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"Preserving Public Safety and Network Reliability in the IP Transition"
before the
Senate Subcommittee on Communications, Technology, and the Internet
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Chairman Pryor, Ranking Member Wicker, and Members of the Subcommittee:

Thank you for the opportunity to testify on this important topic. My name is Jon Banks, and I serve as Senior Vice President of Law and Policy at the United States Telecom Association. USTelecom represents innovative broadband companies ranging from some of the largest companies in the U.S. economy to some of the smallest cooperatives and family-owned telecom providers in rural America. Our members offer a wide range of communications services on both a fixed and mobile basis, and the overwhelming majority of them offer advanced broadband services including voice, video, and data. They serve some of the most rural areas in the country as well as the most urban and use a broad range of technologies, including Internet Protocol, to do so. The customers that rely on our networks include consumers, businesses large and small, and government entities at the local, state, and federal levels. Of particular importance given the topic of this hearing, they include first responders and Public Safety Answering Points.

Our industry has long recognized that a safe and secure communications network is vital to public safety and to our Nation's prosperity. We have spent decades building and maintaining that network and working with the public safety community and our government partners to ensure that first responders and other officials can communicate during natural or man-made disasters, and that consumers can call for help during an emergency. From the 1960s and 1970s when 911 services began to be provided through the deployment of upgraded E911 services and Next Generation 911, we have worked to deliver reliable service. Our member companies' commitment to providing highly reliable service to our customers throughout the country and to working with the public safety community, our government partners, and industry standards bodies remains undiminished as the country moves to newer, more modern communications networks. In fact, the transition to these newer, more modern broadband networks holds great promise for improved emergency communications and services as well as more robust and reliable networks.

Much has changed since the early days of making 911 a reality. Over the last decade, communications companies have been investment leaders in our country, putting over $671 billion dollars to work in building and upgrading communications infrastructure. The wireline industry alone invested $278 billion over this period, accounting for about 41 percent of total investment, with the remainder made up by investments in wireless and cable infrastructure. And this level of investment is continuing. USTelecom estimates that investment in broadband and IP communications infrastructure very likely exceeded $70 billion in 2013, surpassing the average level of investment of about $66 billion annually over the last decade.

The result of this continuing huge investment is that consumers and businesses today have multiple new broadband networks available to them that are far more robust than the old telephone network. Building these broadband networks – fixed and mobile – is the great infrastructure challenge of our

time. As the National Broadband Plan notes, meeting this challenge can produce enormous benefits:

> Broadband is a foundation for economic growth, job creation, global competitiveness and a better way of life. It is enabling entire new industries and unlocking vast new possibilities for existing ones. It is changing how we educate children, deliver health care, manage energy, ensure public safety, engage government, and access, organize and disseminate knowledge.[1]

By continuing to invest on this massive scale, the industry has made great strides in meeting this infrastructure challenge. Today, over 99% of Americans have access to broadband service at the FCC defined capacity of 4 Mbps downstream and 1 Mbps upstream. Ninety-two percent of the population has access to robust wireline infrastructure with 88% of the population having access to two or more wired networks. Ninety-nine percent have access to mobile service and 90% have access to 4 or more separate mobile networks. Our members are working to build and operate Gigabit and fiber-to-the home networks in urban and rural areas across the country. Cable systems are upgrading their networks to provide faster service. Fast LTE mobile networks are also growing quickly, providing more alternatives for consumers.

Removing obstacles to broadband deployment will help drive this process, and the White House has engaged industry on examining barriers to deployment across federally owned and managed land. Another way to incent additional investment would be to remove outdated regulations on traditional phone companies. These regulations "require certain carriers to maintain POTS [plain old telephone service] – a requirement that is not sustainable – and lead to investments in assets that could be stranded," and divert investment away from new networks and new services.[2]

Ensuring that broadband and mobile networks reach everywhere throughout our country is a goal we must continually strive to meet. In the most rural areas of our country, this will require governmental support because there is no private business case that can support building and operating broadband networks in these areas. The FCC's universal service program can play an essential role here, as can state programs that support communications infrastructure. Our industry continues to work to ensure that universal service programs continue to support the delivery of robust communications services in high cost areas of our country in the most efficient and effective way possible.

One result of all this investment in newer, more modern technologies is consumers have been choosing newer broadband and mobile technologies because they offer a plethora of options that were not previously available to meet consumers' communications needs. USTelecom projects that, by the end of this year, only one-quarter of the households in the country will continue to be served by traditional phone service. In some states this number may be as low as 15% of households remaining on that traditional network. By the end of this year, about 45% of households will have chosen to drop traditional phone service entirely, choosing instead to rely on mobile service for their voice needs, both inside and outside the home. According to the Centers for Disease Control, in many states over 50% of households have already cut the cord and chosen to rely on mobile service. The remaining 30% of households will have chosen from among a range of

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[1] *National Broadband Plan* at XI.
[2] *Id*. at 59.

newer Voice over Internet Protocol services, often delivered by cable companies, for their voice needs at home. Of course, many households will choose to have both wireless and wired options available for calling. About 89% of households have at least one wireless phone, allowing multiple options for communications. Only about 9% of households are dependent solely on a wired option for calling.

