

Remarks of Ruth Milkman, Chief, Wireless Telecommunications Bureau, FCC
Prepared for Delivery at Georgetown Center for Business and Public Policy and PCCA Workshop:
“Optimal Coevolution of Mobile Broadband Technology and Spectrum Policy”
June 14, 2013

Good afternoon. Thanks to John Mayo, the Georgetown Center for Business and Public Policy, and PCCA for inviting me to speak today.

I don't care if I've got the post-lunch speaking slot on a gorgeous June Friday afternoon, I'm pleased to be here. I just took a 5-hour energy drink, and I'm ready to go.

I'm particularly excited to be part of a *Workshop on Optimal Co-Evolution*, which sounds like a euphemism for couples counseling.

Setting aside your opinions of the word “co-evolution,” that concept, which is the premise of today's workshop, is an important one. The simple truth is that realizing the enormous economic and societal benefits of mobile broadband is directly intertwined with wireless policy.

Today, I want to talk about the policy actions the FCC has taken and plans to take to seize the opportunities of mobile – specifically our efforts to unleash spectrum for broadband, remove barriers to wireless infrastructure deployment, and promote competition.

The Mobile Opportunity

We need to get wireless policy right, because the potential benefits of mobile broadband are so great.

By now, everybody in this room knows that mobile innovation presents a huge opportunity to drive our economy forward. According to a new study from the McKinsey Global Institute, mobile offers THE huge opportunity for economic growth.

The McKinsey study examined more than 100 disruptive technologies, and tried to determine which will have the greatest economic impact over the next decade. They named a top 12, including innovations like advanced robotics, next-generation genomics, energy storage, 3D printing, and renewable energy.

Number 1 on their list was mobile Internet. McKinsey predicts mobile Internet could generate a global annual economic effect of 3.7 to 10.8 trillion dollars by 2025, estimating that by that date, approximately 80% of all Internet connections could be through a mobile device.

Mobile broadband's economic potential isn't just the subject of future speculation. It's already one of the fastest growing sectors of our economy.

The apps economy, still in its infancy when I returned to the Commission in 2009, has already created an estimated 500,000 U.S. jobs. From 2009 to 2012, annual investment in wireless networks increased approximately 40% to 30 billion dollars. In 2013, consumer spending on mobile broadband is expected to surpass consumer spending on fixed broadband for the first time, reaching over 50 billion dollars.

The mobile revolution presents a unique opportunity for the U.S. in a competitive global economy.

The United States leads the world in moving to LTE. GSMA estimates that only 2% of wireless connections in the European Union will be LTE by the end of 2013. Compare that to the U.S., where almost 19% of wireless connections are expected to be LTE in that timeframe. Deloitte estimates that 4G investment and innovation could help create up to 771,000 new U.S. jobs by 2016.

The Government Has Played a Key Role

At the Commission, we have worked to create an environment for mobile innovation and investment over the past four years, focusing on spectrum, infrastructure, and competition policies.

The federal government, for better or worse, controls access to spectrum – the oxygen that sustains wireless communications. The FCC has moved from a command-and-control approach to market-oriented policies, including flexible use, and licensing by auctions. But FCC policies still affect the use of the spectrum – for example, through technical rules pursuant to Section 303, designed to prevent harmful interference, or service and auction rules that support competition, as required by Section 309(j).

Government also has a key role with respect to wireless infrastructure. State and local governments have zoning laws that affect the ability of wireless providers and tower companies to site antennas. And there are federal environmental and historic preservation laws that also have a substantial effect on antenna siting.

In 2009, the Commission went to work on America's first National Broadband Plan, which was released in early 2010. One of its most notable aspects is that it was the plan first to give equal weight to mobile broadband.

The Plan sounded the alarm on the spectrum crunch, and these warnings have proven prescient. U.S. mobile data traffic grew by over 1200% from 2009 to 2013, and the growth is expected to continue. Cisco predicts that U.S. mobile data traffic will grow nine-fold by 2017. This growth is driven in part by consumer adoption of smartphones and tablets. It's also driven by ever-faster technology: In 2012, 4G connections generated almost 4.5 times the amount of mobile data traffic as non-4G connections.

To meet the increasing demand for spectrum, the National Broadband Plan recommended that the Commission make available 300 megahertz of spectrum for mobile broadband by 2015, and that the Commission free additional spectrum for unlicensed use.

- In 2010 the Commission created a new spectrum sharing paradigm by enabling unlicensed devices to access unused spectrum between broadcast television channels – the TV white spaces. Unlicensed spectrum is an integral component of the wireless ecosystem. Aggregate capacity of the world's Wi-Fi networks, which use unlicensed spectrum, is 28 times greater than the capacity of the world's 3G and 4G networks, which use licensed airwaves.
- In the fall of 2012, the Commission adopted rule changes to the Wireless Communications Service freeing 30 megahertz by removing long standing technical barriers to the use of the band for wireless broadband.
- The Commission in 2012 created new rules to enable 40 megahertz of spectrum in the Mobile Satellite Service to be used for terrestrial broadband; the newly created AWS-4 band.
- And we've taken steps to remove some seemingly small – but in reality significant – impediments to the use of spectrum for broadband, including a rule change in the 800 MHz ESMR band to open 14 megahertz for broadband.

