FCC CHAIRMAN JULIUS GENACHOWSKI
PREPARED REMARKS TO INTERNATIONAL CTIA WIRELESS 2012
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Thank you. It's great to be in New Orleans.

I'm happy to report some good news from Washington. Yesterday, the Senate confirmed Ajit Pai and Jessica Rosenworcel as FCC Commissioners.

I'm not saying their confirmation was overdue, but they were nominated by President Truman.

Obviously, it was President Obama who nominated them, and he made outstanding decisions, as the Senate did in confirming them.

Jessica and Ajit bring deep knowledge of our sector, and proven track records of accomplishment.

Along with Commissioners Rob McDowell and Mignon Clyburn, I look forward to working with them, and I know you do too.

Thank you, Steve Largent, for welcoming me.

In particular, I want to thank Steve and all CTIA members for not one, but two major consumer initiatives where CTIA has partnered with the FCC in the past year to address major issues.

Last month, CTIA joined me and several major city police chiefs to announce the launch of a strong initiative to tackle the distressing increase we've seen in cell phone theft.

The wireless industry will launch a new database that will allow stolen smartphones to be disabled, rendered useless on any network, dramatically reducing their value on the black market.

Wireless carriers will also install software to prompt consumers to enter passwords and install apps that can locate, wipe, and lock stolen phones.

Several months earlier, Steve Largent joined me and representatives of Consumers Union to announce a common sense solution to "Bill Shock" -- that wireless providers would send alerts before consumers incur overage charges for voice, data, texting, and international roaming.

I'm also pleased that over the past few months a number of companies have taken the lead to expedite deployment of next generation 911 services, which will enable people to send texts, photos, and videos from their smartphones to emergency response centers.

This will save lives.

Last September, I challenged the wireless industry and public safety community to expedite deployment of Next Generation 911 services, and the FCC has taken several concrete steps to advance that goal, with more coming.

A number of companies have stepped up to the plate, including Neustar, Intrado, and Bandwidth.com.

And last week Verizon Wireless announced a major initiative to introduce text-to-911 services nationwide.

I also want to commend the wireless companies who have partnered with us to enhance cybersecurity, committing to a code of conduct on botnets and actions on DNSSEC and Internet route hijacking. We look forward to continuing to work with them on this critically important issue.

On a series of important matters, working together, we've been able to develop real solutions to real problems. This is good for American consumers and good for the wireless industry.

I appreciate the work of CTIA in these initiatives, and leadership of Chairman Pat Riordan.

I always enjoy speaking at CTIA, but one downside is that this industry is setting records and breaking milestones at such a rapid pace that my speech is out-of-date before I can hit save.

While working on this speech I read that a new milestone was reached.

Around, the world, more people now have mobile phones than electricity or running water.

That makes mobile phones the most pervasive technology in history.

Since we were together last year, the U.S. passed some key milestones. There are now more active mobile devices than people in the U.S. And the majority of mobile subscribers now have smartphones – more than double the number last year.

Smartphone sales now exceed PC sales, and analysts project that by 2015 tablets– which didn't even exist at the start of 2010 – will outsell PCs, too.

The implications of the mobile revolution for our economy and our quality of life are profound.

Let's start with job creation.

As innovators, investors and job creators, no one knows better than you what mobile means to our economy.

Whether it's GDP, the apps economy or job creation, it is clear that wireless innovation and investment has helped lead us out of economic crisis and into recovery over the past three years.

The wireless industry supports millions of U.S. jobs.

One study estimated that wireless has contributed to the creation of 1.6 million U.S. jobs in just the past few years.

The mobile apps economy barely existed in early 2009. Today it alone supports nearly 500,000 jobs.

Meanwhile, wireless contributes about $150 billion annually to U.S. GDP -- and growing.

Of course, the benefits of mobile extend beyond jobs and our economy.

Consider education, where mobile broadband powers interactive digital textbooks and improved connectivity at schools; health care, where remote monitoring and other wireless technologies are helping lower health care costs and improve health results.

Take public safety. In the foreseeable future, wireless will enhance our public safety not only through initiatives like Next Gen 911 and a nationwide mobile broadband public safety network.

It will enhance safety through the development of the Internet of Things.

Devices connected to devices, machines to machines, transmitting information automatically.

The Internet of Things has the ability to enable remote health monitoring, smart energy grids and smart, secure homes; to foster more efficient transportation networks, water systems, and logistical support for businesses.

This isn't science fiction.

You can see it here in New Orleans in connection with this show, and it is rolling out in markets across the country.

