHz of additional spectrum for mobile broadband use in the WCS band, but the National Broadband Plan hoped to repurpose twenty MHz.

<sup>141</sup> *MSS NPRM*, *supra* note 75.

<sup>142</sup> *Id.* ¶¶ 1-2.

<sup>143</sup> *Id.* ¶ 3.

<sup>144</sup> *See In re* Fixed and Mobile Services in the Mobile Satellite Service Bands at 1525-1559 MHz and 1626.5-1660.5 MHz, 1610-1626.5 MHz and 2483.5-2500 MHz, and 2000-2020 MHz and 2180-2200 MHz, *Comments of CTIA-The Wireless Association*, ET Docket No. 10-142 (Sept. 15, 2010); *Comments of LightSquared Subsidiary LLC*, *supra* note 124.

<sup>145</sup> *In re* Innovation in the Broadcast Television Bands: Allocations, Channel Sharing and Improvements to VHF, *Notice of Proposed Rulemaking*, 25 F.C.C.R. 16498, ¶¶ 1-3 (Nov.

Broadcast Innovation NPRM affects broadcast television stations operating on spectrum channels 21-51 in the UHF band.<sup>146</sup> The proposed rules permit mobile broadband providers to have co-primary access to the broadcast television spectrum, allow two broadcast television licensees to share one 6 MHz channel, and seek comment on ways to improve the UHF band.<sup>147</sup> The channel-sharing proposal would allow broadcast licensees to relocate voluntarily in order to share a 6MHz channel, while retaining must carry rights and all other rights afforded to it as an FCC licensee.<sup>148</sup> Comments and replies have been filed in this proceeding<sup>149</sup> and reflect that facilities-based wireless providers generally support the co-primary access and channel sharing proposals,<sup>150</sup> while the broadcast industry suggests that co-primary use is premature and demands more information on the structure of channel sharing.<sup>151</sup> If passed, the rules would make co-primary access and channel sharing the technical foundation for proposed voluntary incentive auctions.<sup>152</sup>

The Commission also intends to make 60 MHz of spectrum available for mobile broadband use in the AWS band.<sup>153</sup> AWS already has been designated for mobile broadband, but the FCC has not auctioned 40 MHz in the AWS-2 H & J and AWS-3 blocks.<sup>154</sup> The National Broadband Plan called for the Commission to collaborate with the National Telecommunications and Information Administration (“NTIA”) to determine whether spectrum allocated for federal government use in the 1755-1850 MHz bands could be reassigned and paired with the un-auctioned AWS-2/3 blocks for a mobile broadband

30, 2010) [hereinafter *Broadcast Innovation NPRM*].

<sup>146</sup> *Id.* ¶¶ 5-7 (“except for channel 37”).

<sup>147</sup> *Id.* ¶ 13.

<sup>148</sup> *Id.* ¶¶ 30-41.

<sup>149</sup> *Innovation in the Broadcast Television Bands*, 76 Fed. Reg. 5521 (Feb. 1, 2011) (including Comment and Reply Comment due dates for *Broadcast Innovation NPRM*).

<sup>150</sup> See generally *In re Innovation in the Broadcast Television Bands: Allocations, Channel Sharing and Improvements to VHF*, *Comments of CTIA – The Wireless Association*, ET Docket No. 10-235, at 12-15 (Mar. 18, 2011); *In re Innovation in the Broadcast Television Bands: Allocations, Channel Sharing and Improvements to VHF*, *Comments of T-Mobile USA, Inc.*, ET Docket No. 10-235, at 7-8 (Mar. 18, 2011); *In re Innovation in the Broadcast Television Bands: Allocations, Channel Sharing and Improvements to VHF*, *Comments of AT&T*, ET Docket No. 10-235, at 3-7 (Mar. 18, 2011).

<sup>151</sup> See generally *In re Innovation in the Broadcast Television Bands: Allocations, Channel Sharing and Improvements to VHF*, *Comments of National Association of Broadcasters and The Association for Maximum Service Television, Inc.*, ET Docket No. 10-235, at 15-19 (Mar. 18, 2011); *In re Innovation in the Broadcast Television Bands: Allocations, Channel Sharing and improvements to VHF*, *Comments of Sinclair Broadcasting Group, Inc.*, ET Docket No. 10-235, at 4-9 (Mar. 18, 2011).

<sup>152</sup> *Broadcast Innovation NRPM*, *supra* note 145, at 16535 (statement of Julius Genachowski, Chairman, FCC).

<sup>153</sup> See NATIONAL BROADBAND PLAN, *supra* note 5, at 76, 84.

<sup>154</sup> Jeffrey Rosen, *The Future of Spectrum*, ISSUES IN TECH., at 7 (Aug. 2011), available at <http://commcns.org/rDvtjtj>.

spectrum auction.<sup>155</sup> After the Plan was released, NTIA assessed federal spectrum that could be “fast-tracked” for reassignment to commercial wireless services. NTIA identified 1695-1710 MHz and 3550-3650 MHz as frequencies that may be available conditionally for commercial wireless services within five years, but discounted the coveted 1755-1780 MHz band because the Federal/military operates in it through the North Atlantic Trade Organization agreements and others.<sup>156</sup> Nonetheless, an AWS Order and auction may be forthcoming due to one of two reasons. First, the FCC followed up on the NTIA’s “fast track” report by releasing a Public Notice intended to assess whether current broadband technologies are fit for the spectrum bands that NTIA identified.<sup>157</sup> Second, the National Broadband Plan encouraged the Commission to promptly auction the AWS-2/3 bands if pairing the spectrum blocks to reassigned federal spectrum was not possible.<sup>158</sup>

In addition to these ongoing and potential proceedings, the FCC has completed its Spectrum Dashboard, a transparency tool for consumers to browse spectrum bands’ uses and licensees.<sup>159</sup> Chairman Genachowski stated that the Spectrum Dashboard was the first step toward the FCC’s completion of a spectrum inventory at a hearing before the U.S. House of Representatives Committee on Energy and Commerce.<sup>160</sup> With a comprehensive spectrum inventory, FCC hopes to assess how efficiently and effectively spectrum is used in order to meet the National Broadband Plan goal of repurposing 300 MHz of spectrum for mobile broadband by 2015 and an additional 200 MHz by 2020.<sup>161</sup>

Finally, as noted in Part II.A, the FCC asked Congress to extend its current authority to auction spectrum in its 2012 budget proposal, which expires

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<sup>155</sup> See NATIONAL BROADBAND PLAN, *supra* note 5, at 86-87.

