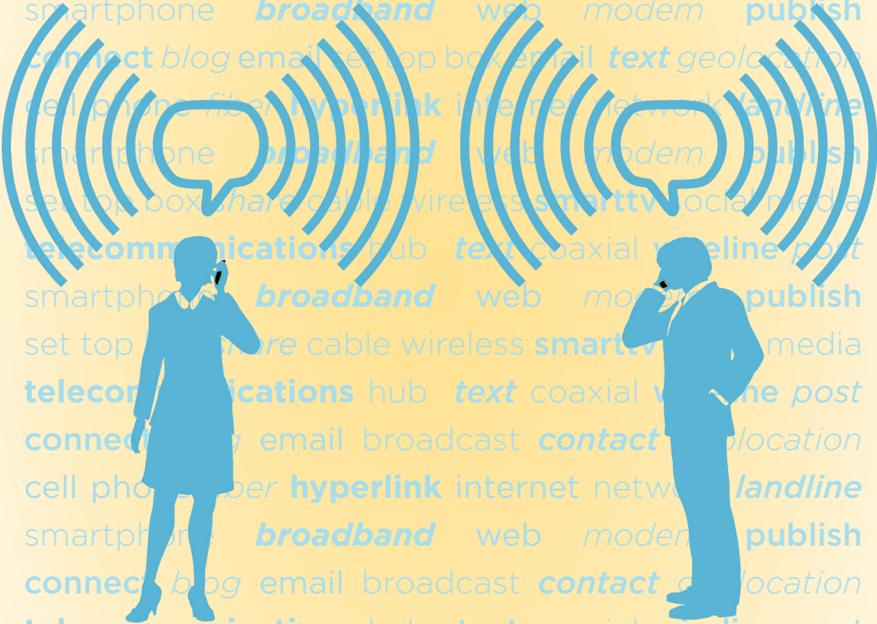


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# Telecom Unplugged:

## Ushering in a New Digital Era

By Deborah S. Collier  
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# TELECOM UNPLUGGED: USHERING IN A NEW DIGITAL ERA

## INTRODUCTION

In October 2007, Citizens Against Government Waste (CAGW) published *Telecom Regulation: Pulling the Plug on Government Interference*. The report noted that the rapid deployment of new technology was leaving a bevy of federal regulations over the telecommunications and cable industries in the dust. Today's converging communications and information technology (IT) environment has greatly enhanced and expanded how people around the world communicate and share information. The rapid adoption of Smartphone technology has enabled people to carry computers in the palms of their hands, and today's college freshmen are routinely equipped with laptops, cell phones, and tablets. The list of new mobile computing devices grows daily. This report, *Telecom Unplugged: Ushering in a New Digital Era*, updates CAGW's 2007 report.

Music and video are no longer limited to the living room but can be enjoyed through a wide range of options, including cable, fiber optic, satellite, and broadband, as well as wireless devices, anywhere at any time. Social media platforms including Facebook, Twitter, Pinterest, and others have become major sources of information sharing. At the 2013 Cable Show, cloud-based video platforms were introduced by Comcast and Time Warner Cable that would provide video programming and storage to consumers. Despite these innovations, the communications industry is still saddled with a regulatory regime that harkens back to the early 1930s and, for common carriers, back to the early days of the railroad industry in the late 1800s.

The Communications Act of 1934 was the first formal attempt to provide regulatory continuity to the growing telephone industry as it began to reach across the nation and connect people thousands of miles away from each other through a copper-wire line. In 1992, the Cable Act was passed in response to concerns that the broadcast industry needed protection when dealing with cable companies. The Telecommunications Act of 1996 further regulated both the telephone and cable industries following the breakup of the Bell companies.

None of those laws foresaw today's rapidly changing innovative marketplace, nor did they account for any future changes in technology that will greatly expand communications. While the communications industry continues to rapidly evolve, the federal government moves at a

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snail's pace to adapt, leaving in place old models governing technology and communications that should no longer apply to modern times. Unfortunately, these obsolete telecommunications regulations are stifling innovation and putting taxpayers and consumers at risk.

In his 1984 book, *Burning Money, The Waste of Your Tax Dollars*, that summarized the Grace Commission's findings, Peter Grace described the technological ignorance pervading the federal government. At the time of the book's publication, the average age of a government computer was 6.7 years; the average computer used by a U.S. business was three years old. Government computer systems were incompatible and required service technicians specifically trained to maintain the outdated equipment. The extra bodies added \$1 billion to the federal payroll over a three-year period. Meanwhile, in the private sector, IBM's General Systems Division updated its computer technology, saving \$360,000 in the first six months after installation, and the Boeing Military Airplane Company's new word processing system saved \$483,000 over a nine-month period.

In the 30 years since Mr. Grace published his book and co-founded CAGW with syndicated columnist Jack Anderson, the federal government's technological ineptitude has persisted. The current telecommunications debates and the federal government's attempts to regulate the industry are symptoms of larger problems.

From 1989 to 2000, 223 bills were introduced in Congress dealing with some portion of the telecommunications industry; 22 of them, including the Telecommunications Act of 1996, were signed into law. From 2001 to 2010, only 78 such bills were introduced, seven of which became law. The 2012 edition of Title 47, the chapter of the U.S. Code governing the telecommunications industry, now encompasses 3,668 pages. While the private sector speeds ahead with more innovation in response to consumer demand, the federal government lags behind trying to play catch up and fails to see the impact of its policies on taxpayers and consumers.

