REMARKS OF FCC CHAIRMAN JULIUS GENACHOWSKI WINNING THE GLOBAL BANDWIDTH RACE: OPPORTUNITIES AND CHALLENGES FOR THE U.S. BROADBAND ECONOMY VOX MEDIA HEADQUARTERS WASHINGTON, DC SEPTEMBER 25, 2012

I want to thank Jim Bankoff for that introduction and VOX Media for hosting me today. Jim has established himself as one of great innovators in online media. Seizing the opportunities of the Internet, SBNation has grown a network of more than 1,000 contributors in 49 states.

And the public has responded to this localized content, making SBNation the fastest growing sports website in America, with more than 28 million monthly visitors. Many of those SBNation contributors started as commenters and 99% are paid, so SBNation, much like eBay, Amazon, Facebook, and Google, serves as a platform for entrepreneurial individuals all across America to create value online and make a living. The Verge, meanwhile, is the country's fastest growing tech news site. Polygon is taking on gaming, and I have a feeling Jim and the VOX Media team aren't done yet.

About this time a year ago, I delivered a speech just down the road at LivingSocial, a pioneer in the daily deals category that has provided value to consumers and small businesses while creating hundreds and hundreds of U.S. jobs.

I chose to speak there for the same reason I'm speaking here at VOX Media; for the same reason I spoke at Blue Valley Meats in Diller, Nebraska; and at a new customer contact center in Jeffersonville, Indiana; and for the same reason I've been happy to share a stage many times with entrepreneurs and businesses across the country. That reason is to illustrate that broadband – high-speed Internet, wired and wireless – is transforming our economy and the way we live for the better.

I'll speak today about how, over the past four years, the U.S. has regained global leadership in key areas of the broadband economy and is building a strong foundation for the future.

But, as important, I want to talk about how we also face significant challenges – some familiar and some new. Most notably, we are in a global bandwidth race, which will help determine who creates jobs and grows GDP in this flat, competitive, innovation-driven global economy.

Now and over the next decade, U.S. leadership will require a strategic bandwidth advantage – fast, high-capacity, and ubiquitous broadband. To secure this advantage for our country, the private and public sectors both have important roles. Seizing the opportunities of big bandwidth will bring enormous benefits; failure to do so will have real and negative consequences.

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Let's start with the good news.

Our increasingly knowledge-based economy is powered by broadband, and our broadband economy and its foundation have come a long way in the past four years – both in absolute terms and relative to our global competitors.

It wasn't long ago that Asia and Europe were ahead of the U.S. in broadband-powered innovation and infrastructure. Take mobile. In 2008, Businessweek described America as having been a "wireless backwater." We were talking then about Europe's lead on 3G, and about the vibrant mobile innovation in countries like Japan and South Korea.

But thanks to innovative American companies – software, mobile, broadband providers, and others – and to smart government policies, the story today is different. It's one of comeback and leadership.

After trailing in key 3G metrics, we are now leading the world in deploying the next generation of wireless broadband networks – 4G LTE – at scale. Today we have 69% of the world's LTE subscribers and every expectation to maintain 4G leadership for the foreseeable future. The United States is the global test bed for LTE apps and services. This is incredibly important because LTE is the leading platform for mobile, and mobile will be a major platform for innovation for years to come.

America is leading too in the software-driven apps and services running on these networks. More than 80% of smartphones sold today throughout the world run operating systems developed by U.S. companies, up from less than 25% three years ago.

And U.S. companies are the clear leaders in the tablet sector worldwide, accounting for roughly three-quarters of tablets sold and for the operating system on almost all tablets. The explosion of tablet use is just incredible: The percentage of American adults using tablets and e-readers has leapt from 2% to 30% in just three years.

Today's smartphone- and tablet-powered "apps economy," already massive and still in the early innings, is fundamentally a made-in-the-U.S.A. phenomenon. In June 2008, there was no app store. In June 2012, the Apple and Android app stores alone had a collective 3 billion downloads – that's 100 million apps a day.

On wired broadband infrastructure, we've made major progress too. At the beginning of 2009, broadband networks capable of 100 megabits per second passed less than 20% of U.S. homes. That number is now over 80%, putting the U.S. – for the moment – near the top of the world in deployment of high-speed broadband infrastructure. And according to Akamai's latest State of the Internet Report, the average speeds actually used in the U.S. are up almost 30% from 2011 to 2012.

