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Keynote Address

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State of Technology Conference

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Good morning and thank you for the opportunity to speak with you today. It's a pleasure to be here in Atlanta. I bring greetings from Chairman Julius Genachowski, Commissioners Copps, McDowell, Clyburn, and Baker, and the staff of the Public Safety and Homeland Security Bureau and the rest of the FCC.

Let me take this opportunity to thank Representative Smith for his kind introduction. And I wish to thank Helena Mitchell and the Wireless Rehabilitation Engineering Research Center for your generous invitation to give the keynote address at this important conference on technology and accessibility. The RERC has become a recognized leader and advocate (especially before the Commission) on issues related to the accessibility and usability of wireless technology and services by persons with disabilities. The Commission applauds the RERC's dedication to the mission of ensuring that wireless technology is accessible to and provides benefits for all Americans, including those with disabilities, without exception.

It is something of a cliché to begin an address such as this by saying that we are at a crossroad, but the fact of the matter is, in the area of communications technology, we *are* at a crossroad. Looking back over the last few decades, we can see how the

technological advances made in communications and information technology have radically altered our society, our economy, our politics, and our interactions with peoples across the globe. My parents grew up in the era of radio; my generation grew up in the era of television; my children have grown up in the era of the cell phone and the Internet.

Now we are crossing into the era of broadband, an era in which we will be able to communicate seamlessly by voice, data, and video using a panoply of devices that could only be found in science fiction not so long ago. We are in the midst of a fundamental migration from the circuit-switched telephone world to an IP-based world being built on an array of new broadband technologies. These technologies have the potential to be game-changers for consumers, for businesses, and for public safety.

Of course, transformative technological changes are not an unmixed blessing. With the advent of broadband have come such ills as cyber-attacks and spam e-mails, not to mention the inordinate amount of time that so many people (including my college-age son and high-school age daughter) devote to texting, Twittering, or logging on to their Facebook accounts. Still, the advances in communications that we have witnessed have for the

most part transformed lives for the better. Many of us now have the luxury of taking for granted the multi-media and multi-sensory nature of communication and the menagerie of content we expect to receive regardless of where we are on the map. More and more this is becoming “the norm.”

But the positive power of new technologies to transform lives is also sadly measured by the fact that these advances are not available to all. Between 20 and 25 percent of this nation’s population have some sort of disability that makes their daily life functions difficult if not impossible without some assistance, whether from another person or via technology. For this portion of our citizenry, the experience of being able to communicate anywhere, anytime is not yet “the norm.” Too often the available communications technology has some limiting factor, whether it be the user interface, the embedded software, or a single means of presenting information, and thus it remains out of reach to the disabled, as does the information it is capable of delivering.

And therein lies the reason why all of you gathered here, as experts in your fields, are participating in this conference and will continue to gather with greater urgency in the future. One of the challenges we face as a nation is ensuring not only that our

technological prowess empowers ALL Americans to lead better and more productive lives, but also that we harness these tools to preserve and protect the lives, property, and public safety of ALL citizens by making them universally accessible and usable.

As technology has advanced, Congress has enacted laws designed to ensure that disabled Americans have access to these technologies. And often it is the Federal Communications Commission that has been tasked with steering national communications network policies to serve the public safety needs of disabled citizens. However, all too often, while technological advances for the non-disabled have occupied the fast lane, the mission of bringing that same level of access to people with disabilities has trailed behind.

Which brings me back to that crossroad we have arrived at. As you know, this is a time of transition in Washington and at the FCC, which provides us with a unique opportunity to shift these accessibility issues into the fast lane. How successful we are in staying in that lane will be determined by careful planning and implementation of the rules of the road, good communication, and a spirit of partnership focusing on making these technologies accessible to the disabled community.

Broadband

In February of this year, President Obama signed the American Recovery and Reinvestment Act of 2009, which contained large scale funding for broadband initiatives. Just as significantly, it directed the FCC to create a National Broadband Plan for the United States, a plan that would “shall seek to ensure that all people of the United States have access to broadband capability and shall establish benchmarks for meeting that goal.” The Act also directed the Commission to develop this plan within one year of enactment, that is, by this coming February. As I said, we are in the fast lane.

The Act requires, and the Commission has recognized, that public safety broadband issues are a key part of this process. In April, the Commission released a broad Notice of Inquiry seeking comment on how to implement the plan required by Congress.