<sup>156</sup> DEP’T OF COMMERCE, AN ASSESSMENT OF THE NEAR-TERM VIABILITY OF ACCOMMODATING WIRELESS BROADBAND SYSTEMS IN THE 1675-1710 MHz, 1755-1780 MHz, 3500-3650 MHz, AND 4200-4220 MHz, 4380-4400 MHz BANDS 1-5 (2010). Nonetheless, NTIA determined that this band will be a priority in its 10 year spectrum assessment under the National Broadband Plan goal to unleash 500 MHz of spectrum by 2020. *See id.*

<sup>157</sup> Spectrum Task Force Requests Information on Frequency Bands Identified by NTIA as Potential Broadband Spectrum, *Public Notice*, 26 F.C.C.R. 3486 (Mar. 8, 2011).

<sup>158</sup> NATIONAL BROADBAND PLAN, *supra* note 5, at 87.

<sup>159</sup> FCC, *Spectrum Dashboard*, REBOOT.FCC.GOV, <http://commcns.org/t9Vxmd> (last visited Dec. 15, 2011). *See also* Press Release, FCC Announces “Beta” Launch of Spectrum Dashboard (Mar. 17, 2010), *available at* <http://commcns.org/uEG07m> (stating that the Spectrum Dashboard will “increase transparency into how radio spectrum is used in the United States”).

<sup>160</sup> *Net Neutrality and Internet Regulation: Warranted or More Economic Harm than Good?: Hearing Before the Subcomm. on Commc’ns and Tech. of the H. Comm. on Energy and Commerce*, 112th Cong. (2011) (statement of Julius Genachowski, Chairman, FCC), <http://commcns.org/tGHSoa>.

<sup>161</sup> See NATIONAL BROADBAND PLAN, *supra* note 5, at 84.

September 30, 2012.<sup>162</sup> It requested that Congress grant the FCC with power to implement voluntary incentive auctions in order to encourage the most efficient use of commercial spectrum and address the pending capacity crisis facing mobile broadband providers.<sup>163</sup>

## 2. Congress

President Obama also has urged Congress to pass legislation authorizing the FCC to conduct voluntary incentive auctions in order to provide the nation with coverage for next-generation wireless services.<sup>164</sup> Members of Congress, working on a bipartisan basis, have recognized that spectrum reform is necessary to enable wireless providers to meet consumer demand for mobile data services.<sup>165</sup> However, some members are reluctant to sacrifice OTA broadcast television because it brings a number of benefits to their constituents.<sup>166</sup> Therefore, they have stressed that any incentive auction scheme must be truly voluntary and avoid forceful repurposing of spectrum for mobile broadband use.<sup>167</sup>

The 112th Congress has considered authorizing the FCC to conduct voluntary incentive auctions in at least eight bills focused primarily on spectrum reform, as well as in several amendments to bills targeted at reducing the national public debt. Each bill mandates the sharing of auction proceeds between the U.S. Treasury and incumbent licensee participants and, except for one, extends the FCC's current statutory authority to conduct traditional auctions for spectrum. The focus of this section, however, is the differences of each of the bills, including how each bill grants the Commission its new authority.

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<sup>162</sup> FCC BUDGET FY 2012, *supra* note 30, at 6.

<sup>163</sup> *Id.*

<sup>164</sup> See OFFICE OF MGMT & BUDGET, EXEC. OFFICE OF THE PRESIDENT, FISCAL YEAR 2012 BUDGET OF THE UNITED STATES GOVERNMENT 39-40 (2011). See also Press Release, The White House, Office of the Press Sec'y, President Obama Details Plan to Win the Future Through Expanded Wireless Access (Feb. 10, 2011), available at <http://commcns.org/uiLaiQ>.

<sup>165</sup> See discussion, *infra* Part III.B.2.a-c.

<sup>166</sup> See, e.g., *Net Neutrality and Internet Regulation: Warranted or More Economic Harm than Good?: Hearing Before the Subcomm. on Commc'ns and Tech. of the H. Comm. on Energy and Commerce*, 112th Cong. (2011), <http://commcns.org/tGHSoa>; *Using Spectrum to Advance Public Safety, Promote Broadband, Create Jobs, and Reduce the Deficit: Hearing Before the Subcomm. on Commc'ns and Tech. of the H. Comm. on Energy and Commerce*, 112th Cong. (2011), <http://commcns.org/sC4xke>.

<sup>167</sup> Memorandum from the Majority Committee Staff of the Subcomm. on Commc'ns and Tech. to the Members and Staff, Hearing on "Using Spectrum to Advance Public Safety, Promote Broadband, Create Jobs, and Reduce the Deficit" (Apr. 8, 2011).

*a. Senate Spectrum Reform Bills*

Senators have introduced four bills during the 112th Congress focusing on spectrum reform and authorizing the Commission to conduct voluntary incentive auctions. In January 2011, Senator John Rockefeller (D-WV) introduced the Public Safety Spectrum and Wireless Innovation Act (“S. 28”),<sup>168</sup> followed by Senator Mark Warner’s (D-VA) introduction of the Spectrum Optimization Act in February.<sup>169</sup> In March, Senators Olympia Snowe (R-ME) and John Kerry (D-MA) introduced the Reforming Airwaves by Developing Incentives and Opportunistic Sharing Act (“RADIOS Act”).<sup>170</sup> Lastly, Senator Rockefeller later teamed with Senator Kay Bailey Hutchison (R-TX) to co-sponsor another Public Safety Spectrum and Wireless Innovation Act (“S. 911”).<sup>171</sup>

S. 911 is the front-runner among the Senate bills and, as of this article’s publication, projects to be the top choice of all the incentive auction bills. On June 8, the Senate Committee on Commerce, Science, and Transportation voted 21-4 in favor of Senator Rockefeller and Hutchison’s voluntary incentive auction bill.<sup>172</sup> The Act proscribes the FCC from directly or indirectly reclaiming spectrum licensed to a television broadcast licensee,<sup>173</sup> but allows the Commission to use auction proceeds to compensate a licensee who voluntarily relinquishes its spectrum.<sup>174</sup> S.911 also permits the FCC to re-pack broadcast television spectrum, if doing so would meet several conditions designed to provide non-participating licensees with the “same” channels to

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<sup>168</sup> Public Safety Spectrum and Wireless Innovation Act, S. 28, 112th Cong. (2011).