The telecommunications industry generates approximately \$347 billion annually or 2.4 percent of the GDP as measured by output, labor, input, investment and international trade;<sup>1</sup> and provides 2 million

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<sup>1</sup> OECD (2013), "STAN Industry Rev. 4," STAN: OECD Structural Analysis Statistics (database), Doi: 10.1787/3151-00649-en, [http://www.oecd-ilibrary.org/industry-and-services/data/stan-oecd-structural-analysis-statistics/stan-industry-rev-4\\_data-00649-en;jsessionid=h5cd4n3j3vr9.x-oecd-live-01?isPartOf=/content/datacollection/stan-data-en](http://www.oecd-ilibrary.org/industry-and-services/data/stan-oecd-structural-analysis-statistics/stan-industry-rev-4_data-00649-en;jsessionid=h5cd4n3j3vr9.x-oecd-live-01?isPartOf=/content/datacollection/stan-data-en).

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direct and indirect jobs.<sup>2</sup> Yet this innovative and important sector of the economy remains hampered with antiquated laws and regulations.

This paper reviews several areas where government intervention or lack of intervention harms taxpayers and consumers. Topics include the implications of current and proposed Internet tax laws, federally funded broadband deployment, the provision of tools such as spectrum to enable improved communications across the nation, and Internet governance issues in the United States and around the world.

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<sup>2</sup>“Industry Data,” National Cable and Telecommunications Association, <https://www.ncta.com/industry-data>.

## CHAPTER 3: OVER THE AIRWAVES

Broadcast and wireless communications technologies rely on the ability to transmit data through spectrum from one point to another. Since 1994, the FCC has been auctioning spectrum, which has benefitted both taxpayers and the communications industry. However, as mobile communications have expanded, the available spectrum has become increasingly stretched. To help resolve this situation, Congress ordered the FCC to come up with a plan for auctioning spectrum in both a reverse auction from broadcasters and a forward auction for the mobile industry.

Multichannel video programming distributors (MVPDs) through broadcast spectrum, including cable, satellite, and fiber optic, rely on a tiered system of packaging various shows together, from basic to premium. Within the tiered system, MVPDs have been able to deliver a wide variety of programming to viewers, enabling them to discover new networks and shows, and broaden their viewing experience.

Despite the success of this arrangement, there have been efforts to allow viewers to purchase individual programs under à la carte pricing, which would permit consumers to select their programming from a menu, and pay only for the individual channels they want to receive. However, much like choosing each individual component of a dinner as a side order, thereby increasing the ultimate cost of dining out, à la carte programming would increase costs to both MVPDs and consumers.

This chapter addresses spectrum and à la carte.

### A PRIMER ON THE SPECTRUM AUCTIONS

It can't be seen, touched, smelled or tasted. Although invisible, spectrum is vital, valuable and limited in availability due to the growing use of mobile technology, digital goods, and mobile Internet.

Spectrum ranges from low at 40 megahertz (MHz) and below, used for such devices as garage door openers, to high at 2300 MHz and above, used on deep-space radio communications among other complex equipment. Different bands of spectrum have different properties. For example, wireless routers operate on a very high frequency, in gigahertz (GHz). This allows a

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lot of data to be packed into transmissions, but within a limited range. Most wireless phones operate on the 800 MHz band because the properties of this part of the spectrum allow transmissions from phones to travel long distances as well as through buildings. The 700 MHz band is also extremely valuable to telecommunications companies because it has similar properties to the 800 MHz band for wireless phones.

In the 1980s, the FCC gave portions of the spectrum away in a lottery system. Participants filled out complicated applications and handed over a \$155 fee for the chance to win the right to broadcast on spectrum. Those who won the spectrum would often resell their winnings for millions of dollars, which could have gone into federal coffers and been used to pay down the debt, lower taxes, or provide additional public services. Instead, it went to people with enough time and legal expertise to complete the complex lottery application.

In 1993, the FCC began to auction off parts of the spectrum instead of simply giving it away. The first auctions of the 800 MHz band brought the government \$15 billion in revenue. The result was a wellspring of innovative products and services such as text messaging and Caller ID.<sup>129</sup>

The strain on available spectrum is evidenced by surveys conducted by the Pew Internet & American Life Project, which evaluated demographic information of wireless phone users and wireless Internet users. According to Pew's September 2012 report, 91 percent of U.S. adults own a cell phone.<sup>130</sup> Pew's Cell Phone Activities report issued in November 2012 indicated that 56 percent of cell phone owners use their phones to access the Internet.<sup>131</sup>

On January 7, 2013, *Wireless Week* reported that nearly 17.4 million mobile devices, including tablets, Smartphones, and cell phones were activated on Christmas Day 2012.<sup>132</sup> In addition, nearly 1.76 billion applications were downloaded during the holiday week.

As the number of mobile devices and applications increase, so does

<sup>129</sup> Martha McKay, "Auctioning the Airwaves," <http://www.northjersey.com/page.php?gstr=eXJpcnk3Zjcx-N2Y3dnFIZUVFeXkyJmZnYmVsN2Y3dnFIZUVFeXk2OTY0MTE1>, (October 1, 2007).

<sup>130</sup> Hayley Tsukayama, "A Majority of All American Adults Own a Smartphone, Poll Says," *The Washington Post*, June 5, 2013, [http://www.washingtonpost.com/business/technology/a-majority-of-all-american-adults-own-a-smartphone-poll-says/2013/06/05/49384608-cde2-11e2-8f6b-67f40e176f03\\_story.html?wpisrc=nl\\_tech\\_b](http://www.washingtonpost.com/business/technology/a-majority-of-all-american-adults-own-a-smartphone-poll-says/2013/06/05/49384608-cde2-11e2-8f6b-67f40e176f03_story.html?wpisrc=nl_tech_b).

