

WRITTEN STATEMENT

of

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before the

HOUSE SUBCOMMITTEE ON COMMUNICATIONS AND TECHNOLOGY

Using Public/Private Regional Partnerships to Create an
Interoperable Public Safety Network

Hearing on “Creating an Interoperable Public Safety Network”

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INTRODUCTION

Chairman Walden, Ranking Member Eshoo, and members of the Committee, it is a pleasure to appear before you today. My name is Joe Hanley and I am Vice President – Technology Planning and Services for Telephone and Data Systems, Inc. I am testifying on behalf of United States Cellular Corporation, which is a subsidiary of Telephone and Data Systems.

As background, U.S. Cellular is the sixth largest mobile operator in the nation. We serve over 6 million customers in rural, suburban and urban markets in 26 states, providing wireless service to meet the needs of public safety agencies, businesses, and consumers. We are a member of the Rural Cellular Association and of CTIA – The Wireless Association®. We provide award-winning call quality and customer service. U.S. Cellular was rated the best cell phone service provider by Consumer Reports in January 2011,¹ and received numerous J.D. Power awards over the last five years.²

U.S. Cellular’s customers demand high-quality mobile services for business and personal communications. Our wireless services provide critical infrastructure for jobs and economic growth in all types of communities. The company’s commitment to meeting customers’ needs includes the on-going deployment of cell towers and advanced technologies to provide voice and broadband services to many unserved and underserved areas. Our aggressive investment in third-generation broadband networks already reaches about 98 percent of our customers.

¹ Consumer Reports, “Consumer Reports cell-service ratings: AT&T is the worst carrier,” ConsumerReports.org (Dec. 6, 2010).

² J.D. Power, “U.S. 2011 Wireless Call Quality Performance Study – Volume 1: Overall Call Quality Momentum Halts Due to Shifts in Wireless Call and Data Usage Patterns,” JDPower.com (Mar. 3, 2011).

In the next step, U.S. Cellular announced on May 6, 2011 that we will deliver high-speed fourth-generation services and 4G-enabled devices to more than 25 percent of our customers across two dozen markets in time for the 2011 holiday season. The technology standard for our fourth-generation network, LTE, is the same as the standard selected by the Federal Communications Commission for the interoperable public safety network.

SUMMARY OF TESTIMONY

Thank you for the opportunity to address the issue of creating an interoperable public safety network. Today's topic is of great importance to the public safety community as well as all users of wireless services. The right approach to this objective will enhance the effectiveness and reach of public safety services, and also spur jobs, economic growth, competition and more effective services in all sectors of government and society.

Importantly, today's topic is not simply about choosing between a commercial auction for 700 MHz D Block licenses or reallocating this spectrum to public safety. In fact, neither approach ensures nor precludes the optimal network build and operation. Rather, each approach requires that Congress and the FCC adopt a framework promoting regional public/private partnerships that fully leverage the best commercial networks in each area.

If developed appropriately, we believe that this initiative can advance two key and complementary policy goals: meeting public safety needs and expanding competitive wireless broadband for American consumers and businesses. With proper legislative safeguards, reallocating the spectrum to public safety could succeed in advancing these goals. Another viable option is a commercial auction of D Block licenses followed by negotiated public/private

partnerships. Under either approach, regional public/private partnerships have strong benefits. A fiscally and technically-sound solution involves commercial operators constructing and operating the shared network and working in partnership with public safety to ensure interoperability and prioritization of use for the first responders.

Likewise, if Congress chooses to reallocate the D Block, we must do more than reassign the spectrum to public safety and hope for the best. Whether the D Block is auctioned or reallocated, the legislative and regulatory framework must ensure that: (1) sufficient funding is available to build, operate, and maintain a high quality network with broad coverage; (2) public safety enters into partnerships with commercial operators that leverage the experience and both local and core network assets of those operators; (3) the network is designed, deployed and used with spectral efficiency in mind, recognizing the scarcity of this national resource; and (4) fair long-term opportunities are provided for a range of qualified commercial operators to work with public safety to build, operate, and continue to upgrade the network and those operators have an opportunity to use available capacity on the network wherever feasible.

Future competition in broadband services depends on making network capacity available to consumers through a variety of commercial operators. This approach will also ensure that more rural communities will see the needed infrastructure deployed more quickly by empowering operators with strong commitments to rural communities.