<sup>169</sup> Spectrum Optimization Act, S. 415, 112th Cong. (2011).

<sup>170</sup> Reforming Airwaves by Developing Incentives and Opportunistic Sharing Act, S. 455, 112th Cong. (2011).

<sup>171</sup> Senators Rockefeller and Hutchison and Hutchison introduced S. 911 on May 9, 2011, as the Strengthening Public-Safety and Enhancing Communications Through Reform, Utilization, and Modernization (SPECTRUM) Act. The SPECTRUM Act was a placeholder bill and set forth the Senators’ belief that Congress should enact legislation to strengthen public safety and to enhance wireless communications. After the Act’s introduction, an earlier draft bill circulated by Senator Hutchison’s staff was incorporated into the SPECTRUM Act to provide a detailed voluntary incentive auction plan. *See* Wireless Innovation and Spectrum Enhancement Act (2011) (Discussion Draft). This resulted in the introduction of S. 911 to the Senate Commerce Committee as the Public Safety Spectrum and Wireless Innovation Act.

<sup>172</sup> Press Release, Rockefeller Joined by West Virginia Public Safety Leaders for Approval of New Network Legislation at Commerce Committee (June 8, 2011), <http://commcns.org/vf6BW1>; Press Release, Commerce Committee Approves Public Safety Network Bill, Now Heads To Senate Floor (June 8, 2011), <http://commcns.org/rBaenL>. As of this article’s publication, no other spectrum reform bill has been subject to a vote at the Senate Committee level.

<sup>173</sup> Public Safety Spectrum and Wireless Innovation Act, S. 911, 112th Cong. § 303(a)(2) (to be codified at 42 U.S.C. § 309(j)(8)(F)(ii)(I) (2011).

<sup>174</sup> *Id.* (to be codified at 42 U.S.C. § 309(j)(8)(F)(i).

the extent that doing so is “technically feasible” and in the “public interest.”<sup>175</sup> To meet these “same” channel conditions, the re-packed channel must be reasonably within the same spectrum band, in the same geographic market, with the same population coverage, in which it has the same interference protections.<sup>176</sup>

The bill directs all auctions proceeds to be deposited into the Public Safety Trust Fund.<sup>177</sup> This Fund would be used to offset the cost of deploying a nationwide public safety wireless network, compensate broadcast licensees who voluntarily relinquish spectrum for auctions, and reimburse “reasonable costs” for equipment, installation, and construction as a result of re-packing.<sup>178</sup> The reimbursement fund would make up no more than 5% or up to \$1 billion of the total proceeds and would be available to non-participating incumbent broadcast TV licensees, channel sharing participants and MVPDs.<sup>179</sup>

Establishing a nationwide public safety wireless network is also the main focus of Senator Rockefeller’s S. 28, which directs auction proceeds to fund the deployment and operation of an interoperable, nationwide public safety wireless broadband network.<sup>180</sup> However, S.28 is far less detailed than S. 911 in the manner it delegates incentive auction authority to the FCC.<sup>181</sup> Aside from a prohibition on involuntary reclamation of spectrum, S. 28 permits the FCC to decide the structure of voluntary incentive auctions.<sup>182</sup>

Senator Warner’s Spectrum Optimization Act would allow the FCC to implement a rulemaking that would offer incentives to licensees to entice them to sell portions of their spectrum bands, which would then be auctioned.<sup>183</sup> The bill also would require the FCC to commence voluntary incentive auctions within two years of its passage date.<sup>184</sup> The Act’s voluntary incentive auction scheme calls for the Commission to establish a maximum revenue share between the U.S. Treasury and an incumbent licensee, unless such a threshold would decrease the amount of spectrum relinquished for auctions.<sup>185</sup> However, the Spectrum Optimization Act does not explicitly restrict the FCC from involuntary reclamation of broadcast spectrum for incentive auctions and does

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<sup>175</sup> *Id.* (to be codified at 42 U.S.C. § 309(j)(8)(F)(ii)(III)).

<sup>176</sup> *Id.* (to be codified at 42 U.S.C. § 309(j)(8)(F)(ii)(III)(aa)-(cc)).

<sup>177</sup> *Id.* (to be codified at 42 U.S.C. § 309(j)(8)(F)(iii)).

<sup>178</sup> *Id.* (to be codified at 42 U.S.C. § 309(j)(8)(G)(v)), 401(b)(1)(A).

<sup>179</sup> Public Safety Spectrum and Wireless Innovation Act, S. 911, 112th Cong. § 401(b)(2).

<sup>180</sup> Public Safety Spectrum and Wireless Innovation Act, S. 28, 112th Cong. § 104(b)(5) (2011).

<sup>181</sup> *Id.* § 204(b)(1)(B).

<sup>182</sup> *Id.* § 204(d)(1) and (2).

<sup>183</sup> Spectrum Optimization Act, S.415, 112th Cong. § 2(2) (2011).

<sup>184</sup> *Id.*

<sup>185</sup> *Id.*



not extend the FCC's current auction authority.<sup>186</sup>

Taking a different approach, Senators Olympia Snowe and John Kerry's RADIOS Act stresses that the FCC must ensure that there will be adequate nationwide access to unlicensed spectrum when it carries out voluntary incentive auctions.<sup>187</sup> In addition, unlike the other Senate bills, the RADIOS Act extends the opportunity for incumbent licensees to participate and specifically relinquish spectrum to only broadcast licensees.<sup>188</sup>

### *b. House Spectrum Reform Bills*

There also have been four bills focused on spectrum reform introduced in the House of Representatives during the 112th Congress, one of which is considered to be the front-runner. Representative John Barrow (D-GA) introduced the Spectrum Inventory and Auction Act of 2011 in March,<sup>189</sup> followed by Representative Bob Latta's (R-OH) introduction of the Spectrum Innovation Act in April.<sup>190</sup> Additionally, Representatives John Dingell (D-MI) and Gene Green (D-TX) introduced the Public Safety Spectrum and Wireless Innovation Act in July.<sup>191</sup> Finally, the leading proposal in the House is Representative Greg Walden's (R-OR) Jumpstarting Opportunity with Broadband Spectrum Act ("JOBS Act"), which was circulated in November 2011.<sup>192</sup>

Representative Barrow's proposal would authorize the FCC to conduct voluntary incentive auctions in a detailed and systematic approach similar to NAB's two-fold request.<sup>193</sup> Specifically, the Spectrum Inventory and Auction Act proposes amending Section 309(j) of the Communications Act to condition the FCC's voluntary incentive auction authority upon the completion of a spectrum inventory.<sup>194</sup> In addition, the bill would require the FCC to establish rules for voluntary incentive auction revenue sharing within 180 days of its enactment.<sup>195</sup>

Representative Latta's proposal stipulates that the FCC may incentivize participation in incentive auctions by awarding a portion of the proceeds

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<sup>186</sup> See generally *id.*

<sup>187</sup> Reforming Airwaves by Developing Incentives and Opportunistic Sharing Act, S. 455, 112th Cong. § 3(a) (2011).