<sup>131</sup> Mauve Duggan, Lee Rainie, "Cell Phone Activities 2012, Additional Demographic Analysis," Pew Internet & American Life Project, November 25, 2012, <http://pewinternet.org/Reports/2012/Cell-Activites/Additional-Demographic-Analysis/Demographics.aspx>.

<sup>132</sup> Andrew Berg, "Apple App Store Hits 40 Billion App Downloads," *Wireless Week*, January 7, 2013, <http://www.wirelessweek.com/news/2013/01/apple-app-store-hits-40-billion-app-downloads>.

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the need for additional spectrum. The June 2013 early release report on wireless substitution by the CDC indicated that the percentage of adults and children living in households with wireless only telephone service has been steadily increasing since 2003. The wireless-only population was 36.5 percent and overall household adoption of wireless reached 89 percent of the U.S. population as of the end of 2012.<sup>133</sup>

A September 2012 Deloitte study found that between 1994 and 2000, spectrum auctions conducted by the FCC tripled the amount of available spectrum for commercial use, prompting a 250 percent increase in investments and a 300 percent increase in jobs in the mobile marketplace.<sup>134</sup> The study's authors made several recommendations they believe will help the U.S. maintain its lead in mobile broadband.

For example, policymakers should address potential spectrum deficits through spectrum auctions and look for new approaches to spectrum management. Policymakers should also resolve the uncertainties that currently reside in spectrum management; consider commercially available spectrum as an investment toward improving the economy and increasing jobs; combine traditional spectrum auctions with a viable secondary spectrum market; allocate large blocks of spectrum based on technology driven criteria; and, create a principles-based license renewal process, which would align license holders and spectrum policies with changing technology and economic realities.<sup>135</sup>

In a September 16, 2012 op-ed, former FCC Chairman Julius Genachowski explained why additional spectrum is so critical to the economy. He estimated that nearly 1.6 million U.S. jobs had been created over the past five years due to innovations in mobile technology, including nearly 500,000 jobs in mobile apps.<sup>136</sup>

In 2012, worldwide mobile phone sales to end users reached 1.75 billion units, with Smartphone sales reaching 207.7 million units during

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<sup>133</sup> Stephen J. Blumberg, Ph.D., and Julian V. Luke, "Wireless Substitution: Early Release of Estimates From the National Health Interview Survey, July—December 2012," Centers for Disease Control, Division of Health Interview Statistics, National Center for Health Statistics, June 2013, <http://www.cdc.gov/nchs/data/nhis/earlyrelease/wireless201306.pdf>.

<sup>134</sup> "Airwave Overload? Addressing Spectrum Strategy Issues that Jeopardize U.S. Mobile Broadband Leadership," Deloitte Development LLC., September 2012, [http://www.deloitte.com/assets/Dcom-UnitedStates/Local%20Assets/Documents/TMT\\_us\\_tmt/us\\_tmt\\_Spectrum\\_Thought\\_Leadership\\_September\\_092512.PDF](http://www.deloitte.com/assets/Dcom-UnitedStates/Local%20Assets/Documents/TMT_us_tmt/us_tmt_Spectrum_Thought_Leadership_September_092512.PDF).

<sup>135</sup> *Ibid.*

<sup>136</sup> Julius Genachowski, "The Need for Speed," *Tech Crunch*, September 16, 2012, [http://techcrunch.com/2012/09/16/the-need-for-speed/?wpisrc=nl\\_tech](http://techcrunch.com/2012/09/16/the-need-for-speed/?wpisrc=nl_tech).

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the fourth quarter of 2012, a 38.8 percent increase over the same period in 2011.<sup>137</sup> Worldwide sales of tablets are expected to reach 184.4 million units in 2013, more than 64 million above the number sold in 2012.<sup>138</sup> With this exponential growth in mobile computing, mobile data traffic has a five-year compounded annual growth rate of 75 percent, with data traffic expected to reach nearly 2 exabytes per month by 2016.<sup>139</sup>

Spectrum also played a part in the 9/11 attacks. As the initial shock from 9/11 receded, the country began to wrestle with more than the questions about what happened and why. On a tactical level, the National Commission on Terrorist Attacks Upon the United States, also known as the 9/11 Commission, showed that the incredible bravery of the first responders to the World Trade Center attack in Manhattan contrasted with inadequate radio communications that made it difficult for personnel from different agencies to communicate and even hampered communications within departments. There were approximately 2,700 people who died that day, including 403 first responders: 343 firefighters and 60 police officers. The 9/11 Commission also found that communications interoperability was a problem during Hurricane Katrina.

The federal government's first attempt to coordinate interoperability of multiple federal initiatives was through Project SAFECOM. In October 2001, SAFECOM was developed to help achieve one of the five priorities in President Bush's Management Agenda to expand electronic government. The goal of SAFECOM, which is administered by DHS, is to "provide research, development, testing and evaluation, guidance, tools, and templates on communications-related issues to local, tribal, state, and Federal emergency response agencies working to improve emergency response through more effective and efficient interoperable wireless communications."<sup>140</sup>

In April 2004, GAO said that SAFECOM's "overall objective of achieving communications interoperability among emergency response entities at all levels of government is a challenging task that will take many

<sup>137</sup> "Gartner Says Worldwide Mobile Phone Sales Declined 1.7 Percent in 2012," Gartner, February 13, 2013, <http://www.gartner.com/newsroom/id/2335616>.