Mobile broadband is changing the world for the better.

And what's particularly rewarding to all those involved in mobile-related industries and policymaking in the United States is that the U.S. is leading this revolution.

We have now regained our global leadership in mobile.

American-designed apps and services are being adopted faster than any others, both inside and outside our borders.

After years of seeing countries in Asia and elsewhere developing popular mobile applications ahead of us, the U.S. mobile innovation economy is now the envy of the world.

We are now ahead of the world in deploying 4G mobile broadband at scale – with 64% of the world's 4G LTE subscribers here in the U.S.

And last year we became the first country to free up TV white spaces for unlicensed use, which hold the promise of new value-creating breakthroughs on the order of magnitude of Wi-Fi.

America is back on top in wireless, and companies here at CTIA have been key to making this possible.

Mobile carriers providing the services that connect us are deploying new technologies like LTE;

Network equipment manufacturers are building out improved infrastructure for mobile networks;

Device makers continue to raise the bar;

Chip designers are constantly testing Moore's Law; and

Software developers keep coming up with new apps to connect us, to inform and entertain us, and to boost productivity, generating growing demand for mobile services and devices.

The ecosystem of companies represented here is innovating in mutually reinforcing ways, a virtuous cycle, creating tremendous value and inventing the future.

These successes are worth celebrating.

But of course there's no rest for the weary.

We must recognize that these successes are creating new challenges that put U.S. competitiveness and future opportunities at risk.

The first challenge is that the demand for mobile services is on pace to exceed the capacity of our mobile networks.

According to a 2011 Credit Suisse survey of network operators, U.S. wireless networks are on average running at 80% of total capacity – the highest utilization of any region in the world.

We won't seize the opportunities before us if we don't tackle the capacity challenge.

A second challenge is making sure mobile broadband connectivity is truly universal—that all Americans have access.

This is necessary to maximize the economic potential of mobile for consumers and for businesses large and small, and to seize the game-changing opportunities we see displayed on the showroom floor and in demonstrations like AT&T's Digital Life home, which I visited yesterday.

Ubiquity is necessary to seize the opportunities around digital textbooks, wireless health monitors, public safety, and more.

We are leading the world in smartphone adoption and LTE deployment, but mobile broadband still isn't meaningfully available to everyone or everywhere. Roughly half of Americans do not subscribe to mobile broadband service.

The kinds of challenges we have in mobile are the kind we want: Challenges stemming from growing mobile demand, and from the growing value of mobile broadband, which leads to increases in the cost of mobile broadband exclusion.

I'm sure no one will disagree: better these challenges than the opposite.

America needs to meet the new challenges in a way that preserves the key ingredients that have powered the mobile industry's success -- innovation, investment, competition, and a focus on consumers.

Innovation is the key driver of productivity gains and economic growth, and it's America's greatest competitive edge in the global economy.

We need innovation in hardware, in software, in air interfaces, in business models, everywhere.

Investment enables innovation, drives growth, and creates jobs.

Competition is fundamental to driving innovation and investment.

That's why it is a core tenet of our free-market system.

And empowered consumers are vital to a functioning free market economy – consumers empowered by information and competitive choices.

The massive investment we've seen in the mobile sector, the tremendous growth and innovation that benefits us every day, and the value created for consumers – they are all the product of a dynamic mobile marketplace.

The contours of that market have evolved and will continue to evolve in response to the need for ubiquitous connectivity, the introduction of new technologies and services, and the capital required to drive greater value for consumers. Business models will evolve with them.

In our work, we must recognize both the potential value of market-based actions that enhance efficiency, and the fundamental importance of vibrant and healthy competition.

And so at the FCC in the last three years, we have approved hundreds of wireless transactions involving approximately 1,000 spectrum licenses, some involving licenses valued at billions of dollars.

We've also taken important steps to promote competition, including by requiring that carriers offer data roaming, launching a focused proceeding on interoperability, and establishing rules of the road to preserve Internet freedom.

Some have recently argued that the government's review of transactions in the wireless space – or, let's be frank, review of one specific transaction – is somehow causing a shortage of spectrum and leading that company to raise prices for consumers.

But the overall amount of spectrum available has not changed, except for steps we're taking to add new spectrum on the market.

At its core, the argument – that competition is bad for consumers – is at odds with basic free-market principles.

As a society, we've staked our economy on the proposition that competition doesn't lead to higher prices for the same product, but to lower prices and more valuable services.

Another strain of the argument is that competition is bad for spectrum efficiency.

First, the FCC has demonstrated for years its focus on efficiency, including policies to discourage the holding of unused spectrum.

