

**REMARKS OF FCC COMMISSIONER AJIT PAI
AT IX TALLER INTERNACIONAL DE REGULACIÓN:
“TENDENCIAS Y RETOS DEL SECTOR TIC”**

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Buenas tardes y gracias por la oportunidad de hablar con ustedes esta tarde. Gracias también a la Comisión de Regulación de Comunicaciones por la invitación. Tengo muy buenos recuerdos de Colombia. He viajado aquí en 2005 y tuvo la oportunidad de visitar algunas partes maravillosas de este país diverso, incluyendo Bogotá, Baranquilla, y Santa Marta. Y he disfrutado de los últimos días aquí en Cartagena de Indias.

Although I would like to offer all of my remarks in Spanish today, you probably can tell that I am not a native speaker. If I say much more, I may choose the wrong words and inadvertently spark an international incident. I would like to avoid that. So let me proceed in English.

My first memories of Colombia date back much farther than my 2005 visit. One of the first memories I have of international football was watching on television as Carlos Valderrama—and his hair—moved up and down the pitch. Several years later, I got to see him play in Washington, DC. Pelo y pelota era una combinación mas fuerte!

And speaking of football, I would like to congratulate one of Los Cafeteros—James Rodríguez—on winning the Golden Boot thanks to his six World Cup goals. I think the only thing more difficult and impressive than that achievement is the dance the Colombian team does after scoring a goal. Because unlike Shakira, mis caderas siempre mienten, I will spare all of you today and not attempt to demonstrate those moves.

Like Los Cafeteros, Colombia is on the move. The information, communications, and technology (ICT) sector in particular is growing dramatically. And this is due in large part to the vision laid out in El Plan Vive Digital. Colombia has exceeded all of its 2014 goals, including connecting thousands of municipalities to the national fiber optic network, increasing Internet connections over fourfold, and distributing millions of computers and tablets to public schools. This is a great testament to everyone who worked on implementing the Plan. And it is a great sign for the future as Colombia now launches Vive Digital 2.0.

Your efforts are already helping to create a culture of entrepreneurship in this country. I had a chance to see this for myself a few days ago. Here in Cartagena, I met with a group of startup companies at ViveLabs. These young entrepreneurs are aiming to use technology to solve problems not only for people here in Colombia but around the world. One startup focused on using GPS and cellular technology to track fishermen. Another created a device that could help trucking companies keep track of drivers and prevent drivers from starting their trucks if they had been drinking too much. Yet another was building a mobile app that would allow people to easily access the menus of nearby restaurants. Each of the people I met with had a passion, an idea, a goal. Together, they are making the vision of a digital Colombia a reality.

I very much appreciate the chance to visit with you, to hear more about the growing ICT sector in Colombia, and to share some of my own experience as a Commissioner on the United States Federal Communications Commission (FCC). Today, I would like to talk about three things before answering any questions you might have. First, I will tell you a little bit about the FCC—how it is organized and how it works. Second, I will discuss some of the policies the FCC has pursued over the past few years. And finally, I will briefly mention a few important issues that the FCC is addressing today.

I. The Structure and Functions of the FCC

Let me start by talking about the structure and functions of the FCC. As you may know, the FCC is an independent federal agency. This means that its activities are not controlled by the President of the United States. At most federal agencies, high-level officials serve at the pleasure of the President and can be dismissed for failing to follow the President's instructions. But not so at independent agencies. They are often led by commissioners who serve for specific terms and cannot be removed from office by the President except "for cause." Also, unlike other federal agencies, independent agencies generally must be bipartisan. This means that no single political party can hold all of the seats on the commission.

My own agency reflects these principles. The FCC is led by five Commissioners. Each serves a five-year term. Every Commissioner is nominated by the President, approved by the United States Senate, and then formally appointed to the FCC. The President selects one of the Commissioners to serve as the FCC's Chairman, but no more than three Commissioners can be members of the President's political party.