<sup>138</sup> "Gartner Says Worldwide PC, Tablet and Mobile Phone Shipments to Grow 4.5 Percent in 2013 as Lower-Priced Devices Drive Growth," Gartner, October 21, 2013, <http://www.gartner.com/newsroom/id/2610015>.

<sup>139</sup> Bret Swanson, "Soft Power: Zero to 60 Billion in Four Years," Entropy Economics, December 5, 2012, <http://entropyeconomics.com/wp-content/uploads/2012/12/Soft-Power-Zero-to-60-Billion-Bret-Swanson-12.05.12.pdf>.

<sup>140</sup> SAFECOM, <http://www.safecomprogram.gov/SAFECOM/about/default.htm>.

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years to fully accomplish. Project SAFECOM, in its 2-year history, has made very limited progress in addressing this objective.”<sup>141</sup> In case of a terrorist attack or a natural disaster, first responders from all levels and various jurisdictions need to be able to communicate with one another. However, according to the GAO report, “the wireless communications used today by many police officers, firefighters, emergency medical personnel and other public safety agencies do not provide such capability, which hinders their ability to respond.”<sup>142</sup>

Through the SAFECOM program, DHS identified eight departments and one branch of the military that offered various federal grant programs for state and local first response organizations to fund public safety emergency communications: USDA, Commerce (DOC), Education, HHS, DHS, Interior, DOJ, Transportation, and the U.S. Navy. There are now 25 grant programs available for public safety communications for state and local entities from USDA, DOC, DOJ, DHS, and HHS.<sup>143</sup>

In February 2012, GAO recommended that DHS work with partners to identify and communicate opportunities for joint procurement of public safety land mobile radio (LMR) devices. In addition, GAO reported that despite the investment of significant resources, including billions of dollars in federal grants, the existing LMR systems used by public safety and first responders did not provide data services, such as text and images, and the systems were limited by the channels on which they operated.<sup>144</sup> GAO also found that state and local governments were investing millions of dollars from their own funds to support public safety voice communications. While DHS addressed the problems brought out by GAO’s report, issues with interoperability of first responder systems remained.

In an effort to address the ongoing problems with interoperability, in February 2012, Congress included provisions in the Middle Class Tax Relief and Jobs Act (Jobs Act) to provide for a first responder public safety network (FirstNet). The law also authorized broadcaster spectrum incentive

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<sup>141</sup> “Project SAFECOM Key Cross-Agency Emergency Communications Effort Requires Stronger Collaboration,” U.S. Government Accountability Office (GAO-04-494), April 2004, p. 2.

<sup>142</sup> *Ibid.*, p. 5.

<sup>143</sup> “FY 2013 Emergency Communications Financial Assistance Programs,” SAFECOM, Updated May 2013, [http://www.safecomprogram.gov/ecg/fy2013\\_list\\_of\\_federal\\_grants\\_funding\\_emergency\\_comm\\_may2013.pdf](http://www.safecomprogram.gov/ecg/fy2013_list_of_federal_grants_funding_emergency_comm_may2013.pdf).

<sup>144</sup> “Emergency Communications: Various Challenges Likely to Slow Implementation of a Public Safety Broadband Network,” U.S. Government Accountability Office, GAO-12-343, February 22, 2012, <http://www.gao.gov/assets/590/588795.pdf>.

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auctions to free up more spectrum for mobile use and provide funding from the proceeds to pay for FirstNet. The Jobs Act provides \$7 billion in funding to deploy the FirstNet network, as well as \$135 million for a new State and Local Implementation Grant Program.<sup>145</sup> It is expected that FirstNet will use long-term evolution wireless technology to provide public-safety grade coverage, capacity, connectivity, cybersecurity and resiliency to public safety first responders across the nation. In June 2013, the FirstNet board held its first organizational meetings.<sup>146</sup>

The Jobs Act also preserves viewers' access to broadcast signals, prevents the FCC from involuntarily moving stations from the UHF to the VHF band, establishes an incentive auction for broadcast spectrum, reimburses stations for costs associated with relocating to new channels, and safeguards access to television station signals along the borders with Canada and Mexico.<sup>147</sup> Spectrum auctioned from border stations will need a separate set of rules to help manage the cross-border effects of repackaging.<sup>148</sup>

On September 28, 2012, the FCC issued a proposed rule (FCC 12-118) for the spectrum auctions. The incentive process will include a voluntary reverse auction for broadcasters to sell spectrum back to the government to be repurposed; the repackaging of spectrum in order to reorganize the spectrum bands into contiguous bands; and the forward auction, under which wireless companies will have the opportunity to bid on the repackaged spectrum. While many smaller broadcasters may be willing to participate in the reverse auction, these licenses will be uneven in size and geographic location, which will require the FCC to repackage spectrum by moving the remaining broadcasters.<sup>149</sup> Repackaging must be closely monitored in order to make certain that it is performed in a fair and equitable manner.

The FCC sought comments on the proposal to further develop several issues key to the final make-up of the voluntary incentive spectrum

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<sup>145</sup> "Public Safety," National Telecommunications & Information Administration, U.S. Department of Commerce, viewed October 22, 2013, <http://www.ntia.doc.gov/category/public-safety>.

<sup>146</sup> FirstNet Board Meeting Documents, National Telecommunications & Information Administration, June 4, 2013, <http://www.ntia.doc.gov/other-publication/2013/06042013-firstnet-board-meeting-documents>.