In the Notice, the Commission included specific questions on how broadband can be used to enhance public safety and homeland security in a variety of areas, including broadband capabilities for first responders, next generation 911 networks, and telehealth and telemedicine delivery. The Notice also sought comment on specific issues relating to broadband access for persons with

disabilities. Recognizing the tremendous value that broadband networks can bring to improving communications with and among people with disabilities and bringing opportunities to them, the Notice sought comment on how to ensure that the technical characteristics of current and future broadband networks align with the needs of disabled citizens.

As the saying goes, “knowledge is power” and this is especially true in responding to crises. Broadband technology can contribute to the overall safety of the public by vastly expanding the means by which the public, including those with disabilities, can seek assistance and receive emergency-related information.

For example, broadband enables us to re-think the concept of the traditional 911 emergency call. Unlike traditional telephone technology, broadband can handle not only voice, but also text, data, images, and video. Thus, if Public Safety Answering Points can utilize broadband technology, and if the public can send texts and transmit images and videos from events and disasters, one can imagine many new ways in which people with visual or hearing disabilities could call for and obtain assistance in emergencies.

Similarly, in times of emergency, broadband can support enhanced multi-mode communications to the public, such as transmission of alerts and emergency information that would be equally accessible to all. For example, alerting and information systems could be designed to provide messages by voice, text, and video, and to provide targeted information to emergency evacuations and sheltering by increasing the range of options for access to language interpreters, locating accessible shelters and temporary housing, and providing people with disabilities with the information and assistance they need.

However, these capabilities will only become a reality for the nation as a whole if broadband capability becomes more readily available to all citizens, including those with disabilities. For this reason, the Commission has initiated an unprecedented effort to gather facts and ideas from all quarters, including those that have been traditionally underrepresented in Commission proceedings.

For the latter part of the summer and continuing into the fall, the FCC has conducted a series of broadband workshops on a diverse array of topics. The goal of these workshops is to promote an open dialogue between the FCC and key constituents on matters important to the National Broadband Plan, including service

providers, equipment providers, applications providers, community groups, and other groups that have a stake in the future of broadband, including the community of disabled Americans.

This past August, the Commission held a workshop devoted specifically to broadband opportunities for individuals with disabilities, and on Tuesday, October 20, the Commission will hold a second workshop concerning Broadband Accessibility for People with Disabilities: Barriers, Opportunities and Policy Recommendations. The goal of this follow-up workshop is to clearly identify accessibility and affordability barriers faced by people with disabilities in accessing broadband technology. In connection with the upcoming workshop, the Commission this past Friday released a Public Notice (DA 09-2080) seeking further comment by October 6 on disabilities access issues raised in the original NOI and the August workshop.

These actions underscore the Commission's commitment to ensuring that the National Broadband Plan reflects the input of all who have a stake in the future of broadband and its accessibility for people with disabilities, including the disability community, network and service providers, equipment manufacturers, and software producers, technologists, economists, academics,

representatives from trade associations and non-profits, and representatives from tribal, local, state, and federal governments. We encourage all of you who are participating in this conference to contribute your energy and expertise to this dialogue through comments in response to the PN, participation in the upcoming workshop, and other contributions. With your participation, we can ensure that the National Broadband Plan will include specific policy recommendations on how best to lower barriers and enhance access to broadband for people with disabilities so that they can take full advantage of broadband's transformative potential.

Let me now turn to some of the other current FCC activities relating to public safety communications that affect persons with disabilities and how some of these issues have been and will be impacted by new technologies and services.

911 Issues

First, a few words regarding 911 issues. As you know, the Commission's wireless Enhanced 911 (E911) rules seek to improve the effectiveness and reliability of wireless 911 services by providing 911 telecommunicators with accurate and meaningful information from wireless 911 calls. Wireless carriers must

provide either Phase I E911 service - telephone number and cell site location - or Phase II E911 service - geographic location of caller - within six months of a PSAP making a valid request, representing that it is capable of receiving and utilizing location data and has a mechanism in place for recovering its costs. Although frequent shortfalls in funding have made Phase II deployment a challenge, the good news is that as of August 1, 2009, approximately 93 percent of the total 6,181 PSAPs in the country were capable of receiving some Phase II location information.

