

**Prepared Remarks of Chairman Julius Genachowski  
Federal Communications Commission**

**“Our Innovation Infrastructure: Opportunities and Challenges”**

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We come together today at a critical time for our nation’s future. The economy is struggling. Foreign competitors are charging hard.

People are hurting. Many are concerned about their kids’ future – worried that this generation might be our first to have fewer opportunities than its predecessors.

I see that the conference theme is: “Keeping the Focus.” At the FCC, our primary focus is simple: the economy and jobs. We’re focused on seizing the opportunities of communications technologies to catalyze private investment, foster job creation, compete globally, and create broad opportunity in the United States.

President Obama said yesterday, on returning from Asia, that “we need to step up our game” to compete with the rest of the world.

The rest of the world is not standing still. And I know all of you are asking the same questions we’re asking: What can we be doing to get our country moving in the right direction? What can we be doing to drive private investment that will grow our economy and create quality jobs? What can we be doing to make America more competitive in the global economy? What can we be doing to improve the lives of the American people?

We’ve been asking ourselves these questions at the FCC since the day I arrived, and the short answer is: a lot.

If there’s one thing I want to communicate to you today it’s this: Notwithstanding the tall wall of challenges in front of our country, our sector – the information technologies and communications sector – can play a big role in driving economic success for the U.S., in the near-term and the long-term.

All of us in this room are in unique positions to offer real solutions to our economic challenges. Communications policies have contributed to tremendous successes in the past. But the world has changed, our communications infrastructure policies have not kept pace, and the cracks in our foundation are showing.

Let’s work together to modernize our communications infrastructure policies for the 21<sup>st</sup> century. It’ll require some tough choices, but if we get this right – and we will get this right – I’m convinced that America’s future will be even brighter than its past.

We have our work cut out for us.

The National Academy of Sciences recently released a report looking at our ability to create quality jobs in the global economy. The title tells the story: “Rising Above the Gathering Storm: Rapidly Approaching Category 5.”

A couple of facts from within the report illustrate the challenge before us.

One is a study that ranked 40 leading industrial countries on a small number of metrics relating to competitiveness and innovative capacity, metrics that included broadband.

That study ranked the U.S. 6<sup>th</sup> out of 40. If the report stopped there, that alone would be a real motivator to action.

But the report went on and it looked at the rate of improvement of each of the metrics. On that score, it ranked the U.S. 40<sup>th</sup> out of 40.

Beyond unacceptable.

Now consider this. Applied Materials, a large and important Silicon Valley technology company, recently opened the world’s largest commercial solar R&D facility and transferred the company’s CTO ... to China.

How many U.S. tech companies have to move their CTOs to another country before we say it’s a crisis?

We’ve got work to do.

The good news is that the communications sector is rich with opportunity.

To create jobs today and build an engine for ongoing job creation and innovation tomorrow, America needs to build a world-leading innovation infrastructure.

We know this from reports that tell us every billion dollars spent on infrastructure will create 20,000 to 40,000 jobs – jobs that can’t be outsourced.

And we know this from our history.

Look at the Erie Canal, the Intercontinental railroad, the rural electrical grids, and the Interstate Highway System. These projects allowed us to move goods, people, and ideas like never before, opening up new worlds of opportunity, fueling commerce and dramatic economic growth.

The great infrastructure challenge of our generation – one that the FCC and the states will have to tackle together with the private sector – is broadband – high speed Internet to connect every person and business to each other, and to the world of opportunities and markets beyond us.

Communications technologies in general – and broadband in particular – are key parts of a successful economic engine for the 21<sup>st</sup> century. This sector represents about one-sixth of our economy. Multiple studies reveal that technological innovation has accounted for more than half of the U.S. GDP growth in recent decades.

The Bureau of Labor Statistics forecasts that jobs depending on broadband and information and communication technologies will grow by 25 percent from 2008 to 2018 – 2.5 times faster than the average across all occupations and industries.

These includes all kinds of jobs – construction jobs, urban planners and architects, engineers and scientists, sales people and IT professionals – on and on.

When many people hear about job creation from technology, they think it means high-tech jobs in Silicon Valley. But while of course there's been great job creation in Silicon Valley, the bigger story is broadband's opportunity to create jobs across America.

Broadband enables businesses to start and grow, and jobs to be created, anywhere in America, from the biggest urban city to the smallest rural town.

Broadband opens new markets, allowing businesses – of any size – to reach customers in the next neighborhood, the next city, the next state, and even overseas.

And broadband can connect businesses to tools in what's increasingly called the “cloud.” The cloud is simply networks of Internet-connected servers with extraordinary computing power. It allows the smallest business to have cutting edge products and services that increase productivity and efficiency, reduce costs, and boost profits.