<sup>188</sup> *Id.* § 9(a).

<sup>189</sup> Spectrum Inventory and Auction Act of 2011, H.R. 911, 112th Cong. (2011).

<sup>190</sup> Spectrum Innovation Act, H.R. 1622, 112th Cong. (2011).

<sup>191</sup> Public Safety Spectrum and Wireless Innovation Act, H.R. 2482, 112th Cong. (2011).

<sup>192</sup> Jumpstarting Opportunity with Broadband Spectrum Act (Discussion Draft), H.R. \_\_\_, 112th Cong. (2011), available at <http://commons.org/vjqGQQ>

<sup>193</sup> See discussion, *supra* Part III.A.2.

<sup>194</sup> Spectrum Inventory and Auction Act of 2011, H.R. 911, 112th Cong. § 3(a)(5) (2011).

<sup>195</sup> *Id.* § 3(b).

resulting from competitive bidding to incumbent licensees.<sup>196</sup> Similar to many of the other bills, the Spectrum Innovation Act strictly prohibits the Commission from involuntarily reclaiming any frequencies from spectrum holders who choose not to participate.<sup>197</sup>

The Public Safety Spectrum and Wireless Innovation Act is unique because it would allow the FCC to conduct only one voluntary incentive auction of broadcast television spectrum for mobile broadband use.<sup>198</sup> In addition, the proposal includes strict reimbursement and repacking provisions pertaining to the FCC's authority to reassign frequencies for non-participating broadcast stations affected by the voluntary incentive auction.<sup>199</sup> Unlike the spectrum reform bills introduced by Representatives Barrow and Latta, Representatives Dingell and Green focus primarily on the public safety communications system.<sup>200</sup>

The JOBS Act was marked up by the House Subcommittee on Communications and Technology and advanced out of the subcommittee by a 17-6 vote on December 1.<sup>201</sup> Representative Walden followed the examples of Senators Rockefeller and Hutchison and Representative Dingell, focusing largely on resolving issues related to public safety in his spectrum reform bill.<sup>202</sup> The JOBS Act also discusses unlicensed spectrum use, as well as federal and commercial spectrum allocation and relocation.<sup>203</sup>

Representative Walden separates incentive auction authority into three sections, laying out general statutory mandates, requirements for incentivizing broadcast licensees to participate voluntarily, and ground rules and limitations for the FCC regarding its new voluntary incentive auction authority.<sup>204</sup> Specifically, the JOBS Act prohibits the FCC from entering into an agreement for a licensee to relinquish its spectrum unless the Commission first conducts a reverse auction, in which at least two competing licensees participate, to

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<sup>196</sup> Spectrum Innovation Act, H.R. 1622, 112th Cong. § 2 (2011).

<sup>197</sup> *Id.* § 4.

<sup>198</sup> Public Safety Spectrum and Wireless Innovation Act, H.R. 2482, 112th Cong. § 303(a)(2) (2011).

<sup>199</sup> *Id.*

<sup>200</sup> One reason that Representatives Dingell and Green introduced the Public Safety Spectrum and Wireless Innovation Act was to rebut the flexible provisions in Senators Rockefeller and Hutchison's SPECTRUM Act. *See* Press Release, Dingell, Green Introduce Public Safety Network Bill (July 11, 2011), <http://commcns.org/ukxtut>. While Representatives Dingell and Green also disagreed with the public safety provisions in the SPECTRUM Act, that subject is beyond the scope of this Note.

<sup>201</sup> Press Release, Communications and Technology Subcommittee Approves JOBS Act with Bipartisan Support (Dec. 1, 2011), <http://commcns.org/tjiuQU>.

<sup>202</sup> *See* Jumpstarting Opportunity with Broadband Spectrum Act (Discussion Draft), H.R. 112th Cong. §§ 201-241 (2011), <http://commcns.org/vjqGQQ>.

<sup>203</sup> *See id.* §§ 107, 301-303.

<sup>204</sup> *See id.* §§ 103-105.

determine the amount of compensation licensees would accept for voluntarily relinquishing their spectrum.<sup>205</sup> These conditions also apply to broadcast licensees, who may opt to relinquish all 6 MHz of their spectrum, move from the VHF to the UHF band, or channel share.<sup>206</sup> The JOBS Act also contains two unique broadcast-specific rules. The first allows a non-participating broadcast licensee to apply for a waiver of its service rules in the form of regulatory relief instead of electing to receive relocation costs.<sup>207</sup> Additionally, the bill requires that all reverse auctions, reorganizations, and reassignments of spectrum occur contemporaneously.<sup>208</sup>

### *c. Bicameral Debt Reduction Bills*

Though the House and Senate spectrum reform bills were not part of the separate debt negotiations throughout the 112th Congress, the sponsors of these bills expressed hope that voluntary incentive auctions could be part of the larger effort to reduce the national public debt. Upon announcing the JOBS Act, Representative Walden stated that he believed his bill could cut “up to \$15 billion in deficit reduction.”<sup>209</sup> Similarly, the Congressional Budget Office predicted that voluntary incentive auctions alone would reduce direct public spending by \$24.5 billion in the next ten years when it analyzed Senators Rockefeller and Hutchison’s Act.<sup>210</sup>

After the CBO’s report, members of Congress began to include voluntary incentive auction provisions in bills focused on reducing the deficit. For example, just one week after the CBO released its report, Senator David Dreier (R-CA) introduced the Budget Control Act of 2011, authorizing the FCC to conduct voluntary incentive auctions.<sup>211</sup> Additionally, Senator Harry Reid (D-NV) proposed a spectrum auction amendment to a bill intended to reduce the federal budget deficit.<sup>212</sup> The Reid amendment would have authorized the FCC to conduct voluntary incentive auctions and permanently extended the Commission’s current auction authority as a spending cut in omnibus budget

<sup>205</sup> *See id.* § 103.