TWO PUBLIC POLICY GOALS FOR PUBLIC SAFETY AND COMMERCIAL CUSTOMERS

Since 2007, U.S. Cellular has been actively engaged in the debate over how to create a nationwide, interoperable wireless broadband public safety network. In testimony before House subcommittees on four prior occasions,³ U.S. Cellular supported the regional public/private partnership model, which provides the economies of shared networks and efficient use of spectrum.

As Mary N. Dillon, President and Chief Executive Officer of U.S. Cellular, recently testified before this Subcommittee, U.S. Cellular believes that Congress should quickly adopt the correct framework for creating an interoperable public safety network:

- **First** and foremost, a national interoperable broadband network should be rapidly deployed, meeting public safety's technical and availability requirements.
- **Second**, there should be opportunities to expand competitive broadband services subject to the needs of public safety.
- **Third**, the approach to creating an interoperable public safety network must ensure efficient use of public spectrum resources and taxpayer dollars.

This hearing aims to examine options for creating a nationwide interoperable broadband wireless network supporting the needs of the public safety community. There are two fundamental public policy goals for the spectrum in the 700 MHz PSBL and D Blocks. Both goals

³ LeRoy T. Carlson, Jr., "Area Licensing: A Solution for the Public/Commercial Partnership in the 700 MHz D Block," Testimony before the House Committee on Homeland Security, Subcommittee on Emergency Communications, Preparedness and Response (Sept. 16, 2008); Joseph R. Hanley, Testimony before the House Subcommittee on Communications, Technology, and the Internet (Sept. 24, 2009); Joseph R. Hanley, Testimony before the House Subcommittee on Communications, Technology and the Internet (June 17, 2010); Mary N. Dillon, "Critical Need for Additional Spectrum to Meet Growing Consumer Demand for Mobile Services," Testimony before the House Subcommittee on Communications and Technology (Apr. 12, 2011).

are essential to the public interest. Fortunately, the two goals are complementary, not in conflict, if the right framework is adopted.

One goal in creating this network is to provide nationwide interoperable broadband services for public safety uses. These services are critical and must be made available throughout the nation, not just for a few select communities. These services should be provided at the lowest possible cost to taxpayers and resource-constrained public safety agencies by leveraging commercial operators' existing networks, financing capabilities, and shared use of the spectrum. Along with efficient use of fiscal resources, these services should be provided with efficient use of spectrum, a national resource in scarce supply that is vital to wireless broadband services.

The second goal in creating this network is to expand competitive broadband services for consumers nationwide. Wireless broadband services provide critical infrastructure for economic growth, with additional benefits for energy, environmental, health care, educational and other policy goals. However, spectrum is increasingly concentrated in the hands of a few carriers, and more spectrum must be made available to ensure universal availability of advanced services, competition and consumer choice. Doing so will spur job creation and improve the lives of Americans in many ways.

This second goal must be part of the consideration of how to create an interoperable public safety network. This Subcommittee heard testimony last month, including from U.S. Cellular and others, on the need to address the exploding demand for commercial broadband services. The range of new mobile services is huge and the growth in demand for them is breath-taking. Some of the drivers are:

- In 2010, mobile data traffic nearly tripled, for the third year in a row. Cisco forecasts that the volume of mobile data usage will grow 21-fold from 2010 to 2015.⁴
- As FCC Chairman Genachowski recently highlighted, the number of mobile applications downloaded grew to 5 billion in 2010 from just 300 million in 2009; and mobile online shopping brought in nearly \$4 billion in revenue in 2010, up from \$1.4 billion in the prior year.⁵
- Smartphones generate 24 times more traffic than a basic wireless handset, and consumers are rapidly shifting to these devices. In 2010, smartphones accounted for 35 percent of all handset connections, and average data traffic per smartphone doubled during that year. Smartphone sales in the U.S. are expected to increase by 42% this year. Tablets, the fastest-growing category of devices, average about 122 times the mobile data traffic of a basic handset, and analysts project sales of 55 million tablets this year.⁶

The 700 MHz PSBL and D Blocks are prime, scarce spectrum that must be efficiently used, with or without reallocation of the D Block to public safety. The FCC's National Broadband Plan points to the growing demand for mobile broadband services and recommends that the federal government make 500 megahertz of spectrum newly available for broadband within ten years, of which 300 megahertz should be made available for mobile uses within five years.⁷ This year, in the State of the Union Address and subsequent release of a National Wireless Initiative to "win the future" through expanded wireless access, President Obama called for nearly doubling wireless spectrum available for mobile broadband.⁸ As explained in the next section, the

⁴ Cisco, "VNI Mobile U.S. Fast Facts" (Mar. 2011).