The Commission has also taken significant actions to reduce the barriers to infrastructure deployment.

- In 2009, the Commission adopted a wireless facility siting shot clock to help ensure both the industry's needs for timely wireless deployment, and state and local governments' rights to review wireless facility siting applications.
- More recently, the Bureau heard from both the industry and localities that the language of a law passed by Congress in 2012 to streamline certain types of wireless infrastructure deployments was causing significant confusion. So the Bureau took action, releasing a Public Notice providing guidance on our understanding of the meaning of various terms in the law.
- And, in May the Commission approved an interim waiver streamlining the regulatory process for the placement of temporary wireless structures – Cells on Wheels or COWs and Cells on Light Trucks or COLTs – allowing wireless providers to meet surges in traffic, for example for special events.

All the while, in our actions to increase the availability of spectrum and reduce barriers to infrastructure deployment, we have kept an eye on competition and pursued policies that promote a competitive market structure.

We refined and expanded how we examine competition in the broader mobile ecosystem by revamping the annual Mobile Wireless Competition Report. We added data and analysis that capture all aspects of the mobile marketplace, including the remarkable growth of the apps economy and technological advancements in devices. This allows us not only to identify key trends but also to create a solid foundation for fact-based wireless policy – including, for example, our policies on infrastructure, data roaming, and other competition policies.

In 2011, the Commission adopted data roaming requirements. Before that time, wireless providers were only required to provide roaming for voice services. There was no requirement to offer roaming for data services, like Internet access.

But as we know from the Mobile Competition Reports, voice traffic is down, and data traffic is way up. Today, an estimated 30% of Web browsing and 40% of social media use is on mobile devices. Based on a record that demonstrated the significant public interest benefits, the Commission required providers to offer data roaming. Consumers benefit by having continuous access to data services while traveling outside their providers' service areas.

Looking Ahead

For all our progress, we have a lot more to do if we want America to retain its global leadership position, and realize mobile broadband's potential to drive our economy and improve the lives of all Americans.

Before I talk about the specific policy approaches that are underway, I want to spend a moment talking about the FCC's governing approach.

The Communications Act fundamentally requires the FCC to establish policies and rules that serve the public interest, convenience, or necessity. There are occasions where serving a collection of private interests is not the same thing as serving the public interest. Part of our job is to know the difference.

For example, serving the public interest requires us to balance the goals and objectives of existing businesses with those of emerging challengers who will develop new technologies and business models to drive innovation and competition.

That's challenging in several respects. The McKinsey report focused on disruptive technologies, and if we want to promote innovation in mobile broadband, we need to enable upstart entrepreneurs as well as established companies to compete in the mobile broadband marketplace – whether it's by providing services, making devices, creating apps, or something else.

This is why it's so important to have some spectrum available for unlicensed use – a place where companies and individuals can innovate without permission.

It can be difficult for entrepreneurs and startup companies to dedicate time and resources to Commission proceedings. Entrepreneurs and others in startup companies are understandably focused on their businesses. They are in the proverbial garage, not at the FCC.

And of course there are other stakeholders – including consumers – that may not be able to commit the time or resources to advocate before the Commission.

When I first started working at the FCC, I was fresh off a judicial clerkship and a year out of law school. When I did my first comment summary in a rulemaking proceeding, I told my supervisor that I was surprised that comments were all self-interested. I shouldn't have been surprised – that's the job of the lawyers for companies – to advocate for the private interests of the company. However the job of the lawyers and other policymakers at the FCC is to make recommendations to the Commission about the public interest. And that's what all of us do, every day.

A few times lately, I have heard that folks from entities that shall remain nameless say that FCC engineers are not doing their jobs, or are doing their jobs incorrectly, because these public servants are not doing what the entities are advocating. It's as if my experience as a young FCC attorney is reversed; these people are surprised that the policymakers are actually trying to figure out what's in the public interest. We've got a lot of big policy decisions ahead. I think we'd all do well to remember that our jobs are different.

And of course Commission decisions can be, and often are, reviewed by the U.S. Courts of Appeals, and sometimes even the Supreme Court. Two recent court decisions are worth mentioning, because they affirmed a couple of key FCC decisions with respect to infrastructure and spectrum licensing.

The Supreme Court recently upheld a decision by the Court of Appeals for the Fifth Circuit finding that the Commission's interpretation of its statutory authority when it created the tower siting shot clock was a permissible construction.

And the Court of Appeals for the D.C. Circuit found that the Commission's data roaming rules were within the Commission's authority to regulate electromagnetic spectrum. These decisions are significant because they affirm the Commission's authority to implement policies that promote mobile broadband.