Broadband is vital economic infrastructure. And much more.

Broadband is education infrastructure. It connects our children to new worlds of information and powers breakthrough tools to improve learning such as ever-updating e-readers that can replace outdated textbooks.

Broadband is health care infrastructure. It enables the use of electronic medical records and remote diagnostics, which can save lives and lower health care costs by hundreds of billions of dollars. (And by the way, the opposite is true: if we don't have adequate broadband that connects hospitals, family doctors, and patients, we won't capture enough of the hundreds of millions of dollars of those cost savings of electronic medical records.)

As this group well knows, broadband is also energy infrastructure. It promotes energy efficiency by supporting and enabling the smart grid.

And broadband is government infrastructure. It makes our government more accessible to the public, while improving effectiveness and efficiency, potentially saving billions of dollars. These are all part of our innovation infrastructure. Wireless as well as wired. And as we tackle the issues they present, we need to take seriously the challenges we face.

It's something of an irony. There are areas where our country's success in the 20<sup>th</sup> century makes it harder to do what's necessary in the 21<sup>st</sup>.

Take spectrum –our invisible infrastructure. What happened with broadcast spectrum in the 20<sup>th</sup> century was a remarkable success. By opening up spectrum for commercial use, we made it possible for entrepreneurs to create a large and successful over-the-air broadcast TV industry that in turn helped create our extraordinarily successful U.S. content industry, bringing real benefits to our economy and beyond.

Fast forward to today. Less than 10 percent of us – down from 100 percent – still get our television programming from over-the-air broadcast transmissions. Instead, people watch TV through cable or satellite.

The world has changed, but our spectrum allocations still reflect the previous era.

This presents a real obstacle as we try to ensure a spectrum infrastructure for the new world of mobile broadband.

Take another example. The construction of the circuit-switched telephone network in the 20<sup>th</sup> century was an extraordinary national success story. It connected Americans, connected businesses, fueled our economy, and even helped give birth to the Internet. It's hard to imagine America being as successful as it was in the 20<sup>th</sup> century without our basic telephone system.

But that system has also created problems and practices that, if not addressed, can present a real obstacle as we pursue the universal broadband service we need for economic success in the 21<sup>st</sup> century.

If you were to take a blank white board, and try to develop policies to spur the development of the world's most dynamic communications infrastructure in the 21<sup>st</sup> century, you probably wouldn't start with our current policies. But that is where we have to begin.

America faces an Innovator's Dilemma.

In a landmark 1997 book, Harvard Business School Professor Clayton Christensen described the challenge of the Innovator's Dilemma. Market-leading companies often face a real dilemma as new disruptive technologies emerge. Established businesses practices make it difficult, especially for large, leading companies, to make necessary strategic changes in light of new innovative technologies. But if they don't reinvent themselves, others will pass them by.

That's the Innovator's Dilemma.

The American innovator's dilemma is driven by the most disruptive technology in our lifetime – high speed Internet – broadband.

And as competing countries focus on the opportunities of broadband, we have to take seriously the challenge to our global leadership position in the Internet age, and tackle the tough problems.

Now, I'm optimistic about our future.

I'm optimistic because America has tackled bigger challenges before; we can do it again.

I'm optimistic because I believe in the power of the American dream and the American entrepreneurial spirit to spur innovations that will lift us to new heights.

And I'm optimistic because – after years of waiting – we finally have a plan.

The National Broadband Plan, which the FCC released in March, is an ambitious strategy to build a world-leading broadband ecosystem that unleashes innovation and brings the benefits of high-speed Internet to all Americans.

The Plan recognizes that private investment – hundreds of billions of dollars of private investment – will be necessary to achieve our broadband goals. And so the plan focuses on government actions to spur private investment, tackle wired and wireless infrastructure issues, and promote healthy competition that benefit consumers.

We're moving forward strongly on implementation. A few examples:

We've released the most significant amount of unlicensed spectrum in 25 years –TV white spaces. This is a new and powerful platform for innovation, involving robust spectrum, which will bring new products and services like Super Wi-Fi. U.S. entrepreneurs have a head start on foreign competitors, and are expected to invest billions to develop new Super Wi-Fi technologies, and we can then export our technology products to the rest of the world, not the other way around.

We've partnered with FDA to clarify the requirements and improve the efficiency of the approval process for wireless health care devices – a move that will get investment dollars off the sidelines and eventually make devices available that will improve the quality of care and lower costs.

We've moved forward to address consumer transparency issues, including bill shock, where we are focusing on harnessing technology to empower consumers with information they can use to make informed decisions and make the market work.

We've taken important steps in the priority area of lowering the costs of broadband buildout. Rights-of-way, pole attachments, tower siting. These nuts-and-bolts issues may not be sexy – well at least to people outside this room – but they are very important and can make a huge difference.