<sup>147</sup> "Promoting Spectrum Policies that Serve the Public," National Association of Broadcasters, viewed June 24, 2013, <http://www.nab.org/advocacy/issue.asp?id=2025&cissueid=1003>.

<sup>148</sup> John Eggerton, "FCC Circulates Spectrum Auctions Model," *Broadcasting and Cable*, September 14, 2012, [http://www.broadcastingcable.com/article/489402-FCC\\_Circulates\\_Spectrum\\_Auctions\\_Model.php](http://www.broadcastingcable.com/article/489402-FCC_Circulates_Spectrum_Auctions_Model.php).

<sup>149</sup> Cecilia Kang, "FCC Moves Ahead with Airwaves Auction," *The Washington Post*, September 28, 2012, [http://www.washingtonpost.com/blogs/post-tech/post/fcc-moves-ahead-with-airwaves-auction/2012/09/28/ed35132c-0988-11e2-858a-5311df86ab04\\_blog.html?wpisrc=nl\\_tech](http://www.washingtonpost.com/blogs/post-tech/post/fcc-moves-ahead-with-airwaves-auction/2012/09/28/ed35132c-0988-11e2-858a-5311df86ab04_blog.html?wpisrc=nl_tech).

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auction process.<sup>150</sup> It was expected that the final report and order would be voted on sometime in 2013, with the spectrum auction process slated to begin in 2014.

Already, red flags have been raised over how best to keep the incentive auctions fair and equitable. In the DOJ's April 11, 2013 *Ex Parte* Submission, the agency proposed that the FCC adopt rules that prohibit or discourage larger mobile competitors from bidding on low-frequency spectrum in order to give smaller nationwide carriers the ability to purchase blocks of this spectrum.<sup>151</sup> If the FCC uses DOJ's criteria for selecting participants in the auctions, it will do little to spread the amount of available spectrum across all carriers. Incentive auctions can increase the amount of spectrum available for mobile use, but the free market should be allowed to work by permitting all interested bidders to participate. The DOJ's recommendations have been reinforced by at least two competitors in the marketplace, T-Mobile and Sprint/Nextel, which agree that the FCC should limit the amount of spectrum larger companies such as AT&T and Verizon can purchase in the auctions.<sup>152</sup>

The DOJ's submission is not the first time the federal government has tried to choose spectrum winners and losers. In 2003, Northpoint Technology sought \$100 million worth of spectrum directly from Congress to provide wireless and satellite services. The company attempted to subvert the auction process by mounting a large lobbying campaign for the inclusion of language in authorization and appropriations bills. The proposal was called "a \$100 million giveaway to an organization whose only asset was in knowing the right people in Washington."<sup>153</sup> Ultimately, the company failed to obtain the free spectrum allocation from Congress.

Smaller carrier bids do not always lead to increased competition in the marketplace, particularly if a less experienced company wins a large segment of spectrum in the auctions. In May 2000, Winstar Communications was

<sup>150</sup> "FCC Launches First-In-The-World Incentive Auction to Repurpose Broadcast Television Spectrum for Mobile Broadband; Auction Set to Unleash Wave of Economic & Innovation Opportunities for U.S.," Federal Communications Commission, September 28, 2012, [http://transition.fcc.gov/Daily\\_Releases/Daily\\_Business/2012/db0928/DOC-316527A1.pdf](http://transition.fcc.gov/Daily_Releases/Daily_Business/2012/db0928/DOC-316527A1.pdf).

<sup>151</sup> United States Department of Justice, "Ex Parte Submission of the United States Department of Justice," Docket No. 12-269 (filed April 11, 2013), <http://apps.fcc.gov/ecfs/document/view?id=7022269624>.

<sup>152</sup> Mike Montgomery, "FCC Needs to be a Spectrum Hero," *Information Week*, July 2, 2013, <http://www.informationweek.com/telecom/regulation/fcc-needs-to-be-a-spectrum-hero/240157716>.

<sup>153</sup> Thomas A. Schatz, "Letter to the Senate Regarding S. 1585, the Fiscal 2004 Departments of Commerce, Justice, and State, and the Judiciary (CJS) Appropriations Act," Council for Citizens Against Government Waste, November 7, 2003.

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awarded 931 spectrum licenses in the FCC's closed 39 GHz auction #30 to provide wireless broadband services.<sup>154</sup> However, the company was unable to generate enough sales to cover its large capital infrastructure build-outs and filed for Chapter 11 bankruptcy protection in 2001.<sup>155</sup>

While DOJ asserts that its recommendation is meant to provide a level playing field, it is in fact anti-competitive. The FCC would be in the position of determining winners and losers in the spectrum auctions before they even begin. If larger communications companies like Verizon and AT&T are not permitted to bid on prime low-frequency spectrum, they may not even participate in any part of the upcoming auctions.<sup>156</sup> Opening up spectrum auctions only to politically-connected or inexperienced telecommunications companies should be avoided. A truly free market competitive bidding process would require the FCC to reject the DOJ's recommendations.<sup>157</sup>

In July 2012, the President's Council of Advisors on Science and Technology (PCAST) issued a report offering recommendations on spectrum management, including spectrum sharing between the federal government and private entities.<sup>158</sup> PCAST envisions a "spectrum super-highway" shared by both government and commercial entities, with the government having the ability to pre-empt the private sector for public safety, emergency medical rescue, or national security purposes. On September 12, 2012, the FCC announced it would begin implementing one of the PCAST recommendations to free up 100 MHz of spectrum in the 3.5 GHz band currently used for radar and allocating it for shared small cell use.<sup>159</sup>

However, not every agency may be willing to share spectrum with the private sector. On September 13, 2012, the House Energy and

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<sup>154</sup> Federal Communications Commission, "FCC 'Closed' 39 GHz Auction #30," May 8, 2000, <http://wireless.fcc.gov/auctions/30/charts/30cls2.pdf>.