⁵ FCC Chairman Julius Genachowski, "Remarks as prepared for delivery: CTIA Wireless 2011" at 5 (Mar. 22, 2011).

⁶ Id. at 4-5; Cisco, *supra*; <http://www.gartner.com/it/page.jsp?id=1550814>.

⁷ FCC, National Broadband Plan: Connecting America at XII (Mar. 2010).

⁸ The White House, "President Obama Details Plan to Win the Future through Expanded Wireless Access" (Feb. 10, 2011).

interoperable public safety network offers the opportunity to increase the supply of spectrum for competitive commercial services.

COMPLEMENTARITY OF PUBLIC SAFETY AND COMMERCIAL SERVICES GOALS

Congress should not view the PSBL and D Blocks as posing an irreconcilable choice between helping public safety or facilitating competitive broadband services for businesses and households. These goals are highly complementary, as shown in a short review of equipment costs and spectrum utilization.

The PSBL and D Blocks operate within the same band class defined by the Third Generation Partnership Project (3GPP) for use in LTE networks, band class 14. By sharing the band class, commercial utilization of this spectrum and the much larger base of wireless devices that will result from commercial use will provide significant scale benefits to public safety. In fact, commercial use may be essential to driving the necessary volumes of handsets and other devices needed by public safety. As commercial use of this spectrum rises, the prices for public safety handsets should continue to decline.

FCC engineering and economic analyses of the interoperable public safety network point to the strong complementary benefits to public safety and commercial users of the shared network approach. In April 2010, a FCC white paper analyzing equipment and costs concluded that a stand-alone public safety network would suffer from in excess of \$20 billion of higher

costs in failing to leverage commercial resources and technologies (including cell sites, towers, construction and operations capabilities, and access to handsets and other equipment).⁹

Among the recent support for the complementary nature of these goals, consider the following highlights from presentations at the March 4, 2011 forum hosted by the FCC on the technical framework for the public safety mobile broadband network to ensure nationwide interoperability:

- U.S. Department of Homeland Security: “‘Game-changing’ acquisition approach: Transition from stove piped government-owned and operated narrowband voice to shared public safety and commercially-provided broadband voice and data services”.¹⁰
- North Carolina State Highway Patrol: “Broadband Design: ... An integrated solution with Public Safety, Commercial, White-Space, data-casting, and WiFi... possibly satellite Technology must evolve with commercial offerings.” “Public Safety will benefit with a broad partnership”.¹¹
- Vice-Provost of the Illinois Institute of Technology: “Needed to Make A Positive Future for Public Safety Happen: ... Supportive Regulatory Structure Enabling Competition to Create Shared Public Safety-Commercial Networks” “Significant Public Safety Advantages with Commercial Partnerships”.¹²

⁹ FCC White Paper, “A Broadband Network Cost Model: A Basis for Public Funding Essential to Bringing Nationwide Interoperable Communications to America’s First Responders” (OBI Technical Paper No. 2) (Apr. 23, 2010).

¹⁰ John Santo, Executive Director, Wireless Systems Program Office, U.S. Customs & Border Protection, U.S. Department of Homeland Security, Presentation at FCC Interoperability Forum at 6, 9 (Mar. 4, 2011).

¹¹ P. A. Sadowski, IT Manager, North Carolina State Highway Patrol, “Solutions for the deployment of Radio Access Network equipment to achieve Nationwide Operability and Interoperability,” Presentation at FCC Interoperability Forum at 11, 12, 15 (Mar. 4, 2011).

¹² Dennis Roberson, Vice Provost & Research Professor Illinois Institute of Technology, “A Responsible Way Forward”, Presentation at FCC Interoperability Forum at 2, 10 (Mar. 4, 2011).

Either an auction of D Block licenses or reallocation of this spectrum to public safety could succeed in promoting the complementary goals of an interoperable public safety network and advancing competitive commercial services. Yet, it is not enough to embrace one of these paths and hope for an optimal network. The policy goals require that Congress and the FCC move the public safety network forward by adopting the principles described in the next section.

PRINCIPLES FOR ACHIEVING THE COMPLEMENTARY PUBLIC SAFETY AND COMMERCIAL GOALS

U.S. Cellular believes that the public safety and commercial goals for the PSBL and D Blocks require Congress and the FCC to implement four fundamental principles through legislation and regulations.

First, public safety should enter into partnerships with commercial operators to construct and operate the network. Public safety should leverage the commercial operators' financing capabilities, operating efficiencies and advanced technologies in order to promote rapid build-out, greater coverage, and lower costs for both public safety and commercial users.