Smartphones and tablets require both wireless and wired infrastructure. Without Wi-Fi, smartphones and tablets would have far less value, and Wi-Fi wouldn't be possible without a wired broadband infrastructure, as well as FCC policies that enabled Wi-Fi use on unlicensed spectrum. Wi-Fi now drives over 40% of mobile Internet connections and over 92% of tablet Internet connections in the U.S.

Heterogeneous networks – wired and wireless broadband – are powering other key growth industries like cloud computing. With firms like Amazon, Apple, Google, Rackspace, Box and others, the U.S. pioneered and continues to lead the fast-growing cloud computing industry, delivering real benefits to businesses and consumers.

Broadband is an essential platform for job creation and investment, and we can see that in developments over the last several years.

Mobile innovation is estimated to have created 1.6 million U.S. jobs over the past five years, and the nascent apps economy has already created nearly 500,000 U.S. jobs.

Companies delivering cloud services added 80,000 new jobs in 2010, not counting the many jobs they helped create by boosting productivity and lowering costs for businesses large and small.

From 2009 to 2011, annual investment in wired and wireless networks increased approximately 30% to more than \$60 billion, even in this challenging economy.

This wave of broadband-related investment and innovation in the U.S. over the past few years is just the beginning. The benefits for education, healthcare, energy, and public safety are all proving themselves out through amazing inventors and entrepreneurs. They give real reason for optimism that technology can bring fundamental and positive change to these sectors.

I'm pleased that a reinvigorated FCC has been part of this positive story, which would not have been possible without an incredibly talented team of public servants, some long-time FCC staffers and some recruited from top private sector, academic, and non-profit positions.

Starting in 2009 we focused the FCC on broadband, its opportunities and challenges. We clarified our broadband-related mission: promoting innovation, unleashing investment, fostering competition, and empowering consumers.

The FCC has helped lay a foundation for future success by modernizing rules for the broadband age and creating a climate for investment and innovation.

We developed America's first National Broadband Plan. *The New York Times* said this plan "signal[ed] a shift at the FCC, which [previously] gained more attention for policing indecency on the television airwaves than for promoting Internet access."

Through the FCC's major universal service reform, we took an outdated inefficient program for delivering plain old telephone service and created the Connect America Fund, the largest U.S. broadband infrastructure program ever established, which will use \$45 billion over 10 years to extend broadband deployment throughout the country, while for the first time putting universal service spending on a budget.

We fundamentally modernized the intercarrier compensation system – an antiquated, byzantine set of rules governing billions of dollars in payments among carriers for carrying phone calls.

Our overhaul is removing outdated regulations and accelerating the transition to IP technology by aligning incentives for the broadband world.

We've developed major policy innovations to free up more spectrum for mobile broadband.

The Commission is moving forward with a bold new plan for incentive auctions – a new paradigm in spectrum policy that uses market forces to repurpose beachfront spectrum used by TV broadcasters for licensed (think 4G LTE) and unlicensed (think Wi-Fi) wireless broadband. When we introduced this idea three years ago, the reactions were a) there's no spectrum crunch, and b) the idea isn't politically viable and will go nowhere. Well, today virtually every expert confirms the vital need to free up spectrum, and the incentive auction went from idea to law, with Congress getting it done earlier this year. This week the FCC will launch a major rulemaking to make incentive auctions a reality.

Incentive auctions have been just one part of our Mobile Action Plan. We've not only moved to free up other spectrum for licensed use, two years ago, the FCC freed up the most unlicensed spectrum in 25 years – "white space" spectrum -- setting the stage for Super Wi-Fi and accelerated machine-to-machine innovations. And more unlicensed spectrum is on the way through our incentive auction proceeding.

The Commission has taken multiple steps to remove regulatory barriers and lower the cost of broadband buildout, such as easing access to utility poles and speeding processes for siting cell towers. President Obama recently issued an Executive Order, based on ideas developed by the FCC, implementing new policies like "Dig Once" that encourages laying fiber conduit when roads are dug.

We've taken major steps to protect innovators and the development of new applications, services, and devices that drive demand for broadband, including adopting a framework to preserve Internet freedom and openness. These common sense rules of the road drew support from a broad and diverse array of Internet application and infrastructure stakeholders for increasing certainty and predictability.