<sup>206</sup> *See id.* § 104(a)(1)-(2).

<sup>207</sup> *See id.* § 104(b)(4)(B).

<sup>208</sup> *See id.* § 104(f).

<sup>209</sup> Press Release, Walden Unveils Jumpstarting Opportunity with Broadband Spectrum Act (Dec. 1, 2011), <http://commcns.org/rFDoYJ>.

<sup>210</sup> CONGRESSIONAL BUDGET OFFICE, COST ESTIMATE 1 (2011), <http://commcns.org/tnLixB>.

<sup>211</sup> *See* Budget Control Act of 2011, S. 2693, 112th Cong. §§ 221-227 (2011). On July 30, Sen. Dreier’s bill failed passage and was not agreed to in the House.

<sup>212</sup> *See* Budget Control Act of 2011, S. 1323, 112th Cong. (2011); 157 CONG. REC. S4871 (daily ed. July 25, 2011) (statement of Sen. Harry Reid).

control legislation.<sup>213</sup> On the Senate floor, Senator Mark Kirk (R-IL) stressed that Congress should authorize voluntary incentive auctions by highlighting the potential for voluntary incentive auctions to increase broadband access to more Americans, raise money for the U.S. Treasury, and increase productivity in all sectors of the U.S. economy.<sup>214</sup>

The Senators' voluntary incentive auction proposals came during Congress' debt ceiling debate. These negotiations resulted in the Budget Control Act of 2011, which increased the debt ceiling by \$400 billion and established a Joint Select Committee on Deficit Reduction, colloquially known as the Super Committee, to reduce the deficit by at least \$1.5 trillion over a ten-year period.<sup>215</sup> While Super Committee members expressed interest in adopting Senators Rockefeller and Hutchinson's Public Safety Spectrum and Wireless Innovation Act to help alleviate the nation's debt,<sup>216</sup> the committee ultimately failed to meet its November 23 deadline.<sup>217</sup>

There were also rumors of including Representative Walden's bill into payroll tax extension legislation. Eventually, the JOBS Act was folded into the Middle Class Tax Relief and Job Creation Act and passed by the House by a 234-193 vote on December 13.<sup>218</sup> While the Senate approved the Middle Class Tax Relief and Job Creation Act by a vote of 89-10 on December 17, it dropped the JOBS Act from the final version of the bill after Democrats argued the provisions limited the FCC's ability to conduct incentive auctions.<sup>219</sup> Given the impending Congressional recess, it appears that the status of voluntary incentive auctions will remain unanswered until 2012 at the earliest.

#### IV. THE BENEFITS OF VOLUNTARY INCENTIVE AUCTIONS

As noted, the FCC's auction authority terminates on September 30, 2012.<sup>220</sup>

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<sup>213</sup> See 157 CONG. REC. S4870 (daily ed. July 25, 2011) (statement of Sen. Harry Reid).

<sup>214</sup> See 157 CONG. REC. S4934 (daily ed. July 27, 2011) (statement of Sen. Mark Kirk).

<sup>215</sup> Budget Control Act of 2011, Pub. L. No. 112-25, §§ 301, 401(b)(1)-(2), 125 Stat. 240, 251-52, 259 (2011).

<sup>216</sup> See Brendan Sasso, *Rockefeller, Hutchison Urge Supercommittee to Adopt Spectrum Bill*, THE HILL (Oct. 14, 2011), <http://commcns.org/vKGo8a>.

<sup>217</sup> See Press Release, Statement from Co-Chairs of the Joint Select Committee on Deficit Reduction (Nov. 21, 2011), <http://commcns.org/v5XreE>; Brendan Sasso, *Supercommittee Fails, Closing Avenue for Spectrum Overhaul*, THE HILL (Nov. 21, 2011), <http://commcns.org/tvBIUr>.

<sup>218</sup> See Katy Bachman, *Spectrum Legislation Passes House: Part of Larger Bill, Spectrum Faces Uncertain Future in Senate*, ADWEEK (Dec. 13, 2011), <http://commcns.org/rQi0Kl>. See also Middle Class Tax Relief and Job Creation Act, H.R. 3630, 112th Cong. §§ 4001-4402 (2011).

<sup>219</sup> See Brendan Sasso, *Spectrum Dropped from Payroll Tax Deal*, THE HILL (Dec. 17, 2011), <http://commcns.org/uswmbi>.

<sup>220</sup> 47 U.S.C. § 309(j)(11) (2006), amended by Pub. L. No. 111-4, § 5, 123 Stat. 112, 114

This expiration date should compel Congress to extend the traditional competitive bidding that the FCC has employed since 1993 and expand the FCC's authority to include voluntary incentive auctions.<sup>221</sup> President Obama has stated that voluntary incentive auctions are "critical" for unleashing spectrum to meet the nation's mobile broadband spectrum goals.<sup>222</sup> The President predicts that nearly ten billion dollars could be devoted to deficit reduction over the next decade if licensees were provided with the opportunity to relinquish a portion of their spectrum for mobile broadband auctions.<sup>223</sup> The remainder of this Note argues that Congress should authorize the FCC to conduct voluntary incentive auctions. Members of Congress must recognize that voluntary incentive auction authority would create a number of benefits, including deferring the looming mobile spectrum crisis, reducing national debt, protecting incumbent licensees, and advancing a market-based spectrum policy.

Wireless networks soon will be unable handle the amount of bandwidth used by consumers, moving mobile broadband industry leaders to stress the importance of quickly freeing spectrum.<sup>224</sup> The National Broadband Plan explained that revising, revisiting, and reallocating spectrum takes an average of six to thirteen years.<sup>225</sup> Given this time frame, the mobile spectrum crisis will have already arrived if the FCC chose to repurpose spectrum under its current statutory authority.<sup>226</sup> At that point and with very few options to meet the public interest and demand for mobile services, the FCC may resort to forcibly repurposing spectrum for mobile broadband, an action that would likely be challenged and overturned in court.<sup>227</sup> Rather than risking such a possibility, Congress should authorize the FCC to conduct voluntary incentive auctions with a mechanism to quickly act on the new authority.