<sup>155</sup> Melanie Austria Farmer, "Winstar Files for Bankruptcy, Sues Lucent," *CNET*, April 5, 2001, [http://news.cnet.com/Winstar-files-for-bankruptcy-sues-Lucent/2100-1033\\_3-256005.html](http://news.cnet.com/Winstar-files-for-bankruptcy-sues-Lucent/2100-1033_3-256005.html).

<sup>156</sup> Charlie Osborne, "Justice Dept: US Spectrum Sale Must Encourage Competition," *ZDNet*, April 15, 2013, <http://www.zdnet.com/justice-dept-us-spectrum-sale-must-encourage-competition-7000014001/>.

<sup>157</sup> Thomas Schatz, "Letter to Chairman Julius Genachowski regarding WT Docket No. 12-269, Broadcast Incentive Auction Comments," Citizens Against Government Waste, April 26, 2013, <http://cagw.org/legislative-affairs/letters-officials/wt-docket-no-12-269>.

<sup>158</sup> "Realizing the Full Potential of Government-Held Spectrum to Spur Economic Growth," Executive Office of the President, President's Council of Advisors on Science and Technology, July 2012, [http://www.whitehouse.gov/sites/default/files/microsites/ostp/pcast\\_spectrum\\_report\\_final\\_july\\_20\\_2012.pdf](http://www.whitehouse.gov/sites/default/files/microsites/ostp/pcast_spectrum_report_final_july_20_2012.pdf).

<sup>159</sup> Jon Brodtkin, "FCC to Make Spectrum Sharing Reality, Whether Carriers Want It or Not," *Ars Technica*, September 14, 2012, <http://arstechnica.com/business/2012/09/fcc-to-make-spectrum-sharing-reality-whether-carriers-want-it-or-not/>.

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Commerce Subcommittee on Communications and Technology held a hearing on spectrum management. The GAO detailed existing barriers to sharing spectrum, including risk to an agency's mission, cost to both federal and non-federal users, use of spectrum frequencies by more than one agency or program, limited federal budgets prohibiting investments in new technology that would allow spectrum sharing, and a lengthy approval and enforcement process.<sup>160</sup> GAO also testified that, "While federal spectrum users often share spectrum among themselves, they may have little economic incentive to otherwise use spectrum efficiently, including sharing it with nonfederal users."<sup>161</sup> Following the hearing, Committee members called for more detailed analysis of spectrum allocations before moving forward with the PCAST proposals.<sup>162</sup>

On June 26, 2013, the Mercatus Center at George Mason University released a study that examined various proposals for reclaiming federal bandwidth, which would expand the amount of underused mobile bandwidth available for private sector use. According to the study, "reclaiming federal bandwidth has been painfully slow, and each year's delay results in billions of dollars of social cost and forgone auction revenue."<sup>163</sup>

The study proposed creating an agency similar to the Defense Base Closure and Realignment Commission (BRAC) for spectrum reform, which would discover federal and state agencies using spectrum and compel them to vacate the bandwidth. Congress would create an agency similar to the General Services Administration to manage federal spectrum and lease or sell excess bandwidth, as well as liberalize federal allocations and price the bandwidths to provide an incentive to economize.<sup>164</sup>

According to the NTIA, the U.S. government currently has exclusive rights to more than 638 MHz of spectrum and shares another 1,030 MHz

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<sup>160</sup> Mark L. Goldstein, Testimony before the House Energy and Commerce Subcommittee on Communications and Technology, "Spectrum Management: Federal Government's Use of Spectrum and Preliminary Information on Spectrum Sharing," U.S. Government Accountability Office, GAO-12-1018T, September 13, 2012, <http://www.gao.gov/assets/650/648206.pdf>.

<sup>161</sup> *Ibid.*

<sup>162</sup> "Wireless Spectrum Sharing Plans Under Fire by Government Agencies," *RedOrbit*, September 15, 2012, <http://www.redorbit.com/news/technology/1112694553/fcc-wireless-spectrum-sharing-gao-government-091512/>.

<sup>163</sup> Brent Skorup, "Reclaiming Federal Spectrum: Proposals and Recommendations," Mercatus Center, George Mason University, June 26, 2013, <http://mercatus.org/publication/reclaiming-federal-spectrum-proposals-and-recommendations>.

<sup>164</sup> *Ibid.*

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with commercial users.<sup>165</sup> NTIA is currently developing a plan with the FCC to make a total of 500 MHz of federal and nonfederal spectrum available over the next 10 years. On January 3, 2013, Commissioner Pai discussed the need for the federal government to relinquish some of its unused spectrum for mobile use.<sup>166</sup> According to Pai, almost 60 percent of the spectrum best used for mobile devices is currently held by the federal government, and unavailable for private sector use.

Without additional spectrum for mobile communication and data, wireless networks will be unable to handle increased traffic. While the voluntary spectrum reverse auction is a first step toward providing more spectrums for mobile devices, the additional spectrum is currently held by the federal government.