We've acted to promote competition, including through policies like broadband data roaming, which gives competing providers a fair chance to provide wireless broadband service, and through rigorous transaction reviews. As part of the Comcast/NBC Universal merger, for example, we imposed conditions to protect online competitors who deliver video content over of our broadband networks.

In connection with Verizon's recent acquisition of spectrum from cable companies, Verizon agreed to an unprecedented divestment of spectrum to a major competitor --T-Mobile.

And when a transaction simply didn't serve the public interest, we said so, such as the proposed acquisition of T-Mobile by AT&T.

The Commission has also taken significant steps to protect and empower consumers, including to address the problem of "bill shock"; to increase broadband accessibility for people with disabilities and residents of Tribal lands; and to increase broadband adoption.

And we've worked to harness the power of broadband to advance key national goals, including in education, health care, and public safety.

So, over the last four years, the FCC has made real changes, modernizing our policies for the broadband age, running fact-based and data-driven processes, and creating a climate for investment and innovation.

And these are just the efforts by the FCC. Other agencies have made significant progress in promoting broadband opportunities. Most notably, the Departments of Agriculture and Commerce implemented the unprecedented broadband investments in the Recovery Act, which has already spurred the deployment or upgrade of 57,000 miles of broadband infrastructure, and will connect 7 million people, more than 350,000 businesses, and 32,000 anchor institutions.

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Of course, the country's work is not done. Progress in broadband over the past four years is significant. But we shouldn't declare victory and slow down, not in this fast-moving and globally competitive sector. Challenges to U.S. leadership are real.

Some of these challenges are a consequence of our success. The Internet is an American invention. And whether it's Google or Facebook, Netflix or Hulu, Amazon or eBay, Twitter or Dropbox – the examples are endless – American innovators have driven dramatic increases in demand for broadband, whether mobile or at home, work or school.

This rush of demand is creating real challenges. Well, bring it on. These are the kinds of challenges America wants to have – too much demand is much better than too little – and the kinds of challenges we can meet and overcome.

In general, the challenges to U.S. leadership in the broadband economy come from technologypowered developments: this is a flat world where capital can flow and innovators can work anywhere. And in this 24/7 information world, it's no secret that broadband is a ticket to economic success.

I've met with senior government officials and business leaders throughout the world. I can tell you that they are all focused on the broadband opportunity.

Whether it's Korea, China, the EU, Australia, and more – all have plans to deploy ultra-high-speed broadband on a wide scale to become a magnet for innovators and capital.

To give you a sense of how innovators in other countries are pushing the envelope, consider that just last week, Japanese engineers set a world record for fiber transmissions -1 petabit per second. That's the equivalent of sending 5,000 HD movies per second over a single fiber.

We are in a global bandwidth race. A nation's future economic security is tied to frictionless and speedy access to information.

The faster we can connect our citizens the faster our economy can grow. The more people of all walks of life have access to bandwidth the more opportunity we spread for all.

And much like the space race in the 20th century, success in this race will unleash waves of innovation that will go a long way toward determining who leads our global economy in the 21st century.

U.S. leadership in Internet innovation starts with our remarkable innovators and entrepreneurs. That's why it's so important that we have a world-class education system and smart immigration policies, like Sen. Schumer's new bill to make more green cards available to foreign graduates of U.S. universities with advanced math, science, and engineering degrees.

World-leading talent is necessary but not sufficient. We also need world-leading digital infrastructure.

Our challenge is to ensure the U.S. has a strategic bandwidth advantage. This is a point first made by the architect of our National Broadband Plan, Blair Levin, and Tom Friedman has written persuasively on this as well.

What are the elements of developing a strategic bandwidth advantage? Three key pieces: broadband speed, capacity, and ubiquity.

We need people to have the bandwidth they need when and where they need it, whether you're a high-tech innovator, large or small business, or a consumer at home or on the go.

Let me describe what I mean by speed, capacity, and ubiquity, and why each is important. And let me suggest what a broadband ecosystem with these three elements will require.

Start with faster speeds. Speed matters because innovators need next-generation speed for next-generation innovations – genetic sequencing for cancer patients, immersive and creative software to help children learn, ways for small businesses to take advantage of Big Data, and speed- and capacity-heavy innovations we can't even imagine.

