STATEMENT OF COMMISSIONER JESSICA ROSENWORCEL FEDERAL COMMUNICATIONS COMMISSION BEFORE THE

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Good afternoon, Chairman Rockefeller, Ranking Member Thune, and the distinguished members of the Committee.

I am honored to appear before you today as a Commissioner at the Federal Communications Commission. Prior to serving in this position, I had the privilege of serving this Committee as Senior Communications Counsel. But of course, joining you here today behind the witness table is a different experience altogether. I am grateful for the opportunity.

Let me start by noting that there is no sector of the economy more dynamic than communications. By some measures, communications technologies now account for one-sixth of the economy in the United States. We have more ways to connect, create, and access content than at any point in history. These technologies are changing the way we educate, entertain, and govern ourselves—in communities all across the country.

But our communications triumphs to date are no guarantee of future success. Laurels, are not, in fact, good resting places. So I think it is important to start with what we know. We know that we are witnessing the breaking down of old barriers between local and long distance; voice, video, and data; and wired and wireless. We know that the scope of communications convergence is immense—and the digitization of all aspects of our economic and civic life is well underway.

There is no question that this transition is exciting. But it also brings challenges. So in these transitional times, what should guide the Commission as we carry out the laws developed by Congress? I believe that our policies must always do two simple things.

First, they must promote confidence for private investment in digital age infrastructure.

Second, they must promote confidence for consumers to realize the full potential and opportunity that our emerging digital world provides.

This is the prism through which I view all of the Commission's actions. It is the prism through which I believe the agency should approach the challenging issues ahead. It is the way I believe we can best foster growth and opportunity through communications—in urban areas, rural areas, and everything in between.

Now I want to move from the big picture to the particular, from method to mechanics—and discuss the major communications issues that lie ahead.

Implementing Successful Wireless Incentive Auctions

The Commission embarked this past September on the complex but critical task of conducting wireless incentive auctions. As you undoubtedly know, incentive auctions are a new tool that Congress provided us with in the Middle Class Tax Relief and Job Creation Act to address the near-term demands on our nation's airwayes.

The demands on our airwaves are very real. Consider the fact that we already have more wireless phones in this country than we have people. Half of those phones are smartphones. Today one in five households owns a tablet computer—and that number is growing fast. Smartphones generate 35 times the traffic of traditional wireless phones. Tablet computers generate 121 times the traffic of traditional wireless phones. And over the next five years, mobile data traffic is expected to grow 13 times what it is today.

So we must get these auctions right. Because if we get them right, we will facilitate the *voluntary* return of spectrum from commercial licensees and promote its efficient reuse. If we get them right, we will ease congestion on our airwaves and expedite development of new wireless services and applications. That will mean confidence for carriers to invest in wireless networks and confidence for consumers to take advantage of the growing array of new and innovative services that wireless broadband can put in our hands.

But before we get there, it is useful to consider what has come before. For nearly two decades, the Commission's path-breaking spectrum auctions have led the world. The agency has held more than 80 auctions; it has issued more than 36,000 licenses; and it has raised more than \$50 billion for the United States Treasury. The Commission's simultaneous multiple round ascending auctions have been a model for governments and commercial wireless providers across the globe.

We are now again poised to be the world's pioneer with incentive auctions. To ensure our success I believe that four basic principles should guide us: simplicity, fairness, balance, and public safety.

Simplicity is key. Incentive auctions are undeniably complicated. But at every structural juncture, a bias toward simplicity for participants is crucial. A broadcaster should be able to quickly and transparently evaluate the opportunities auctions provide.

Fairness is essential. This is especially true with regard to the treatment of broadcasters that do not participate in the auction. Fairness demands that we consider how to accomplish repacking by minimizing unnecessary disruption and maximizing the ability of the public to continue to receive free, over-the-air television. At the same time, we ask that broadcasters make a fair assessment of the opportunities that this auction provides. By offering incentives to share channels and incentives to relocate from the UHF to the VHF band, this auction can mean new resources for broadcasters to develop new programming and deploy new services.

Balance is necessary. None of the three legs of the incentive auction—the reverse auction, the repacking, or the forward auction—can stand on its own. For instance, the

interference rules we consider will not only impact broadcast services, but also how much spectrum will be available for auction, which in turn will impact the revenues raised. Choices in one area affect others. This also requires attention to the balance between licensed and unlicensed use of spectrum across all frequency bands. The former provides reliability and interference protection; the latter provides low barriers to entry and promotes the efficient use of limited resources. Good spectrum policy requires both.

Public safety is fundamental. The Commission must remember that Congress designated auction revenues to support the first nationwide, interoperable wireless broadband public safety network. We must never forget that the success of these auctions requires delivering on our promise to America's first responders.

Finally, it is important to put our incentive auctions—and all of our spectrum auctions—on a clear timeline. A date certain will focus all stakeholders, lead to capital formation, provide certainty for broadcasters, and help ensure success.

Developing a New Approach to Federal Spectrum

Even with incentive auctions on course, demand for our airwaves will continue to grow at a breathtaking pace. To keep up, more must be done. I believe this requires rethinking our traditional approach to federal spectrum.