Our Broadband team estimated that efforts to cut red tape can reduce broadband deployment costs approximately 40 percent. That's potentially billions of dollars that could be going toward laying fiber and building towers, and not sacrificed to the inefficiency of the process. We've already established a shot-clock for tower-siting for our wireless networks. And we're moving forward with efforts to ease access to rights of way and poles.

Looking ahead, among the priorities of the National Broadband Plan at the top of our 2011 agenda are the ones I identified earlier as the source of our national Innovator's Dilemma: spectrum, universal service, and intercarrier compensation.

First spectrum.

We have a huge opportunity with mobile broadband. Mobile voice and data will be a trillion-dollar global market within 4 years, propelled not only by new devices like tablets, e-readers and the latest smartphones, but also by new advertising, applications and services developed for the mobile platform. The mobile revolution has already spawned the "apps economy," with tens of thousands of developers and companies, including many startups creating new jobs, inventing more than 250,000 apps, driving more than 4 billion dollars in sales last year alone.

And 4G is finally here. In the not too distant future, millions of Americans will be enjoying mobile connections on their mobile devices at speeds we are used to on our desktops, beaming movies, video conferences, and high-tech games right to the palm of our hand. 4G is different in kind than 3G – faster, and with lower latency. The arrival of 4G will also accelerate the arrival of machine-to-machine technologies – once the realm of science fiction, but now a \$1 billion market that is projected to increase to \$6.5 billion by 2014. The U.S. is leading the way in 4G, and we need to be sure we maintain that lead.

But there's a clear and serious threat emerging. The explosive growth in mobile communications is outpacing our ability to keep up. Mobile data traffic is projected to increase 35X in the next few years, ten times faster than the rate of increase in spectrum coming online for mobile broadband.

If we don't act to update our spectrum policies for the 21<sup>st</sup> century, we're going to run into a wall – a spectrum crunch – that will stifle American innovation, economic growth, and job creation. It can cost us the opportunity to lead the world in mobile communications.

And leave millions of dissatisfied consumers, who will also feel the consequences in having to choose between lousy service or higher prices. If you don't like dropped calls and spinning pinwheels now, you should worry about what could be on the horizon if we don't close the spectrum gap.

Historically, the U.S. has led the world in spectrum policy, introducing auctions and unlicensed spectrum. Now is the time for America's next big idea: incentive auctions.

The concept behind incentive auctions is simple. Let's use the power of the free market to ensure underutilized spectrum flows to the uses consumers value most in the 21<sup>st</sup> century. And to encourage participation – encourage the supply of spectrum for the auction -- let's create a mechanism that would allow the license-holder and the American taxpayer to share in the auction revenues. Everybody wins.

This proposal is critical to achieving the National Broadband Plan's goal of unleashing 500 megahertz of spectrum for mobile broadband. It has been endorsed by the President and has received bipartisan backing in Congress.

It's time to turn that support into law. The sooner incentive auction legislation is adopted, the sooner we can unleash spectrum for mobile broadband, and the sooner we'll see the benefits to consumers and taxpayers, to our economy and our ability to lead the world in 4G mobile.

This is a choice between bringing market forces into spectrum allocations, or keeping a status quo that is destined to harm our global competitiveness and frustrate mobile consumers.

At the Commission, we're continuing to move forward on this important challenge. At our Commission meeting in two weeks, I will ask my Colleagues to vote on an item to begin lifting technical restrictions so broadcast spectrum can be used for broadband, and that would allow channel sharing among broadcasters. This will lay essential groundwork for implementing incentive auctions quickly should Congress act.

Now, I want to talk about an issue where the FCC works closely with all of you – universal service and intercarrier compensation.

If we want the United States to be the land of opportunity and lead the world in developing the innovative new products and services that will drive economic growth in the decades ahead, we need all Americans to be full participants in our broadband economy.

We're not where we need to be. We all know someone like Bruce Kerfoot, the owner of a fishing lodge in Minnesota. Bruce is losing business to Canadian lodges because he doesn't have broadband for online reservations. He said, quote, "We can't continue to be competitive unless this service becomes available to us."

The Universal Service Fund reflects our nation's commitment to a basic principle: all Americans should share in the benefits of communications technology. Through public-private partnerships, USF helped bring phone service to all corners of the country.

But, now in a broadband world, USF is leaving people like Bruce Kerfoot behind.



That's not because the fund isn't spending a lot of money. It is. Billions of dollars a year. But the program has become outdated, inefficient, and poorly targeted. It is on an unsustainable path. Year after year, it has placed ever-growing burdens on the consumers that pay into the fund. And it has fueled a rural-rural divide; some rural communities have access to robust broadband, while others, even those right next door, have no broadband at all.