Businesses and consumers need high speeds to take advantage of services like cloud computing, which can make every smartphone, tablet, and laptop capable of harnessing the power of the world's latest supercomputers and capable of accessing the petabytes of vast data centers.

As President Obama has said: "To lead the world to a new future of productivity and prosperity \dots we have to connect all of America to 21st century infrastructure [and] raise the standards for broadband speed."

More capacity. We are experiencing a revolution in how we consume and generate data. The Internet used to be a text-heavy web site on a computer screen. Today it's streaming video on your TV set, your smartphone, your tablet – video conferencing, telework, cloud storage, and more.

Look at SBNation. Most of its content when it got off the ground was static text, a few pictures, on a network of blogs. More and more, SBNation is creating high-bandwidth video content. Across all of VOX Media's sites, the number of videos being posted is up 1,200% over the past year.

This explosion of online video and other high-bandwidth applications and services is leading Internet users to consume more and more data every month.

To maximize the opportunities of broadband for our economy, consumers need sufficient monthly broadband capacity to make e-commerce routine and unconstrained.

To maximize the opportunities of broadband for education, health care, and other important national goals, consumers need sufficient monthly broadband capacity so that families with school age children won't have to fight over who gets to use the Internet for homework this week; a distance learner can take a full course load online; and a senior with diabetes can have regular online video consultations with a doctor in another town.

This presents challenges for broadband providers in managing the growing loads on their networks while earning returns to drive capital investment in network upgrades and expansion. One tool we've seen is usage-based pricing, often implemented with monthly data limits.

I've said since 2010 that, in a competitive market, usage-based pricing can be a useful tool, consistent with the goals of driving efficiency, investment, and faster and more robust network infrastructure. In general, experimentation in business models in competitive markets is something to be encouraged, and has historically benefited consumers.

At the same time, I've been clear that I'm concerned about practices that harm competition, including from over-the-top providers; unnecessarily depress broadband usage; or reduce incentives to increase broadband speeds and capacity. As I said earlier this year, as consumer usage grows and technology improvements enable providers to deliver more bits at lower cost, we should expect that any monthly usage limits will increase and that *consumer* cost-per-bit will decrease.

This is the story of success, growth, and innovation in this sector: technology-driven savings being both passed on to consumers and supporting ongoing network investments.

And certainly, any usage-based pricing practices should be implemented in a transparent and easy-to-understand manner – so consumers are treated fairly and have the tools they need to make the right decisions based on their needs.

Ubiquity. By ubiquity I mean this: Broadband should be available anywhere, anytime.

This means that our fastest, latest wireless broadband networks should cover at least 98% of the country as the President set as a goal; that no American should be without a robust home broadband option; and that we must change the fact that nearly 1 in 3 Americans remains unconnected at home.

The phrase "universal broadband" is often used to cover these concepts – I'm using "ubiquity" today to emphasize the increasingly important role of mobile broadband.

What's the goal in focusing on speed, capacity and ubiquity? Removing bandwidth and location as constraints on innovation.

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Let me be more concrete on the vision, and the challenges to realizing it.

First, as we said in our National Broadband Plan, we need "innovation hubs" with ultra-fast broadband, with speed measured in gigabits, not megabits.

There have been some positive recent developments on this front.

In Kansas City, Google has now launched the first large-scale commercial effort to bring 1-gigabit-per-second service to a residential market.

In Chattanooga, the community-owned utility installed a 100% fiber-to-the-premises network, making speeds up to 1 gigabit per second available to all businesses, residences, and institutions.

And the Gig.U initiative, led Blair Levin, has already catalyzed over \$200 million in private investment to build ultra-high-speed hubs in the communities of many leading research universities.

These efforts provide essential testbeds for developing and testing the data rich technologies of our future.

But we need more innovation hubs than we can count on one hand. We need a critical mass of communities with the most robust bandwidth in the world – where broadband abundance is a fact of life – so that private-sector innovators and the research community can invent and test tomorrow's essential services with a meaningful number of potential users.

Second, we need to ensure that truly high-speed, high-capacity broadband plans are the norm, not the exception.

In the National Broadband Plan, we set a goal of *affordable* 100 megabit-per-second service to 100 million households by 2020. We set this goal so that America in 2020 would have the largest market in the world for high-speed broadband.

We've made significant progress toward that goal. But we need to get faster, sooner.