Federal authorities have substantial spectrum assignments. After all, critical missions throughout the government are dependent on access to our airwaves. Federal authorities use their spectrum assignments to protect us from attack, with tools like precision guided munitions and early missile warning systems. They use them to manage our air traffic, enhance our crop productivity, and monitor our water supplies. They use them to protect against forest fires, and to predict weather patterns—like Hurricane Sandy—before they occur. These are essential to our economic security and our national well-being.

Nonetheless, we are on a hunt for new opportunities for commercial spectrum, in order to reach the 500 megahertz benchmark for new wireless broadband use in the Executive Order from President Obama just under three years ago. With traditional auctions and incentive auctions in the Middle Class Tax Relief and Job Creation Act we are already on our way. But meeting this mark will require more. It will require a fresh look at federal uses.

The traditional approach to repurposing federal spectrum for commercial use entailed three distinct steps: clear federal users out, relocate them, and auction the spectrum for new commercial use. But while this three-part command worked well in the past, it is unlikely to work as well going forward. Just as in the commercial sector, more government functions than ever before are traveling over our airwaves and it is growing harder to find spectrum for federal relocation.

So it is time for a new approach. It is time to develop a series of incentives to serve as the catalyst for freeing more federal spectrum for commercial use. Government agencies are mission focused. Once a communications network has been built, once a land mobile radio

system is operational, agencies do not want to change because it disrupts their mission. This is completely rational. But what if we were to reward federal authorities for efficient use of their spectrum resource? What if they were able to reclaim a portion of the revenue from the subsequent re-auction of their airwaves? Or enjoy a benefit in their budget every time they increased their efficient use of the airwaves? Would they make new choices about their missions and the resources they need to accomplish them? I think so. In short, instead of sticks, we should try carrots. We must work with our government partners so they can realize the value of their spectrum and the value of using it efficiently—instead of only seeing loss from its commercial reallocation.

Fostering the Transition to IP Networks

When it comes to communications network infrastructure, we are living in a transitional time. We have the public switched telephone network and an emerging Internet Protocol (IP) ecosystem. Today they coexist. The new and the next interconnect. They are jointly responsible for carrying our communications.

The numbers clearly demonstrate this transition. In 2001, there were 192 million circuit-switched telephone lines. A decade later, this number declined by more than 40 percent to 107 million. In contrast, interconnected Voice over Internet Protocol (VoIP) subscriptions have risen by more than 50 percent since 2008, and now number 37 million. Add to this that over one-third of households have cut the cord entirely, with their wireless phone their only phone.

What we have is a trend. The ways consumers choose to connect are growing more diverse, and so are the networks over which our conversations and content travel.

The Commission is guiding the course for this transition right now. It has petitions before it that pose basic questions about fostering the migration to IP network infrastructure. It also has a task force charged with comprehensively considering issues posed by this transition. These are good developments. Because we must do more than just apply the laws of the present to the networks of the future. We must make choices that inspire confidence and private investment in our nation's infrastructure.

To this end, companies need to understand what policies guide the Commission's actions, both from a regulatory and enforcement perspective. We will undermine investment if we are not clear. So as we develop a framework for the IP transition, I think we should be clear and not get lost in legal minutiae. We need to ask big questions about the basic values in our communications laws. For my part, I see four: public safety, universal service, competition, and consumer protection.

First, public safety is paramount. In the very first sentence of the Communications Act, Congress instructed the Commission to make available, "to all the people of the United States . . . a rapid, efficient, Nation-wide, and world-wide radio and communication service" in order to promote the "safety of life and property." In light of this directive, any technological or network transition must, first and foremost, be judged by its ultimate impact on public safety and network resiliency.

But as the numbers I just shared with you demonstrate, we are migrating to wireless and IP networks. That means that we are choosing to go without the independent electrical source that traditionally powered wireline copper plant. Our new wireless and IP technologies are dependent on commercial power. When that goes out, so do connections. But as consumers switch to new networks, I do not believe we have to sacrifice safety in the process.

So as a result, I think it is time for an honest conversation about network reliability in the wireless and digital age. It is time to ask hard questions about back-up power, and how to make sure our networks are more dependable when we need them most. We also need to make sure that consumers understand the benefits—and limitations—of new technologies when they reach out for emergency assistance. Hurricane Sandy demonstrated this need with painful clarity.

Second, universal service is still essential. No matter who you are or where you live, prosperity in the 21st century will require access to broadband services. The Commission's ongoing efforts to promote broadband deployment and adoption are built on this simple truth. But as we transition to new technologies, we must ensure that no American is left behind.

Third, competitive markets are critically important. Competition inspires private sector investment. The competitive markets that have spurred so much technological innovation in the past will be the most effective means of making sure that consumers reap the benefits of this network transition in the future. This requires special attention to a key element of the Telecommunications Act that has made our patchwork of competitive networks work seamlessly: interconnection.

Fourth, consumer protection is always in the public interest. In a transitional world, consumers rely on both old and new technologies. We need to help consumers understand what different technologies offer, help them make informed choices, and inspire confidence in the range of new services this transition is making available.