And the notion that competition drives spectrum inefficiency is at odds with our history with mobile, which demonstrates that competition drives investment in efficiency-enhancing technologies and the evolution of business models to the benefit of consumers and providers alike.

As I mentioned earlier, the FCC's track record here is very clear, and our review of one transaction that crossed a line simply proves that there is a line -- and that the Commission will be diligent in exercising its important responsibilities

We've also been clear since 2010 that, in a competitive market, usage-based pricing can be a useful tool -- consistent with the goal of driving efficiency, as well as with the need for return on investment to drive capital expenditures in robust network infrastructure.

Experimentation in business models is a positive development.

At the same time, it's fair to expect, as with previous generations of wireless, that new technologies will allow providers to deliver more bits at lower cost, and that in a competitive market these benefits will be passed on to consumers as well as supporting ongoing capital investment.

History shows that spirited rivalry in the rollout of earlier generations of mobile led to a wealth of business model innovations, such as off-peak minutes and shared family plans, that have been key to the industry's mass-market success.

I expect that we'll see a similar wave of business-model innovations to grow the market for 4G while driving efficient use and ongoing expansion of our wireless infrastructure.

I also hope we'll see accelerated upgrades of network architectures to utilize many of the great innovations on the show floor.

Advancements like smart antennas and smaller cells.

Acceleration of plans to re-farm spectrum from older technologies to LTE.

On this, I was pleased by the recent reports that AT&T, for example, is now taking steps to upgrade from less efficient legacy technology in key markets like New York.

So what does this come down to?

It comes down to the four principles I said on my first day as Chairman would guide our work: promoting innovation, driving investment, fostering competition, and empowering consumers.

In the mobile area we've accomplished a great deal focusing on those principles, and we also have more work to do.

Let me spend a few minutes describing our Mobile Action Plan -- the continuation of our work to unleash the opportunities of mobile and maximize the value of spectrum for our economy and consumers.

And yes, while some casual observers may be surprised, this work goes well beyond incentive auctions – as it must, because there is no single solution to our mobile challenges.

We are moving forward simultaneously on three separate, though related tracks.

The first track is our core opportunities.

This is work to get the most out of our existing toolkit for unleashing spectrum and promoting mobile investment and innovation.

The second track is emerging opportunities.

We have some new tools at our disposal, and we are focused on maximizing their positive impact.

The third track is charting the next frontiers of wireless policy – innovative, next-generation approaches that promise to significantly increase the efficiency of spectrum use and bring other major benefits.

Two points about these tracks.

First, this is not an a-la-carte agenda. We're committed to moving forward with meaningful action on all three tracks simultaneously.

Second, this *is* an all-of-the-above agenda. There is no silver bullet to tackling the new challenges.

Some people argue that without freeing up new spectrum for mobile broadband we can't solve our challenges. Others say we shouldn't focus only on spectrum and there are many other steps to take to address our challenges. They are both right.

And so let's start with our core opportunities.

First, spectrum auctions.

Auctions have been a huge success. Pioneered in America, they have raised over $50 billion for the Treasury and unleashed hundreds of billions of dollars in benefits for our economy.

Of course it's become more difficult to find spectrum to auction, but, to borrow a phrase, reports of the spectrum auction's demise have been greatly exaggerated.

Even apart from incentive auctions, the FCC plans on conducting auctions for 65 megahertz of spectrum in the next 3 years.

In each case, our staff is working on ways to maximize the value of this spectrum for carriers and consumers.

Another important existing tool: removing barriers to spectrum use.

Our ongoing effort to remove outdated regulations continues.

A few examples:

With AWS-4, also known as the "MSS S-Band," we recently launched a rulemaking to convert 40 megahertz of prime spectrum from satellite to terrestrial use.

We expect to issue new rules by year end.

We're also moving forward on an important initiative to accelerate the rollout of LTE in the 800 MHz band.

The current rules only allow 25 KHz channels, but newer technologies have channels 50 times that size or larger.

After notice and comment and with appropriate safeguards, I have just placed an Order on the agenda for our May Open Meeting that would remove this outdated rule.

And there is the 2.3 GHz WCS band.

We've already taken meaningful steps to make at least 25 megahertz more usable by revising technical rules that had impeded use.

Some CTIA members have suggested additional changes that could speed the availability of this spectrum.

We are taking a very close look, and are preparing for action in the coming months.

We're not only removing barriers to flexible use of spectrum, we are also eliminating barriers to wireless infrastructure buildout.