It remains to be seen how successful the auctions will be in the coming year, or whether federal agencies will be willing to relinquish some of their spectrum for consumer use, share the spectrum with the private sector with preemption authority, or continue to hold tight rein on spectrum ownership.

## TAKE À LA CARTE OFF THE MENU

Beginning in the 1950s and 60s respectively, cable and satellite television providers have been successful in delivering a diverse amount of programming to consumers for pennies per channel. This has been done through a pricing system that places every channel in a certain tier, from lower to higher (or basic to premium).

Today, this system is used by all MVPDs. Basic programming typically includes the major broadcast television stations and leased and/or public access networks, while premium packages offer hundreds of networks including sports and movies. This bundling system has provided consumers with many options at competitive prices, yet legislation has been introduced in Congress to eliminate the tiered pricing system and implementing an “à la carte” system.

Currently, MVPDs offer basic service that subscribers must purchase before they can add to the video programming. With the exception of

<sup>165</sup> Rebecca Blank, Acting Secretary, Lawrence E. Strickling, Assistant Secretary for Communications and Information, “Third Interim Progress Report on the Ten-Year Plan and Timetable,” National Telecommunications and Information Administration, U.S. Department of Commerce, November 2012, [http://www.ntia.doc.gov/files/ntia/publications/third\\_interim\\_progress\\_report\\_final.pdf](http://www.ntia.doc.gov/files/ntia/publications/third_interim_progress_report_final.pdf)

<sup>166</sup> Ajit Pai, “Too Much Government, Too Little Spectrum,” *Red State*, January 3, 2013, <http://www.redstate.com/ajitpai/2013/01/03/too-much-government-too-little-spectrum/>.

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broadcast channels that elect “must carry” status, all other programming is based on negotiated terms between the cable provider and the entity that owns the channel or programming service.

À la carte pricing would force MVPDs to stop bundling their network programming and sell each individual network separately. This concept is tempting because a consumer would be charged for only the channels that he or she chooses to purchase and watch. However, the current tiered system provides the best service and programming for companies and consumers; à la carte would be detrimental to both. More importantly, if consumers are not making such demands, the government has no business trying to impose à la carte on MVPDs.

In November 2004, then-FCC Chairman Michael Powell issued a report that concluded that à la carte programming would likely increase the monthly cable bill for most households and reduce program diversity.<sup>167</sup> In testimony before the Senate Commerce Committee on November 29, 2005, then-FCC Chairman Kevin Martin said the 2004 report was based on “problematic assumptions and presented incorrect, and at times, biased analysis.”<sup>168</sup> In February 2006, the FCC released a report which advocated à la carte, and declared that companies could sell the system in an economically feasible manner.

While the FCC did not implement à la carte pricing during Martin’s tenure as Chairman, and has not done so to date, efforts have been made in Congress to mandate à la carte. Legislators supporting this effort have pointed to the increase in MVPD prices as the main driver for moving to à la carte.<sup>169</sup>

The amount of time and energy required to implement à la carte would be burdensome. À la carte would require an MVPD to provide customers with a checklist to indicate what channels they choose to purchase. Regardless of whether this is done by phone, Internet, or mailings, it would require time to compute. It would also cause delays when the à la carte system is first implemented, as the MVPDs struggle to move customers onto their new service plans.

<sup>167</sup> “The FCC’s ‘à la carte’ Reports,” Library of Congress, Congressional Research Service, Series RL33338, March 2006, <http://www.policyarchive.org/handle/10207/2789>.

<sup>168</sup> Ted Hearn, “Martin: New FCC Study Favors à la carte,” *Multichannel News*, November 29, 2005, <http://www.multichannel.com/index.asp?layout=article&articleid=CA6287703&display=Breaking+News>.

<sup>169</sup> “Here’s John McCain’s Cable-Destroying Legislation,” *Business Insider*, May 9, 2013, <http://www.businessinsider.com/john-mccains-cable-bill-2013-5#ixzz2Z8Pw2rZ>.

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In 2013, GAO found that the average price for expanded basic service in 2011 was \$57.46, an increase of more than 33 percent since 2005, exceeding the 15 percent increase in the Consumer Price Index.<sup>170</sup> However, GAO also found that competition in the market has increased, providing consumers with a number of new video distribution choices including video service through telephone companies, such as Verizon's FiOS service, as well as increased online video distribution using various business models such as free and subscription-based services.

An à la carte pricing system would also require every home to install a set top box. This addressable converter box would ensure that all channels not chosen by the consumer be scrambled and all channels chosen by the consumer be unscrambled. Again, there would be a delay as MVPDs attempted to distribute the new boxes to all of their customers. There would most likely be a number of inconveniences, such as customers receiving channels they did not order and not getting channels they ordered.

In 2002, the FCC estimated that the cost of renting a set top box would be \$4.39 per month.<sup>171</sup> In 2013, the rental price for a high definition set-top box is on average around \$10 per month for each television connected.<sup>172</sup> Even with à la carte pricing, the cost of set-top boxes is not expected to decrease. The biggest inconvenience would be the immediate need to modify or replace cable-ready televisions. Under an à la carte pricing system, all televisions would be required to have an addressable converter box, making it impossible for cable-ready televisions to get access by simply plugging in a coaxial cable from a wall into the back of a television.