Many of today's services already depend upon or thrive at high speeds – video conferencing and cloud services for example, particularly when there are multiple users in a home or business.

Without a mass market to consume those services in the U.S., we risk innovators, start-ups, and established companies looking elsewhere.

Despite the significant improvement in U.S. broadband infrastructure in recent years, the average speeds that Americans actually use appear to lag those in some other countries, including Korea and Japan. So whether it's because higher speed services here are more expensive, or for other reasons, Americans aren't adopting high-speed services as fast as some of our global competitors.

To make sure high-speed, high-capacity networks are the norm, we need the upgrade cycle to continue. At the beginning of the commercial Internet, consumers accessed the Internet primarily through dial-up connections over phone company lines. The cable industry rolled out cable modem service, using the DOCSIS standard. Phone companies countered by pushing DSL service. Cable deployed faster broadband services. Verizon and AT&T rolled out FiOS and U-Verse, which offered the fastest service yet. Recently cable has widely deployed DOCSIS 3.0, which offers speeds of 100 megabits per second or faster and now passes more than 80% of U.S. homes.

This history suggests some important questions: Who will push the next round of upgrades? When?

And major providers of high-speed fiber-based consumer broadband have said they have no plans to further extend their current build outs, which means that roughly half of all households could begin losing out on future rounds of telco-cable competition. So how can we ensure that we see the network upgrades our innovation economy needs?

Third, we need to make sure that even the hardest to reach areas of the country and the least advantaged among us share in the benefits of broadband as each new wave of applications moves from novelty to necessity.

All Americans should have access to a network that provides a baseline of service sufficient to connect them to our modern economy and to education, health care, and public safety resources.

Providers have worked hard with the Commission to meet these challenges: entrepreneurial wireless ISPs and other small providers are driving broadband to some of the most challenging to serve areas of the country; satellite providers are launching much faster, higher quality broadband services; and leading broadband providers nationwide have banded together through the Connect2Compete program we helped launch to make affordable broadband, computers, and digital literacy training available to low-income families.

But 19 million Americans still have no access to home broadband and roughly 30% of all Americans are still not connected. We need to close these broadband gaps.

And fourth, we need to keep building our lead in mobile.

U.S. mobile data traffic grew almost 300% last year, and driven by 4G LTE smartphones and tablets, traffic is projected to grow an additional 16-fold by 2016. With this exponential growth, demand for our wireless capacity is on pace to exceed supply, even with significant new spectrum coming online. Congested networks are slower networks.

This is just one reason we need to build on our global lead in the deployment of 4G wireless networks, and keep pushing to make sure we are first in 5G and beyond. It's also the only way we'll remain a world leader in mobile innovation.

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So what can our country do to meet these critical challenges?

We must drive massive private investment in both networks and applications – a virtuous circle where innovative applications drive user demand for bandwidth, which generates returns and incentives for network providers to invest in speed, capacity and ubiquity, which in turn enables further innovation, more demand, more network investment, and on we go.

Some say government has no role to play here. Government should just eliminate existing rules and policies on its way out the door.

As someone who spent more than a decade in the private sector and believes fundamentally in the power of the free market, I disagree.

We don't have to choose between having broadband policies and believing in a free market. That's a false choice. A smart broadband policy puts a well-functioning free market – with healthy competition – as a core objective. Government has a role to play – limited, but vital. "Light touch," not "no touch."

When it comes to promoting fast, high-capacity, and ubiquitous broadband networks, there are three key areas where the FCC should act.

First, we need to keep driving improvements in broadband infrastructure and accessibility.

We need to promote investment in broadband networks. That includes continuing to remove barriers to broadband buildout and lower the costs of infrastructure deployment.

Spectrum is our invisible infrastructure, and we need to address the spectrum crunch both by unleashing more airwaves for broadband and significantly increasing the efficiency of spectrum use by moving forward on sharing and small cell technologies.

We need more state and local initiatives to increase broadband speeds, capacity, and ubiquity, like the one announced today by Chicago Mayor Rahm Emanuel to cover the city's public spaces with Wi-Fi and ensure ultra-high-speed Internet for businesses

And we need to continue to implement broadband adoption efforts for low-income Americans and invest in broadband deployment through programs like the Connect America Fund that will help ensure that no one is cut off from the broadband economy.

Second, we need to protect and promote competition.