Continuing to Solve for the Public Interest

Going forward we continue to strive to foster an environment of innovation and investment. Our actions further three policy priorities: freeing additional spectrum, removing barriers to infrastructure deployment, and promoting robust competition.

Across each of these priorities, we are pursuing innovative policy approaches, necessitated in part by the growing complexity of the wireless broadband environment.

Let's first examine actions to free additional spectrum for flexible-use.

The Commission is working toward licensing 65 megahertz of spectrum for flexible-use services, including mobile broadband, by February 2015, consistent with our Congressional directive. This includes the H Block and the AWS-3 Bands. These and other bands may present unique or challenging technical and policy issues. Some bands are used today by federal government users. Other bands present technical issues that must be solved to ensure the new spectrum can be put to use without causing harmful interference.

A Report and Order that would adopt licensing, service, and technical rules for the H Block is tentatively slated to be on the Commission's June Open Meeting. This is an opportunity to free up to ten megahertz of spectrum for mobile broadband.

The Spectrum Act also requires us to license 25 megahertz in the 2155-2180 MHz band, 15 megahertz in the 1675-1710 MHz band, and an additional 15 megahertz to be identified by the Commission. We are working on proposals to meet these statutory objectives. As then-Chairman Genachowski pointed out in his letter to NTIA Administrator Strickling earlier this year, the exact configuration of bands will depend on how discussions about federal and commercial spectrum sharing proceed.

The broadcast incentive auction will also help us meet the demand for new spectrum for mobile broadband. First proposed in the National Broadband Plan, the incentive auction is a major policy innovation, and will be a success if it achieves three public interest goals.

First, if it allows the United States to lead the world in a new generation of wireless technologies and services.

Second, if it alleviates spectrum constraints to economic growth and development.

And third, if it funds the objectives laid out in the statute, including FirstNet.

The path to success in the incentive auction is a balanced approach that frees up spectrum for licensed and unlicensed uses, promoting competition and enabling efficient, innovative and productive use of one of the Nation's most valuable spectrum bands while preserving a healthy broadcast industry.

Nobody has ever conducted an incentive auction before, and we're trying to improve our chances of success by reducing risk wherever we can. One risk we see is that although we hope to be able to clear a significant amount of spectrum in the vast majority of geographic markets, we anticipate that there may be some geographic markets where we can't clear as much spectrum. But we don't want those markets to become the "least common denominator" for a nationwide band plan. Instead, the Commission identified the ability to accommodate "market variation" as one of the criteria for evaluating band plans. In May, we held a workshop in which we invited engineers and others representing interested stakeholders to discuss possible band plans. Following the workshop, we recognized a need to develop the record further on an issue that received little attention in the comments to date: the possibility of market variation.

The Commission identified this issue in the Notice, but not fully addressed by most of the commenters' proposed band plans. At the request of its technical staff, the Bureau released a Public Notice seeking to focus stakeholders on the issue of market variation. We are trying to reduce the risk of not achieving the

goals laid out by the Commission, and we believe this input is critical in our effort to craft an effective incentive auction.

Another major spectrum policy innovation we are focused on moving forward is dynamic spectrum sharing, specifically in the context of the 3.5 GHz band. The Bureau is committed to helping identify exclusive use spectrum wherever we can. But, there are additional opportunities to bring spectrum to market through new approaches. Database-enabled spectrum sharing is one of these cutting edge techniques, and we are laying the groundwork now for spectrum policy for years to come. The 3.5 GHz rulemaking tees up a number of important issues, including how to distribute rights among possible users while protecting incumbents; how to assign those rights; and how to coordinate use among different rights holders. The Notice also seeks comment on a framework that enables dynamic sharing. It's complicated, and it requires fresh thinking and innovative policy approaches. But it has the potential to open a great deal of spectrum for shared use.

Qualcomm has done a great deal of work and put a lot of thought into solving this problem, and I want to commend them for it. They offer an interesting view point, and we are carefully considering their proposal. But, as we do with all stakeholder proposals, we will keep in mind it is one viewpoint among several competing visions for this band. Staff is working, again across multiple disciplines, and in close coordination with our federal counterparts, to develop recommendations for the Commission.

In addition to these spectrum policy initiatives, we continue to remove barriers to wireless infrastructure deployment. The Commission's action to create a shot clock was a helpful step, but we can do more, working with wireless service and infrastructure providers, and state, local, and tribal governments.

At a broader level, continuing to remove barriers to broadband buildout requires a comprehensive approach, so we're working on a rulemaking that could examine a variety of issues affecting wireless infrastructure.

Finally, we continue to promote competition to drive wireless innovation, investment, and consumer choice. We do this through our review of transactions as well as rulemakings. We are reviewing our policies on mobile spectrum holdings to ensure that they reflect the evolving marketplace, and continue to promote competition. And while the Commission has approved more than 1,000 spectrum license transfers or assignments in the first half of 2013 alone, we have conditioned deals that would otherwise not serve the public interest.

Conclusion

Thank you for your attention. I am happy to take questions.