À la carte pricing would also drastically change television advertising. In 2004, GAO reported that, "Adopting an à la carte approach could alter the current business model of the cable network industry wherein cable networks obtain roughly half of their overall revenues from advertising. A move to an à la carte approach could result in reduced advertising revenues and might result in higher per-channel rates."<sup>173</sup> Advertising companies sell

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<sup>170</sup> "Video Marketplace: Competition is Evolving, and Government Reporting Should Be Reevaluated," U.S. Government Accountability Office, GAO-13-576, June 25, 2013, <http://www.gao.gov/products/GAO-13-576>.

<sup>171</sup> U.S. General Accounting Office (GAO-04-262T), "Telecommunications: Subscriber Rates and Competition in the Cable Television Industry," March 25, 2004, p. 14.

<sup>172</sup> Melanie Pinola, "Cable Companies Can Now Force You to Rent Set-Top Boxes. Here Are Your Alternatives," Lifehacker, April 12, 2013, <http://lifehacker.com/5994508/cable-companies-can-now-force-you-to-rent-set-top-boxes-here-are-your-alternatives>.

<sup>173</sup> GAO-04-262T, p. 3.

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their commercial advertisements hoping to reach a diverse audience, which would no longer be possible under an à la carte pricing system.

For example, a company might run an ad on ESPN hoping to reach primarily sports fans, along with others who might have a casual interest in the channel or those who might be surfing through channels. Reaching such a broad audience would be nearly impossible through à la carte because channels would have reduced take-rates (the percentage of viewers subscribing to one particular channel).

Lower take-rates ultimately mean more cost for consumers. Channels that are featured on basic packages now have a take-rate of 100 percent, but if à la carte pricing is implemented, this will be reduced as not every subscriber will be willing to subscribe to all those channels. Advertisers will be unwilling to pay current prices for their advertising to get on the air if it reaches a smaller audience. With reduced funding from advertisements, in order to maintain a profitable business, MVPDs will have to obtain a larger portion of their funding from consumers by increasing the price of channel subscriptions. A March 29, 2004 report from Bear Stearns projected that with a 25 percent take-rate, for example, a monthly subscription to the Disney Channel would increase from \$1.48 to \$5.90, MTV would jump from \$0.43 to \$2.32, and a subscription to ESPN would skyrocket from \$3.78 to \$15.82.<sup>174</sup>

On May 9, 2013, S. 912, the Television Consumer Freedom Act (TCFA), was introduced in the Senate. This legislation would link the availability of the compulsory copyright license to the voluntary offering of à la carte service by the MVPD. If the MVPD does not offer à la carte programming, it cannot rely on compulsory licensing to allow it to carry broadcast stations. This would force the MVPD to rely solely on negotiated retransmission contracts with broadcasters in order to carry the broadcaster's programming. S. 912 would also sanction any broadcaster who "downgrades" the signals provided by taking away the broadcaster's spectrum allocation and turning the spectrum over to the FCC to be auctioned off. Additionally, the bill prohibits sports blackouts when the event takes place in an arena or venue which received any federal, state or local taxpayer subsidies.

This seemingly well-intentioned legislation would backfire on

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<sup>174</sup> Raymond Lee Katz, Katie Manglis, and Gloria Radeff, "à La Smart?" Bear Stearns, March 29, 2004, p. 4, <http://www.ncta.com/DocumentBinary.aspx?id=94>.

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consumers by raising prices and reducing choices.<sup>175</sup> While consumers would not be required to buy subscriptions to channels they did not want to view, à la carte would ultimately impair consumer choice.

Ironically, groups such as the Parents Television Council, which endorsed à la carte, also advocate channels and programming that would be compromised if such a system were to be instituted. The ratings of family-oriented programming such as *Cedar Cove* on the Hallmark Channel, *Full House* re-runs on Nickelodeon, *Bubble Guppies* on Nick Junior, and *Jane and the Dragon* on Qubo could diminish, as they may not be popular enough to thrive under an à la carte system. It would be difficult for smaller independent and niche channels to stay afloat financially with an à la carte pricing structure. While large, popular channels such as CNN or ESPN could still be viable in this new business climate, channels like the Food Network or Lifetime could go off the air if they did not get enough subscribers to make them profitable.

In October 2003, GAO reported that, “Subscribers place value in having the opportunity to occasionally watch networks they typically do not watch.”<sup>176</sup> No longer would a consumer be able to channel surf through all the channels a tiered pricing system provides, therefore, losing the chance to discover a new program or channel that he or she might enjoy. Networks would have little incentive to create new and innovative programming because they know the only people that will have access to such programs have already subscribed, and the opportunity to win new subscribers would be extremely limited.

While the sales pitch for à la carte programming is appealing, it is a costly and losing proposition. Consumers would have more trouble getting their programming; the programming they get would be more limited than it is in the current tiered pricing system; and, for many, it would cost more. Coupled with a disincentive for networks to create quality programming, à la carte pricing would be much less desirable for all parties, especially consumers.

MVPDs have thrived and consumers have benefited from the tiered package system. À la carte should not be on the menu for the future of television.

<sup>175</sup> Matthew Yglesias, “À La Carte Won’t Fix Cable,” *Slate*, May 14, 2013, [http://www.slate.com/articles/business/moneybox/2013/05/mccain\\_s\\_la\\_carte\\_cable\\_bill\\_is\\_bad\\_deal\\_for\\_consumers.html](http://www.slate.com/articles/business/moneybox/2013/05/mccain_s_la_carte_cable_bill_is_bad_deal_for_consumers.html).

<sup>176</sup> U.S. Government Accountability Office (GAO-04-8), “Telecommunications: Issues Related to Competition and Subscriber Rates in the Cable Television Industry,” October 2003, p. 37.