As we assess changes in the public switched telephone network, I think these principles are good guideposts. I think we can work within this framework and promote confidence in network investment across the country.

Updating Universal Service and E-Rate for the Broadband Age

Universal service is a cherished notion in communications. After all, it was back in 1934 when Congress first directed the Commission to make "communication by wire and radio" available "so far as possible, to all the people of the United States." And it was Congress who expanded on this notion by adding new principles to guide universal service policy to the law in 1996. As a result, today, the duty to preserve and advance universal service is the law of the land.

Technology changes, but these basic legal principles have not. That is why, a little over a year ago, my colleagues at the Commission updated the high-cost universal service and intercarrier compensation system. This was a historic effort. They refocused the fund from last

century's technology on to the broadband and wireless communications challenges of this century. They put it on a budget. And they increased accountability throughout.

But I do worry that our reforms to the high-cost universal service system are extremely complex. I fear that this complexity can deny carriers dependent on it the certainty they need to confidently invest in network infrastructure. So when opportunities arise to simplify our rules in a manner that is fiscally sound, good for rural consumers, and bound to inspire investment—we should seize them. Our policies must strive to provide carriers with confidence to invest in broadband and wireless infrastructure and provide rural consumers with confidence that they will have access to first-rate communications services.

To this end, I am pleased that the Commission recently made adjustments to the universal service reforms it put in place for rate-of-return carriers serving rural areas. Specifically, it combined separate capital and operating expense benchmarks into a single new benchmark. As technical as this sounds, it simplifies our regression analysis and provides carriers with more flexibility and more confidence to invest in their networks. This is a good thing.

However, going forward I would like to see similar adjustments made for price cap carriers serving rural communities. Specifically, I would like to see the Commission distribute incremental support from its first phase of the Connect America Fund as soon as possible. With more than 14.5 million rural consumers without broadband today, these funds could be put to use right now to expand service and create jobs in rural America. Delaying their distribution until a long-term cost model is developed under the Connect America Fund would only further delay rural broadband deployment.

Going forward, we also need to update the E-Rate program to meet 21^{st} century education needs. In my current role, I have met with school superintendents in communities as diverse as Miami, Florida and Kotzebue, Alaska. They are uniform in one thing—their praise for the power of E-Rate to bring high-speed communications to their schools and libraries. They believe it is essential for digital age learning. But year-in and year-out, the demand for this program is double the amount the Commission makes available. Moreover, our surveys suggest that 80 percent of schools and libraries believe their broadband connections do not meet the current needs. So I believe it is time for E-Rate 2.0. I think it is time to reboot, reinvest, and reinvigorate this program and put it on a course to provide higher speeds and greater opportunities in the days ahead.

Recommitting to Consumers

Communications and media services are becoming a more substantial part of all of our household budgets. Consumer expenses on communications bills average more than 4 percent of disposable income. For many households, that can mean thousands of dollars a year. To be clear, we are getting a lot more value from these services. We have more channels than ever before. We have faster broadband. We have mobility, and with it the expectation that wherever we go, the ability to connect will follow.

But consumer wallets are not without limit. Pocketbooks have their bottom. In a world where consumer choices have become both vast and complex, information is power. So it is vitally important to get consumers the information they need to make choices with confidence in a marketplace that can be bewildering to navigate.

Consider, for example, the dizzying array of wireless plans available: shared and individual plans, limited and unlimited voice, data, and text. To stay within a plan can require keeping track of voice, data, and text usage across multiple devices. But I believe that nobody should need to hire a lawyer to understand their wireless contract and nobody should need to hire an accountant to explain their bill. That is why the Commission's bill shock initiative, developed with wireless carriers, is an especially terrific effort. As a result, going forward, wireless customers will get alerts before they reach their voice, data, text, and international roaming limits. So they will no longer unknowingly rack up unexpected charges on their bills. It's a nice demonstration of how good information can provide consumers with the confidence to adopt new technologies and services—and benefit from their functionality.

But we can do more. For starters, I believe our consumer complaint process needs an upgrade. While the digital age advances, our consumer complaint process is stuck in the analog era. Consider that every year the Commission receives roughly 400,000 complaints and inquiries. The interfaces we have, however, are dated and the information we provide has too much of the special charm of regulatory legalese. We can do better. It is time update this process and so we can answer questions, direct queries, and help consumers navigate the range of communications services they use in every aspect of their lives.

But we should go further. This is the era of big data. We should not just collect this complaint and inquiry information from consumers and publish it in snapshot form. We should take these numbers and make them accessible in machine-readable formats, and if possible, with common metadata tagging schemes. We need to use these data to inform the Commission's policy activities and ensure consumers are treated fairly. We can also turn to others to slice and dice these numbers and identify meaningful trends that deserve our national attention, concern—or even praise.

In this way we can recommit to consumers, help them get good information about their communications services, contracts, and options—and help them make better choices.

Let me close by saying that it is an exciting time in communications. The issues before us present real challenges. But their smart execution can also yield great things: confidence for private investment in infrastructure and confidence for consumers to realize the wide range of opportunities new digital age services provide.

I look forward to working with you and answering any questions you might have.