Competition is the lifeblood of our free-market economy, driving private investment, innovation, and consumer value. The more competition, the less the need for regulation.

We know from decades of experience that, when it comes to competition in the communications sector, the FCC needs to be a cop on the beat.

This means continuing to fairly and rigorously review all transactions that come before us, distinguishing between efficiency-enhancing deals that serve the public interest and should be approved without issue, and those that threaten harm to competition and consumers. It means an obligation to consider all options: divestitures, blocking deals, and imposing conditions. And it means vigorously enforcing conditions on transactions so companies can't flout or "work around" their obligations.

It means that when the data shows that our rules no longer reflect the competitive landscape, or aren't serving their intended purpose, we need to take a fresh look, based on the best data about the state of the market. For example we're reviewing our special access rules to ensure they promote competition in business broadband.

Promoting competition also means we need to keep a close eye on developments in places like Chattanooga and Kansas City to see what additional steps we can take to encourage gamechanging investments by disruptive broadband competitors.

We also need to increase transparency, which helps make markets work more efficiently. Earlier this year, we released our second Measuring Broadband America report, which showed significant improvements in performance by almost all included ISPs. Why? Because after our first report, high-performers touted their rankings in TV and radio ads, on blogs, in articles—the word got out far and wide. And low performers changed their practices and speeds. We recently announced that we're expanding our measurement initiative to mobile.

And although there isn't unanimous agreement on this (and some other points) at the FCC, protecting competition sometimes means putting rules in place to prevent anticompetitive practices. That's why, despite dissents, we adopted data roaming rules to protect competition in mobile. And we need to be willing to step in, with appropriate humility and with a light touch, when other clear examples of market failures appear.

Of course, other government bodies – including state and local agencies – must do their part too, encouraging competition and innovation and certainly not erecting roadblocks. There's a debate right now in Washington about rules that could discourage the innovative on-demand car service company Uber. Not hard to guess which side I'm on – I'm on the side of innovation.

To be clear, competition is vital throughout the broadband economy, not just for communications networks. But the Commission focuses primarily on those networks, so that's where I've focused my remarks.

Third, and related, we need to preserve open platforms.

It is the Internet's openness and freedom – the ability to speak, innovate, and engage in commerce without having to ask anyone's permission – that has enabled its unparalleled success.

In key respects, the interests of edge innovators – the entrepreneurs creating Internet content, applications and services – broadband providers, and American consumers are aligned.

Innovation at the edge catalyzes consumer demand for broadband. Consumer demand spurs private investment in faster broadband networks. And faster networks spark ever-more-useful innovation at the edge.

That's why we adopted common sense rules of the road to preserve a free and open Internet and to foster the virtuous cycle of massive investment in both the edge and the core of broadband networks, to the benefit of consumers and our economy. These rules have increased certainty and predictability, and in the two years since the FCC adopted this framework, investment has increased across the broadband ecosystem. Unfortunately, litigation threatens to undermine precisely the certainty and predictability that's been sought and achieved.

We're also fighting to protect the Internet as an engine of innovation and free expression internationally. In the context of UN negotiations at the end of this year, some countries are proposing to fundamentally change the way the Internet works and impose a new layer of international control on the free flow of information online. These kinds of growth-killing proposals must be rejected.

So yes, we've made tremendous progress in the United States, but the threats and challenges are very real. We can't be satisfied. We have to keep focusing on speed, capacity and ubiquity, and take the necessary steps to ensure a strategic bandwidth advantage for the U.S. in the 21st century.

We have to keep asking ourselves the big questions, and looking over our shoulders at what other parts of the world are doing.

Do we have places where broadband is measured in gigabits – places where innovators can push the envelope? Are high speed, high capacity broadband networks widely deployed across the country, creating the market for next-generation services? Are <u>all</u> American children able to share in the game-changing benefits of broadband for education, regardless of where they live or

the family they were born into? And are we continuing to drive innovation across the mobile ecosystem?

In short, is our broadband infrastructure providing a strategic bandwidth advantage—delivering to the country performance that is the world's envy?

If we keep the pedal to the floor, including through smart government policies, we can ensure that our innovators and the American public have the infrastructure they need to preserve and extend U.S. leadership in the global broadband economy.

In this world, we all win – broadband applications and services companies and broadband network companies, our economy and all consumers.

Working together, we can do this.