If provided with the authority, the FCC has noted that its voluntary incentive auction plans would be strictly voluntary and would reflect elements of the proposed bills and issues introduced in the *Broadcast Innovation NPRM*.<sup>228</sup>

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(2009).

<sup>221</sup> Omnibus Budget Reconciliation Act, Pub. L. No. 103-66, § 6002, 107 Stat. 312, 387 (1993).

<sup>222</sup> Press Release, The White House, Office of the Press Sec'y, President Obama Details Plan to Win the Future Through Expanded Wireless Access (Feb. 10, 2011), available at <http://comcomns.org/uiLaiQ>.

<sup>223</sup> *Id.*

<sup>224</sup> Howard Buskirk & Yu-Ting Wang, *Genachowski Renews Warnings of Spectrum Crisis*, COMM. DAILY (Oct. 22, 2010).

<sup>225</sup> NATIONAL BROADBAND PLAN, *supra* note 5, at 79 exhibit 5-C.

<sup>226</sup> Compare *id.*, with COMMISSION SPECTRUM REPORT, *supra* note 2, at 2; CISCO MOBILE DATA TRAFFIC REPORT, *supra* note 2, at 5; and OBI TECHNICAL PAPER NO. 3, *supra* note 90, at 4.

<sup>227</sup> See, e.g., *FCC v. NextWave Personal Commc'ns Inc.*, 537 U.S. 293, 307-08 (2003).

<sup>228</sup> See William Lake, Chief, Media Bureau, FCC, Remarks to the National Alliance of

While the Commission has not foreclosed the possibility of outlining methods for voluntary incentive auctions of other spectrum bands, such as MSS, to date it has specified plans only for the broadcast bands.<sup>229</sup> Specifically, the Commission has mapped out three different ways in which a broadcast television licensee could voluntarily participate in an incentive auction.<sup>230</sup> First, an incumbent broadcast licensee could contribute its full 6 MHz channel for an auction.<sup>231</sup> Alternatively, two incumbent licensees could elect to share a 6 MHz channel via a private agreement, thereby relinquishing 6 MHz together.<sup>232</sup> Finally, an incumbent licensee could choose to contribute its UHF spectrum and move its channel to the VHF band.<sup>233</sup> Under all three methods, the licensee would confidentially submit a reserve price with the FCC, representing the minimum amount it would collect in its share of the proceeds after an auction.<sup>234</sup> If the FCC accepts the reserve price, the spectrum would be eligible for competitive bidding, the proceeds of which would be shared by the broadcast participant and the U.S. Treasury.<sup>235</sup>

Within this proposed scheme, the FCC has clarified that any broadcast licensee choosing to volunteer for the second or third options would retain its must carry rights and all other statutory and regulatory rights.<sup>236</sup> Additionally, the FCC maintains that any broadcast licensee choosing not to participate will be in a strong position to provide the public with the benefit of free OTA television.<sup>237</sup> While the Commission has yet to determine the exact structure of the auction or how the incumbent licensee and U.S. Treasury would share proceeds, the agency has recognized two important technical considerations.<sup>238</sup> First, LTE, to which most mobile wireless providers are transitioning, must be deployed in clear spectrum with bandwidth as wide as 20 MHz of paired spectrum.<sup>239</sup> Second, the upper VHF band is the most attractive portion of the

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State Broadcaster Associations: The FCC's Incentive Auction Proposal: New Options for Broadcasters (Feb. 28, 2011) [hereinafter *FCC Incentive Auction Proposal*], available at <http://commcns.org/rPhZU>.

<sup>229</sup> *Id.*

<sup>230</sup> *Id.*

<sup>231</sup> *Id.*

<sup>232</sup> *Id.*

<sup>233</sup> *Id.*

<sup>234</sup> See FCC Incentive Auction Proposal, *supra* note 228.

<sup>235</sup> *Id.*

<sup>236</sup> *Id.*

<sup>237</sup> *Id.*

<sup>238</sup> *Id.*

<sup>239</sup> Erica Ogg, *More Carriers, Handset Makers Endorse LTE*, CNET NEWS (Apr. 14, 2008), <http://commcns.org/sB32CI>; Marguerite Reardon, *Alltell Joins LTE Bandwagon*, CNET NEWS (May 16, 2008), <http://commcns.org/vwRzjZ>; *Long Term Evolution – LTE*, MOTOROLA, <http://commcns.org/vEcR0M> (last visited Dec. 15, 2011); VERIZON WIRELESS, *LTE: THE FUTURE OF MOBILE BROADBAND TECHNOLOGY* 10-11, available at <http://commcns.org/sd8K5U> (last visited Dec. 15, 2011).

broadcast television band due to its propagation characteristics and proximity to the 700 MHz band.<sup>240</sup>

As a result, the FCC has outlined three guidelines for spectrum realignment that would open the upper-most portion of the 700 MHz band for competitive bidding.<sup>241</sup> First, the agency has offered to pay for any channel relocation costs incurred by nonparticipants.<sup>242</sup> Additionally, the realignment would require only a re-scan of the relocated channel, rather than any change in signal contours or consumer equipment, making it simple for broadcasters.<sup>243</sup> Finally, no nonparticipating VHF broadcast licensee will be relocated to the UHF band.<sup>244</sup>

While the FCC already has a plan for implementing voluntary incentive auctions that complements much of the proposed legislation, stakeholders may make it difficult for the government to act in a timely fashion.<sup>245</sup> For example, NAB could argue that the FCC has not afforded enough protections for broadcast licensees. The Commission's voluntary incentive auction ideas are more likely to be challenged by broadcasters than mobile wireless companies or MSS providers, given how each industry has responded to the goals outlined in the National Broadband Plan.

Some pundits also predicted that AT&T and T-Mobile's proposed merger-acquisition would hinder the passage of voluntary incentive auctions in the 112th Congress.<sup>246</sup> While the companies withdrew their merger application and signaled their intent to move on from the acquisition,<sup>247</sup> proposed secondary transactions to acquire large swaths of spectrum could be wrapped up in such

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<sup>240</sup> See *FCC Incentive Auction Proposal*, *supra* note 228. See also *United States Frequency Allocations: The Radio Spectrum*, U.S. DEPT. OF COMM. NAT'L. TELECOM. INFO. ASSOC., <http://commcns.org/sAi2Q0> (last visited Dec. 15, 2011); OBI TECHNICAL PAPER NO. 3, *supra* note 90, at 1.