The Commission is actively exploring ways to improve location accuracy data provided to PSAPs. As you know, the Commission has a pending rulemaking proceeding to develop more refined location accuracy requirements for wireless service providers. As more and more people rely on wireless as their primary means of communication – to the point where in one out of five U.S. households, the wireless phone is the only phone -- it is increasingly important that wireless users not only have access to 911, but also that first responders receive automatic and accurate information to identify the caller's location.

In keeping with our focus on new technology, we also expect to remain closely involved in the movement towards Next Generation 911. We consider the development of NG 911 to be an important aspect of our evolution towards broadband, and we have sought comment on NG 911 issues in the Broadband NOI. When fully implemented, NG911 will allow every American to contact a 911 call center using voice, text, speech to text and video. The potential benefits of NG 911 for people with disabilities are enormous: by providing more means of transmitting critical information into 911 call centers, NG 911 will eliminate barriers to communication for people with disabilities, boost situational awareness for first responders, and ensure that response times for providing assistance to disabled Americans are no different than those for the non-disabled. One example recently highlighted at the first FCC Broadband Workshop on Disability Access was that of a deaf person being able to call 911 directly and have the 911 telecommunicator immediately punch in a video remote interpreter to relay the information. This is only one small example of the potential that NG 911 promises.

VoIP

The Commission is also actively engaged in disabilities access issues as they relate to Voice over Internet Protocol (VoIP)

services. The Commission has extended the disability access requirements that currently apply to telecommunications service providers and equipment manufacturers under section 255 of the Communications Act to providers of interconnected VoIP services, and to manufacturers of specially designed equipment used to provide those services. This is consistent with the Commission's statutory mandate to make available a nationwide communications system that promotes the safety and welfare of all Americans. In addition, the Commission has extended the Telecommunications Relay Services (TRS) requirements to providers of interconnected VoIP services, requiring them to contribute to the Interstate TRS Fund and, beginning in later June 2010, to offer 711 abbreviated dialing for access to relay services. Together, these measures will ensure that, as more consumers migrate from traditional phone service to interconnected VoIP services, the disability access provisions mandated by Congress will apply to, and benefit users of, interconnected VoIP services and equipment.

CMAS

Another area of focus for the Commission is emergency alerting. In October 2006, Congress mandated the creation of a Commercial Mobile Alert System (CMAS) that would enable commercial mobile service providers to transmit emergency alerts

to their subscribers should they choose to do so. To implement the legislation, the FCC adopted regulations providing for public alerts and warnings to be passed on to the public via their wireless telephone service providers.

Based on recommendations from the Commercial Mobile Service Alert Advisory Committee (CMSAAC), the FCC has sought to ensure that commercial mobile alerts will be accessible to all Americans, including individuals with disabilities and the elderly. In order to address the needs of these user groups and the needs of users more generally, we have required that participating wireless providers include both a common vibration cadence and a common audio attention signal on any device offered to the public for reception of commercial mobile alerts.

Similarly, for individuals that may have a hearing disability, our rules adopt the same temporal pattern for the vibration cadence that the CMSAAC recommended the Commission specify for the audio attention signal. The Commission has strongly encouraged wireless providers to coordinate with device manufacturers to utilize existing technologies to comply with these requirements as soon as possible. The Commission recognizes that incorporating capabilities for a common audio attention signal and a common

vibration cadence on the many devices that it expects to be offered to the public will take time to develop and implement successfully. However, the Commission believes that assuring full access for all Americans is sufficiently important that equipment may not be considered CMAS-compliant unless it includes both the common audio attention signal and the vibration cadence as specified in our rules. Further, both functions must be distinct from any other incoming message alerts and restricted to use for CMAS alerting purposes. Again, with these rules, we see the necessity of focusing on the close details of making these new services accessible to the disabled community.

In addition, the CMSAAC issued several recommendations regarding the output mode/display of mobile devices, recommending that CMAS-enabled mobile devices should employ display fonts that are easily readable with recognizable characters, citing three typeface examples. Although the Commission agreed with the CMSAAC that the goal in font selection is to use easily recognizable characters, it did not want to constrain the ability of wireless providers and manufacturers of devices to implement display modes that they find will best meet the needs of people with disabilities and other users. Accordingly, the Commission did

not adopt rules to limit the display of CMAS alerts to a particular font or character set.