This transition to broadband networks and IP services is well underway today as consumers and businesses continue to make choices among a range of competitive communications options. The transition to broadband and IP services is not an "if" phenomenon – much of it has happened – but a question of how to best manage the transition. And, in particular, how to ensure that public safety and network reliability are preserved and that we leverage the unique capabilities of broadband and IP to deliver 21st century public safety services. For example, making the added functionality of next generation 911 available to allow pictures and video to be delivered to PSAPs and first responders could significantly improve public safety. Our industry looks forward to working with the public safety community and governmental entities to make NG911 a reality. And for consumers, voice communication is obviously not the only functionality that the IP transition enables. For example, when it comes to public safety and health care benefits, more and more senior citizens, people with disabilities, and medical patients living in rural America are benefiting from technologies such as home health monitoring and other health-related applications.

Fortunately, the communications industry has seen other important technology transitions all the way through that can provide models for ensuring the IP transition leaves no one behind. In 2002, for example, the transition from analog to digital mobile service was well underway from a consumer perspective. That year, the FCC concluded that its mandate that carriers continue to provide an analog signal in addition to a digital signal was no longer necessary to achieve national coverage and incent competition. Further, the FCC found that the analog mandate was imposing unnecessary costs on carriers and hindering the efficient use of spectrum. Thus, the FCC scheduled an end for the analog mandate setting February 18, 2008, as the date at which carriers could move to providing solely digital service. In the interim period, the FCC worked with carriers and specific populations that could have been adversely affected by the transition to ensure that no one was left behind.

Planning for the transition to IP networks has been going on within communications companies for quite some time and with our government partners as well. Much of this planning has focused on network safety and security issues. For example, the President's National Security Telecommunications Advisory Committee (NSTAC), which provides the President with a unique source of national security and emergency preparedness communications policy expertise from leaders in the communications industry, has been examining and reporting on security and reliability issues involved in the transition to IP and broadband networks since at least 1999. In 2005, the NSTAC noted that the convergence of wireless, wireline, and Internet Protocol (IP) networks is causing a shift in the way that governments and critical infrastructures will meet their needs for national security and emergency preparedness communications today and in the future. The NSTAC has examined a broad range of infrastructure, security and operational vulnerabilities stemming from network convergence and its task forces have provided recommendations to mitigate the vulnerabilities. USTelecom and its members have been an integral part of NSTAC and will continue to work within the committee to ensure that public safety remains a priority during the IP Transition.

Our members also continue to work closely with the Department of Homeland Security through, for example, the Communications Sector Coordination Council and the Critical Infrastructure Partnership Advisory Council, on network security and reliability issues and the transition to IP networks. A concise review of some of these activities can be found in the Critical Infrastructure Partnership Advisory Council's 2013 Annual Report.

In addition, USTelecom has long been active with the FCC in this area. Chairman Wheeler has often mentioned the importance of public safety and security to the compact between providers of voice service and their customers and the need for the FCC to ensure that key values like these are properly imported into the IP and broadband world. We agree. In response to Congress's directive that the agency develop a National Broadband Plan that would "ensure that all people of the United States have access to broadband capability," the FCC put together an extremely valuable roadmap to an IP and broadband future. The Plan explains that "broadband can bolster efforts to improve public safety and homeland security by allowing first responders to send and receive video and data, by ensuring all Americans can access emergency services and improving the way Americans are notified about emergencies."[3] We remain committed to working with the FCC on the implementation of these recommendations.

The FCC's Communications Security, Reliability and Interoperability Council (CSRIC) has played, and will continue to play, an important role in planning for a seamless transition. CSRIC working groups comprised of knowledgeable industry participants have produced a broad range of reports and recommendations covering key topics on emergency preparedness, network reliability and network security. The FCC recently convened a new CSRIC industry working group to examine and report on the powering of customer premises equipment such as telephone handsets given the growing consumer preference for VoIP service. VoIP networks generally do not benefit from network powering available through traditional phone networks, instead relying on commercial power and battery back-up. The working group intends to recommend outreach and communications strategies for increasing consumer awareness of back-up power needs and developing best practices for powering consumer devices during commercial power failures.

Finally, a number of standards-setting bodies are also engaged in planning for the IP transition. Indeed, the transition ties together much of the work done by one of our industry's leading standards bodies, the Alliance for Telecommunications Industry Solutions, or ATIS. Specific to the subject of this hearing, for example, ATIS has convened a task force to examine the IP transition's potential effect on important public safety applications such as alarm circuits to local fire and police departments and circuits that monitor railroad crossings.

USTelecom and our members believe that our nation's 21st century networks should provide 21st century public safety solutions. We look forward to working with this subcommittee, our full range of governmental partners including the White House, the Federal Communications Commission, Department of Commerce, Department of Homeland Security, state and local governments and public utility commissions, the public safety community (including APCO and NENA), and industry standards bodies to ensure that the promise of broadband connectivity and the power of IP services deliver to consumers the safe and secure networks and robust capabilities that will empower them for the 21st century.

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[3] *Id*. at XIV.