<sup>241</sup> See *FCC Incentive Auction Proposal*, *supra* note 228.

<sup>242</sup> *Id.*

<sup>243</sup> *Id.*

<sup>244</sup> *Id.*

<sup>245</sup> *Cf. In re* Amendment of Part 27 of the Commission's Rules to Govern the Operation of Wireless Communications Services in the 2.3 GHz Band; Establishment of Rules and Policies for the Digital Audio Radio Satellite Service in the 2310-2360 MHz Frequency Band, *AT&T Petition for Partial Reconsideration*, WT Docket No. 07-293, IB Docket No. 95-91, GEN Docket No. 90-357, RM-8610, at 3-4 (Sept. 1, 2010) (providing an example of a stakeholder's challenge to an FCC rule, when AT&T challenged the WCS proceeding because its requirement to deploy a network within three and a half years was too fast to meet the technical requirements). See also discussion, *supra* Part III.A.

<sup>246</sup> See Sara Jerome, *Analyst: AT&T Deal Could Delay Spectrum Bills*, THE HILL (Mar. 23, 2011), <http://commcns.org/rXAa38>.

<sup>247</sup> See Cecilia Kang, *AT&T and T-Mobile Pull FCC Merger Application, Shift Focus to Justice Dept. Case*, WASH. POST (Nov. 24, 2011), <http://commcns.org/u4gF0k>; Cecilia Kang, *AT&T Gives Up on T-Mobile Merger*, WASH. POST (Dec. 19, 2011), <http://commcns.org/uaY0qG>.

an argument, as well. For example, the same pundits might argue that AT&T's purchase of spectrum from Qualcomm and Verizon Wireless' pending agreement to buy spectrum from cable companies would slow down the passage of a voluntary incentive auction bills.<sup>248</sup> However, mergers and secondary market transactions that require Commission approval should be independent from the question whether voluntary incentive auction authority legislation will pass in a timely fashion. Instead, voluntary incentive auction authority should be perceived as affecting more than only certain services such as mobile broadband because tying the statutory authority to its most immediate purpose focuses too narrowly on the public interest in commercial spectrum. The opportunities through which FCC licensees could manage spectrum and meet customers' interest in adopting innovative services would be fulfilled more easily if the Commission were equipped with an effective tool, such as voluntary incentive auctions in its proverbial spectrum use toolbox.

If Congress grants the FCC incentive auction authority and demands a voluntary and transparent process, it is doubtful that broadcast licensees would thwart the implementation of a quick repurposing process. Given the revelation of the Commission's plans, and the fact that the proposed legislation is publicly available, broadcast licensees already are able to assess whether to participate and how they can take advantage of the opportunity. As a result, they will likely weigh the pros and cons of the following options: (1) continued operation on its full 6MHz channel, with all possible channel relocation costs insured by the auction proceeds; (2) a channel-sharing agreement with another broadcast licensee, enabling it to maintain its licensee rights and receive capital for continued operation; (3) moving from its VHF channel to the UHF band; and (4) relinquishing of all of its spectrum, resulting in a capital infusion. Each of these options would provide the licensee with more flexibility and a new source of revenue.<sup>249</sup>

Upon introducing his bill, Representative Barrow stated that voluntary incentive auctions are a concrete proposal to reduce the national debt.<sup>250</sup> The recession years have been marked by a widely adopted nascent market—

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<sup>248</sup> See *In re Application of AT&T Inc. and Qualcomm Incorporated for Consent to Assign Licenses and Authorizations*, Order, FCC 11-188, WT Docket No. 11-18 (Dec. 22, 2011), available at <http://commcns.org/s4Xwv8>; Cecilia Kang, *Verizon Asks FCC to Quickly Approve \$3.6B Spectrum Buy from Cable*, WASH. POST (Dec. 19, 2011), <http://commcns.org/tNArqm>.

<sup>249</sup> See OBI TECHNICAL PAPER NO. 3, *supra* note 90, at 6; *FCC Incentive Auction Proposal*, *supra* note 228.

<sup>250</sup> Press Release, Barrow Introduces Bill to Pay Down National Debt by Auctioning Unused Broadcast Spectrum (Mar. 2011), <http://commcns.org/vvHvro>.



namely, the iPhone era of mobile wireless technologies.<sup>251</sup> President Obama has recognized Congress' unique opportunity to take advantage of this popular wireless trend.<sup>252</sup> Additionally, a voluntary incentive auction scheme would be consistent with pledges to improve the U.S. economy, given that the money collected by the U.S. Treasury would outweigh any spending required to implement the proposed authority.<sup>253</sup>

Industry and government analyses agree that voluntary incentive auctions would increase revenue for the U.S. Treasury.<sup>254</sup> CTIA and the Consumer Electronics Association ("CEA") examined past auctions for mobile broadband uses and estimated that voluntary auctions for 120 MHz of broadcast TV spectrum would result in bids totaling at least \$30 billion.<sup>255</sup> The report also details the positive windfalls to the broadcast industry and the Federal government.<sup>256</sup> Similarly, both the FCC and White House budgets estimated that voluntary incentive auctions would provide \$28 billion and \$27.8 billion to the U.S. Treasury, respectively, within the next 10 years.<sup>257</sup>

The 112th Congress has the opportunity to bring money into the federal coffers and create a flexible, market-based policy that would produce benefits for both the holders selling and buying spectrum.<sup>258</sup> The current FCC spectrum statutory scheme does not challenge spectrum holders to use the spectrum at its

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<sup>251</sup> See discussion, *supra* Part II.B.

<sup>252</sup> State of the Union Address, *supra* note 61.

<sup>253</sup> Compare FCC's Fiscal 2012 Budget Request: Hearing Before the Subcomm. on Fin. Servs. and Gen. Gov't of the H. Comm. on Appropriations, 112th Cong. 13 (2011) (statement of Julius Genachowski, Chairman, FCC) (explaining that Congress has routinely capped the FCC at \$85 million annually to conduct auctions), with Press Release, President Obama Details Plan to Win the Future Through Expanded Wireless Access (Feb. 10, 2011), <http://commcns.org/uiLaiQ> (expecting to gain \$27.8 billion from voluntary incentive auctions).