The bottom line is that today broadband is not available to up to 24 million Americans.

I agree with Representatives Lee Terry and Rick Boucher who have said, quote: "The Universal Service Fund is broken."

We've got to fix it. That's why the National Broadband Plan proposed transitioning the existing high-cost program to a new Connect America Fund. This approach to universal service fund reform rests on four pillars.

First, we must transform universal service to focus on broadband. Although it won't happen overnight, access to broadband for all Americans must be our lodestar, and we must modernize our rules to address that challenge.

Second, we must be fiscally responsible. Our resources are finite. We face real economic constraints. And that means we must get control of the growth of USF and eliminate waste and inefficiency. Fiscal responsibility is an agency-wide commitment at the FCC, as evidenced by our reform of the Video Relay Service, which will save taxpayers hundreds of millions of dollars, while continuing to deliver vital communications services to persons with disabilities.

Third, we must demand accountability. The Connect America Fund must use improved performance metrics to ensure our investments are delivering the intended results. For USF recipients, we need to live by a simple rule: no blank checks. We have a responsibility to ensure that consumers' dollars are spent wisely, and a reformed program must meet that goal.

Finally, our policies must be market-driven and incentive-based. That means using smart policies that deliver the most bang for the universal service buck, that provide real and material encouragement for companies to pick the technologies and services that provide maximum value to consumers at the lowest possible cost, and that allows the program to align scarce resources with real need.

In addition to these core principles, it's important that we put in place a meaningful and predictable transition for the program, with no flash cuts and a reasonable but certain time period to give service providers and investors time to adjust to the new path.

The time has come to get this done. In March, all five commissioners adopted a joint statement stating, "The Universal Service Fund and the intercarrier compensation system should be comprehensively reformed to increase accountability and efficiency and encourage targeted investment in broadband infrastructure."



We have already taken big steps forward on reforming other components of the Universal Service Fund.

We've begun updating and upgrading the E-rate program – focusing on maximizing the benefits for our children and giving schools and libraries greater flexibility to serve their communities and take advantage of new technologies like wireless connectivity and e-textbooks.

The Commission has begun a rulemaking to transition the rural health care pilot program into a permanent program with the goal of connecting all rural health care providers to broadband and delivering increased support for broadband services. This should benefit rural companies in a position to provide broadband.

And just last month, the Commission voted to move forward on a proposal to establish a Mobility Fund within USF, which will repurpose existing funding to deploy 3G mobile networks in areas that are currently unserved.

Parallel to our work on USF, we need to work together to reform intercarrier compensation. As NARUC's Telecommunications Committee recognized in a resolution passed this morning, traffic pumping and phantom traffic are costing companies - and ultimately their customers -- millions of dollars in wasteful spending and legal fights. Meanwhile, carriers are resisting converting to all-IP networks in order to hold on to intercarrier compensation revenues. Reform is necessary to spur innovation and investment in IP networks and foster an even playing field for competition.

Several states have already taken steps to tackle these difficult problems by reducing intrastate access rates, rebalancing local residential rates, and creating their own universal service funds. At the FCC, we are learning from these states' experiences while looking for ways to acknowledge their efforts and to encourage other states to follow their lead.

This brings me to my final point. We need to work together.

Historically, federal and state governments have collaborated to solve major infrastructure challenges – from rural electrification to the Interstate Highway System.

Likewise, universal service has always been a federal-state partnership.

If we want to get this right and build a world-leading broadband infrastructure that will be an engine for economic growth, job creation and our global competitiveness, we must work together to promote universal broadband service, fiscal responsibility, accountability, and market-driven solutions.

We know that states are laboratories for good ideas. As Commission Clyburn pointed out when we voted on this item, the idea for the Mobility Fund came from the Universal Service Joint Board. We look forward to hearing more original policy ideas like this.

We also benefit significantly from the work of the Joint Boards, and I want to thank the federal and state commissioners and staff for their recommendations in response to our request for ideas to reduce waste, fraud, and abuse and improve the performance of the Lifeline/Link Up program.

Federal policy is only as good as the data we have. Providing us with quality information could help significantly with ensuring that federal policy is fact-based.

Similarly, NARUC's help is invaluable to us with the collection and dissemination of best practices.

The stronger our partnership, the better the chances that we will succeed in building the modern broadband infrastructure that our country needs.

I know updating our infrastructure policies for a broadband world won't be easy. If it were, the Innovator's Dilemma wouldn't be a dilemma at all. But the costs of inaction are too high for us not to try.

The future will be built on broadband. Let's work together to help build a solid foundation for our economy, our democracy, our future. Thank you.