Likewise, text-to-speech (TTS) enabled wireless mobile devices are becoming increasingly common, and the FCC has strongly encouraged all participating wireless providers to offer devices with such capabilities so that blind individuals and those with severe visual impairments can obtain the public safety benefits of commercial mobile alerts. In crafting its rules, the Commission recognized that many of the requirements it adopted for the first generation of CMAS are intended to enable the provision of text-based alerts to the public. However, the Commission expects that CMAS will evolve to include audio and video service profiles, and so one should expect the Commission rules to evolve as well with respect to output modes and displays for such future service profiles.

With respect to wireless providers providing information on whether or not they offer CMAS alerts, the Commission has stated that at the point-of-sale, clear and conspicuous notification of availability of the service for persons with disabilities would include enhanced visual, tactile, or auditory assistance in conveying the required notification.

Emergency Alert System

The Emergency Alert System, (EAS) provides a platform for delivering emergency alert information to the public via broadcast, cable, and other media. The Commission's EAS rules currently require that EAS providers transmit visual and aural messages. Recently the Commission revised the Part 11 EAS rules as part of our continuing effort to provide the American public a state-of-the-art, next-generation EAS based on the Common Alerting Protocol (CAP) and using CAP standards being developed by FEMA. The use of CAP will help enable the transmission of EAS alerts in a variety of formats, including text, audio, and video, and via different means, such as broadcast, cable satellite, and other networks, as well as promote the development of Next Generation EAS. Adoption of CAP and the implementation of Next Generation EAS will enable delivery of alerts to persons with disabilities within the same time frame as the non-disabled community.

While CAP is promising, we recognize that it may not be the whole answer for making EAS alerts accessible to persons with disabilities, and it does not address the broader question of making emergency and public safety information available to persons with

disabilities. The Commission continues to examine the best way to make EAS and other emergency information accessible to persons with disabilities, including the presentation of the audio feed in text format, and vice-versa; making emergency information available to various devices commonly used by persons with disabilities; and providing emergency messages in multiple formats to meet the needs of persons with disabilities.

Outreach

Lastly, I'd like to touch on a major effort of the Public Safety and Homeland Security Bureau, and that is outreach. As we consider the possibilities created by new technology, we must not lose sight of the important fundamentals of planning, communication, and partnership. This is why we consider outreach to, and regular communication with, organizations such as the RERC to be a priority. One way that we seek to accomplish this is through our Clearinghouse website, which provides a wealth of information for persons with disabilities, as well as first responders, 911 Call Centers, the healthcare sector, and state, local and tribal governments. On our website, we have posted not only information on Commission initiatives but also links to other federal agency resources, guidelines for developing state and local emergency plans, case studies, best practices, and sample

emergency plans from jurisdictions around the country, all with a focus on providing a source of information for creating and implementing emergency procedures that include persons with disabilities. We encourage you to take advantage of the information resources on the website, and help us improve the website by submitting information that would benefit both the public safety and the disabled community.

The Public Safety and Homeland Security Bureau also works closely with the Commission's Disability Rights Office (DRO) on public safety issues. The disability preparedness website provides practical information on how individuals can prepare for an emergency. It also provides information for family members of, and service providers to, people with disabilities. In addition, this site includes information for emergency planners and first responders to help them to better prepare for serving persons with disabilities. Although the Disability Rights Office takes the lead for the Commission on public safety issues for the deaf and hard of hearing, the Public Safety and Homeland Security Bureau continues to provide consultation and support on these issues.

In another effort to foster and create effective partnerships, the FCC is proud to participate in the Interagency Coordinating

Council (ICC) which is dedicated to Emergency Preparedness and Individuals with Disabilities. The ICC seeks to ensure that the Federal Government appropriately supports and coordinates safety and security for individuals with disabilities in emergency situations.

Conclusion

In conclusion, we have many opportunities to improve access to communications infrastructure for the disabled community. Congress has directed the FCC to ensure equitable access to and use of wireless technologies and emergency communications by people with disabilities. We look forward to continuing to work with the RERC and the participants in this conference, and I am confident that through our continuing partnership, through events such as this conference, and through our workshops and other outreach, we can and will accomplish great things. On behalf of the FCC and the Bureau staff, thank you again for giving me the opportunity to speak to you today.