<sup>254</sup> See, e.g., CTIA THE WIRELESS ASS'N & CONSUMER ELEC. ASS'N, BROADCAST SPECTRUM INCENTIVE AUCTIONS 2 (2011); *Promoting Broadband, Jobs, and Economic Growth Through Commercial Spectrum Auctions: Hearing Before the Subcomm. on Commc'ns and Tech. of the H. Comm. on Energy and Commerce*, 112th Cong. 1 (2011) (statement of Dean R. Brenner, Vice President of Gov't Affairs, QUALCOMM Inc.), <http://commcns.org/ttARtH>; *Promoting Broadband, Jobs, and Economic Growth Through Commercial Spectrum Auctions: Hearing Before the Subcomm. on Commc'ns and Tech. of the H. Comm. on Energy and Commerce*, 112th Cong. 1 (2011) (statement of the Hon. Greg Walden, Chairman, Subcomm. on Commc'ns and Tech.), <http://commcns.org/ttARtH>.

<sup>255</sup> CTIA THE WIRELESS ASS'N & CONSUMER ELEC. ASS'N, BROADCAST SPECTRUM INCENTIVE AUCTIONS 9 (2011).

<sup>256</sup> *Id.* at 1, 8-10.

<sup>257</sup> FCC BUDGET FY 2012, *supra* note 30, at 17; OFFICE OF MGMT & BUDGET, EXEC. OFFICE OF THE PRESIDENT, FISCAL YEAR 2012 BUDGET OF THE UNITED STATES GOVERNMENT 39-40 (2011).

<sup>258</sup> Letter from Paul Milgrom et al., Economists, to President Barack Obama 1-2 (Apr. 6, 2011).

highest value.<sup>259</sup> Differences between the broadcast television and mobile broadband industries demonstrate this fact; while the mobile wireless market rapidly expands, the number of Americans who watch OTA broadcast television content steadily declines.<sup>260</sup> Even if broadcast licensees find a successful method to offer their product on a mobile platform,<sup>261</sup> broadcast television content lacks the consumer demand that existing mobile streaming video applications enjoy.<sup>262</sup> Moreover, if the Commission institutes a truly voluntary incentive auction process, broadcast television licensees who want to deliver innovative services such as mobile-DTV could maintain the ability to simulcast an HD station, along with its innovative television service, by keeping its full 6 MHz channel.<sup>263</sup>

Radio spectrum is most efficiently used with a flexible, market-based approach rather than a government-managed command-and-control approach.<sup>264</sup> Although it would not be a classic contract or property model, voluntary incentive auctions more closely adopt Congress' desired spectrum value and efficiency impact than the FCC's current statutory authority. Moreover, the FCC is less likely to be sued due to the voluntary nature of its proposed incentive auctions.<sup>265</sup> Although voluntary time and channel sharing for broadcast radio spectrum failed in the 1920s, that situation is easily distinguishable from voluntary incentive auctions with FCC oversight in 2011.<sup>266</sup>

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<sup>259</sup> DIGITAL CROSSROADS, *supra* note 17, at 238; Letter from Paul Milgrom et al., Economists, to President Barack Obama 1-2 (Apr. 6, 2011).

<sup>260</sup> See discussion, *supra* Part II.B; Stuart M. Benjamin, *Roasting the Pig to Burn Down the House: A Modest Proposal*, 7 J. ON TELECOMM. & HIGH TECH. L. 95, 98-99 (2009).

<sup>261</sup> See, e.g., *In re Innovation in the Broadcast Television Bands: Allocations, Channel Sharing and Improvements to VHF*, *Comments of The National Association of Broadcasters and The Association for Maximum Service Television*, ET Docket No. 10-235, at i-ii, 13 (Mar. 18, 2011); *In re Innovation in the Broadcast Television Bands: Allocations, Channel Sharing and Improvements to VHF*, *Comments of The Open Mobile Video Coalition*, ET Docket No. 10-235, at 1 (Mar. 18, 2011).

<sup>262</sup> Darrell Etherington, *Direct Over-The-Air TV Coming to iPad and iPhone*, GIGAOM (Jan. 5, 2011), <http://commcns.org/tBePMO>.

<sup>263</sup> *In re Innovation in the Broadcast Television Bands: Allocations, Channel Sharing and improvements to VHF*, *Comments of National Association of Broadcasters and The Association for Maximum Service Television, Inc.*, ET Docket No. 10-235, at 18 n.47 (Mar. 18, 2011).

<sup>264</sup> See e.g., Jerry Brito, *The Spectrum Commons in Theory and Practice*, 2007 STAN. TECH. L. REV. 1, 1 (2007).

<sup>265</sup> See, e.g., Brooks V. Rice, *The "Triumph" of the Commons: An Analysis of Enforcement Problems and Solutions in the Western Climate Initiative*, 22 PAC. MCGEORGE GLOBAL BUS. & DEV. L.J. 401, 409, 418, 425-26 (2010) (explaining that when regulations concerning sulfur dioxide emissions transitioned from the Environmental Protection Agency's standard command-and-control approach to a market-based, incentive rules, less litigation resulted).

<sup>266</sup> See STUART MINOR BENJAMIN ET AL., TELECOMMUNICATIONS LAW AND POLICY 18-21

## V. CONCLUSION

It is vital that Congress expand the FCC's current auction authority to include voluntary incentive auctions. September 30, 2012 marks a unique opportunity to reform the FCC's auction authority to reflect a flexible, market-based spectrum policy that protects the interests of all parties and results in financial windfall for the U.S. Treasury. The most effective version of this legislation should prohibit involuntary reclamation of spectrum explicitly, direct the FCC to implement its voluntary incentive auction plan quickly, streamline the proceeds sharing among auction participants and U.S. Treasury, and create non-monetary incentives that would protect the incumbents' regulatory rights. The market-based mechanisms of voluntary incentive auctions would provide the appropriate level of government oversight while inducing FCC licensees to employ their spectrum at its highest and most valuable use.

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(2d ed. 2006) (explaining that President Hoover could only encourage voluntary agreements between radio broadcast stations, and enjoyed no authority to propose rules to advance his voluntary policies or deny applications for spectrum use. In contrast, if voluntary incentive auction legislation were enacted, the FCC would oversee the voluntary incentive auctions to preserve the public interest).