As part of our Broadband Acceleration Initiative, we already established a 90-day shot clock to speed the local approval process for tower and antennae siting.

The shot-clock idea originated with CTIA, and our doors remain open to ideas for removing unnecessary barriers to wireless buildout.

Dig Once is another good idea. , It would ensure fiber can be laid every time we open a road for repair. We proposed it in the National Broadband Plan. It's time to move on this, and I'm hopeful that we'll see action soon

Another existing tool we are focused on is Wi-Fi.

Wi-Fi has proved incredibly valuable in relieving network congestion.

But as anyone who's tried to go online at an airport or a convention can tell you, our Wi-Fi networks themselves are facing congestion problems.

We recognize this growing problem, and we're taking action.

We're working with NTIA and industry to make an additional 120 megahertz of spectrum in the 5 GHz band available for unlicensed use.

This will provide greater Wi-Fi speeds and more space for Wi-Fi to help meet growing demand.

We're committed to doing everything in our power to move this forward fast.

But freeing up spectrum for licensed and unlicensed use is not the only core opportunity to pursue. To tackle the new challenges we need to see improvements in efficiency in networks and devices.

Some in the industry are already designing and building the next generation of mobile networks – beyond even 4G.

Innovators are developing new technologies to modernize network management – shifting from hardware to software; from customized networks to standardized networks. Virtual network management.

These innovations can dramatically increase efficiency and lower costs, while leading to new desirable services for consumers, and the ability of carriers and equipment manufacturers to monetize them.

We will work with all stakeholders on strategies to incentivize and accelerate order-of-magnitude improvements in network efficiency.

We'll do the same to help drive a new generation of efficiency in devices.

One issue: we need devices with efficient receivers in every band.

Otherwise, as we have seen, legacy equipment can foreclose new, higher-value uses of spectrum.

The mobile industry has set a high standard for receiver efficiency, a standard that can be a model for others.

The Commission is looking hard at how to ensure the use of efficient receivers across the spectrum chart.

We started with a two-day workshop earlier this spring, which concluded with broad agreement that receiver efficiency is an issue whose time has come.

Our Technological Advisory Council has made it one of their top priorities to find a constructive path forward on these issues that will have to involve all key stakeholders, including government spectrum users and device manufacturers.

Another important area of opportunity is federal R&D for long-term research to unlock new spectrum-related efficiencies and opportunities. Mobile is too important to the future of our economy and society. Market incentives aren't there to ensure that private companies invest enough in over-the-horizon research, and government should step in and fill the void.

We'll also continue to monitor the state of competition in the wireless industry, including issues such as data roaming, interoperability, and spectrum concentration, and take action where necessary.

Now, let me talk for a moment about track two – emerging opportunities.

As times change, we need new tools to solve new problems.

I'll highlight three innovative initiatives we're currently working on, each of which holds the promise of major benefits to the U.S. wireless ecosystem.

The one that's gotten the most attention has been Incentive Auctions.

The first thing I want to say about incentive auctions is, "Thank You."

Ever since the FCC proposed this policy innovation in our National Broadband Plan, CTIA and its member companies have been among its most forceful advocates. With your help, we went from concept to law in just two years.

The next step is to put the new law to work.

This market-based solution for repurposing spectrum is unprecedented.

The U.S. will be the first country in the world to conduct incentive auctions.

Designing the auctions is a multifaceted task affecting major parts of our economy, involving many challenging questions of economics and engineering.

Indeed, how much spectrum the incentive auctions will ultimately free up will depend on rigorous and fact-based analysis of economics and engineering issues.

The engagement of the wireless industry will be critical.

We've announced an implementation plan that puts us on schedule to launch a rulemaking by the fall of this year.

As part of this rulemaking, we intend to refresh our approach to some basic technical issues.

For example, band plans.

Should we update our thinking to accommodate new capabilities available in LTE Advanced, like supplemental downlink and channel aggregation?

I am asking our Technological Advisory Council, whose members include several CTOs sitting in this room, to convene a forum on the future of band plans to inform the incentive auctions and other upcoming auctions.

I hope you'll lend your strongest engineers to this effort – and in general to the effort to maximize the recovery of spectrum from incentive auctions.

Another major new initiative is the release of TV white spaces spectrum.

This is the most significant release of spectrum for unlicensed use in 25 years.

We are already the world leaders in opening this spectrum for innovators, with the first finalized rules, the first approved database administrators, the first equipment authorizations, and the first deployments.

But just because we are first out of the blocks doesn't mean we'll stay there.

Countries around the world are looking seriously at opening up this robust spectrum.