Second, the framework should encourage efficient usage of scarce spectrum resources through joint public/private design and use of network capacity. The public safety spectrum -- regardless of whether the D Block is reallocated or not -- should not remain fallow or be subject to low utilization because of the design of the network infrastructure or rules for access to capacity. Commercial use should generate revenues or cost benefits for public safety, and the legal framework must provide these incentives to public safety.

Any allocation of the D Block spectrum to public safety should include standards that encourage private sector commercial use of portions of this spectrum whenever it is not fully utilized by public safety. Congress should not encourage models that set up public agencies as quasi-commercial operators or simply maintain substantial spectral or network capacity in permanent reserve. In order to fully leverage the advantages of a shared network, operators must have confidence that the network capacity under this partnership will be available on a long-term basis to support commercial operations.

Third, there must be a competitive process for the regional selection of commercial operators to partner with public safety. The process must be fair and open, not biased in favor of any particular class of wireless carriers. The legislation must address the definition of geographic areas for the partnerships. Smaller partnership opportunities -- whether through smaller license areas in a commercial auction of the D Block, or through smaller regional competition to team with public safety in using public safety spectrum -- would benefit both public safety and commercial users of the network. The best approach to obtain a nationwide, interoperable public safety network is through regional network partnerships that are coordinated, much like roaming on commercial networks.¹³

Selection of partners on a regional basis would lead to the involvement of locally strong carriers that could leverage their existing network infrastructure and operations in an area. With multiple operators building area networks, network deployment will be faster and more extensive. Additionally, multiple smaller partnerships will produce a more reliable network

¹³ See Dr. Dennis Martinez, Chief Technology Officer, Harris RF Communications Group, “How to Ensure Nationwide Interoperability for Public Safety Broadband Utilizing LTE 4G Technology”, Presentation at FCC Interoperability Forum at 5 (Mar. 4, 2011) (“Sample Template for Building an Interoperable Network of Networks”).

than under a nationwide or mega-region approach, as there will be no single point of failure that can shut down the whole country or large swaths of territory.

Fourth, Congress will need to provide a substantial part of the funding necessary to construct and operate the public safety broadband network. As the FCC's technical and economic analyses showed, such funding is needed in some areas to meet public safety's demands regarding capacity, applications, coverage, reliability, security and other features.¹⁴ The shared network approach and competitive selection of regional commercial operators should be used to minimize the burden on taxpayers.

These four principles apply regardless of whether Congress decides on a commercial auction of the D Block or reallocation of this spectrum. If Congress chooses reallocation, Congress must do more than reassign the spectrum to public safety and hope for the best. Without a framework implementing these principles, we could risk a lose-lose outcome where the nationwide, interoperable public safety network is not built and American consumers, businesses, and taxpayers receive no benefit from this scarce spectrum.

CONCLUSION

Congress must go beyond choosing between an auction of D Block licenses and reallocating this spectrum to public safety. U.S. Cellular is prepared to support either approach, provided the needed safeguards are adopted. Without those safeguards, we risk missing the opportunity that is before us. An incomplete solution could result in sporadic coverage that favors urban

¹⁴ FCC, National Broadband Plan: Connecting America at Section 16.1 (2010).

markets and leaves rural communities behind, needlessly inflates the costs of equipment for communities, permits the inefficient use of the spectrum, fails to spur competition, and adds to the burden on the taxpayer. Therefore, both paths require a legislative and regulatory framework that encourages shared public/private networks and regional public/private partnerships. This framework will advance the two, complementary goals of meeting public safety needs and expanding competitive wireless broadband services for commercial customers.

Creating an interoperable public safety network requires that Congress and the FCC implement four principles: (1) sufficient funding is available to build and operate a high quality network with broad coverage; (2) public safety enters into partnerships with commercial operators that leverage the experience and both local and core network assets of those operators; (3) the network is designed, deployed and used with spectral efficiency in mind, recognizing the scarcity of this national resource; and (4) fair long-term opportunities are provided for a range of qualified commercial operators to work with public safety to build, operate, and continue to upgrade the network and those operators have an opportunity to use available capacity on the network where technically feasible.

The worst course of action is continued inaction. Over the past three years since Auction 73, while the federal government and other stakeholders studied and debated the right course of action to take, the nation has left the D Block and most of the PSBL Block idle. This inaction has meant no interoperable public safety network, foreclosed spectrum from commercial uses, and deprived the federal Treasury as well as public safety of revenues from this spectrum. The

federal government should move forward now by adopting a process for selecting commercial operator partners and creating the shared network.

Thank you for the opportunity to provide this testimony.