That's why restrictions on the FCC's ability to free up spectrum for unlicensed use, including those in the recent legislation, are so concerning.

These restrictions can threaten our ability to act quickly in an increasingly competitive global marketplace.

The other big emerging opportunity I wanted to highlight is the Mobility Fund.

To fully realize the promise of mobile-to-mobile communications, we need ubiquitous, reliable mobile coverage. This is one of many powerful reasons for driving ubiquity.

Parts of our country still don't have 3G coverage, and there's no private-sector business case to build in many of these areas.

That's why, in our overhaul of the FCC's Universal Service Fund last year, we made access to mobile voice and broadband an express universal service goal.

This was the first time the U.S. recognized mobile service as an independent universal service objective. We created a new Mobility Fund to support 3G and 4G networks in unserved rural areas, helping realize the President's goal of ensuring high-speed wireless coverage to at least 98% of Americans by 2016.

Using a market-based reverse auction, we'll be allocating $300 million this year for mobile broadband expansion, growing to $500 million annually in ongoing support in the years ahead.

Just last week, we announced the competitive bidding procedures for Phase I of these auctions.

Even as we roll out the Mobility Fund, we recognize that a number of wireless providers across the country are making great progress extending 4G to rural communities, including through partnerships and sharing arrangements.

I want to close by talking about the third track in our Mobile Action Plan -- the next frontiers.

We are exploring a variety of next frontier solutions. But we see two big opportunities: spectrum sharing and small cells.

As NTIA has pointed out, spectrum sharing between government and commercial spectrum could provide a path to freeing up 95 megahertz of spectrum for broadband in the 1.7 GHz band.

We know that it is becoming increasingly harder to find free and clear blocks of spectrum.

Where we can, of course, we must and we will.

But it would be counterproductive to limit ourselves to two choices – complete reallocation or nothing.

We may find that in some bands, sharing allows us to auction spectrum that otherwise would never get to the commercial market.

If we can share spectrum meaningfully, it will have a dramatically positive effect.

I'm pleased to announce today that we are beginning to make this next frontier of spectrum sharing a reality.

We are moving ahead in partnership with NTIA to test LTE sharing in the 1755-1780 MHz LTE band, which could allow us to auction paired spectrum in the next three years.

Paired with 2155-2180 MHz, it would extend the AWS band by an additional 50 megahertz.

Just this past Friday, T-Mobile, working with CTIA, filed an experimental application to test the sharing concept.

Given the huge amount of money and time it would take to move all of the federal systems – estimated at $18 billion over at least a decade – sharing is the most promising way forward before deadlines in the Spectrum Act will compel us to auction the 2155-2180 band unpaired.

Another new frontier is small cells.

Small cells are a big deal.

By increasing the density of network deployment several fold, small cells may be the key to bridging the supply/demand gap in a sustainable way.

It's the next step in a progression toward getting networks closer to users to increase capacity, user speeds, and power efficiency.

But as we've seen with Wi-Fi, when you go from hundreds of thousands of cell sites to millions or even tens of millions of small cells, the impact could be huge.

The small cell revolution will drive enormous change in wireless in coming years.

NTIA has put spectrum in the 3.5 GHz band on the table for sharing between commercial and federal users.

We think this spectrum is ideally suited for small cells.

Later this year we'll be launching a proceeding on enabling small cells in the 3.5 GHz band.

We’re talking about an opportunity to free up 100 MHz of spectrum for broadband, potentially even more over time.

Our work on these next frontiers are the next steps in an unprecedented push to unleash spectrum for broadband, which began in earnest two years ago with the release of the National Broadband Plan.

The Broadband Plan set goals for the country of freeing up 500 megahertz within 10 years and 300 megahertz within 5 years.

These were intentionally audacious goals – particularly since the incredible surge of wireless demand was just beginning and our spectrum pipeline was essentially dry.

Since that time we’ve not only changed the conversation on spectrum, we’ve taken major steps forward and are well on our way to achieving those ambitious goals.

We're doing this by unleashing at least 25 MHz of WCS spectrum, 40 MHz of AWS-4 spectrum, 65 MHz of spectrum to be auctioned under the Spectrum Act, significant amounts of prime spectrum through incentive auctions, significant amounts of government spectrum through reallocation and sharing, TV white spaces spectrum, and other spectrum initiatives.

We believe the best is yet to come and our three-track Mobile Action Plan offers a map forward that builds on our successes and opens new doors of opportunity.

Working together, we can seize the opportunities of the mobile revolution and build a brighter future.