How does this work in practice? Well, take my own example. President Obama (a Democrat) nominated me (a Republican) to the FCC in 2011. The Senate voted unanimously to approve my nomination, and I am now serving a term of office that ends on June 30, 2016. There is one other Republican on our five-member Commission—Commissioner Michael O'Rielly—and there are three Democrats—the Chairman, Tom Wheeler, and Commissioners Mignon Clyburn and Jessica Rosenworcel.

The FCC's bipartisan structure has played an important role in its success over the years. Having commissioners from different political parties ensures that the agency's decisions are informed by a variety of viewpoints. It also means that each side often compromises to reach an agreement. Well over 90% of the FCC's decisions over the last decade have been unanimous, which is important. It means that every commissioner has a stake in the process and is helping to improve the agency's final decision. Having bipartisan support for our decisions also means that the FCC has a better chance of getting widespread public support, especially on critical or controversial issues.

The scope of FCC's authority is also important. The agency has broad jurisdiction over the communications industry. By law, its authority extends to all forms of communication by wire or over spectrum, including wireline telephone service, wireless service, satellite communication, radio and television broadcasting, and cable service. Indeed, when Congress first created the FCC in 1934, it did so for the express purpose of centralizing, in one agency, the powers that had previously been dispersed among several different agencies.¹ As one court put it, Congress wanted the FCC to develop and enforce a "uniform telecommunications policy."²

This is a useful aspect of the FCC's powers because "convergence," as I am sure everyone here is aware, has been one of the biggest recent trends in the communications industry. Companies that once offered only one type of service—such as telephone companies that supplied only voice service, or cable companies that featured only video—are now competing to provide all kinds of services over broadband networks. Companies that once occupied very different parts of the communications space now compete vigorously against each other in the marketplace. So the FCC's ability to survey the entire industry is vital if we are to be smart regulators.

And the FCC can exercise its powers in a variety of ways. We develop policies, adopt rules after asking for public input, and review certain transactions. We allocate spectrum for commercial use, issue

¹ See 47 U.S.C. § 151 (creating the FCC for the purpose of "centralizing authority heretofore granted by law to several agencies and by granting additional authority with respect to interstate and foreign commerce in wire and radio communication").

² *Total Telecommunications Services, Inc. v. AT&T*, 919 F. Supp. 472, 478 (D.D.C. 1996).

licenses, and conduct spectrum auctions. And we investigate potential violations of our rules and impose fines for any such violations.

Being an FCC Commissioner is a full-time job, and from my own personal experience, I can tell you that it involves very hard work. There are many issues to study, meetings to hold, proposals to vote on, speeches to make, and so on. But we cannot do all of the agency's work on our own. We rely heavily on different bureaus and offices.

Some bureaus focus on particular parts of the communications industry, like the wireless, wireline, or media sectors. Others are designed to work across many different sectors. For example, the FCC's Enforcement Bureau enforces *all* of our rules and regulations, such as our consumer protection and competition laws. It is an important bureau for an obvious reason: No matter how many rules we adopt, we cannot expect the public to take those rules seriously if we do not enforce them in a systematic way.

The FCC's offices provide a lot of support as well. Our general counsel's office gives legal advice, for instance. And our Office of Engineering and Technology supplies technical expertise, including information on spectrum usage, interference concerns, and emerging technologies.

All told, the FCC has about 1,700 employees, including lawyers, engineers, and economists. Having all of this talent in a single place allows the FCC to bring a wide range of perspectives to the issues we confront. It also reduces the regulatory barriers and delays that entrepreneurs and small businesses might otherwise face. And it serves consumers' interests by giving them a single point of contact for whatever complaint or concern they might have about any service provider.

There's much more I could say about the characteristics of the FCC, but I hope this overview gives you a sense of how the Commission is built and what powers it has.

II. How the FCC Has Exercised Its Powers: Infrastructure and Spectrum Policies

Speaking of the FCC's powers, you might ask: How has the FCC exercised its authority? Well, I would like to focus today on how we've implemented two overarching policies. The first is removing barriers to infrastructure investment. And the second is creating a free market for spectrum. Each of these has played an important role in enabling the communications marketplace we see in America today. And I believe each can serve as a valuable guidepost for regulators going forward.

A. Infrastructure

Let's start with infrastructure. The United States communications sector has seen a huge amount of investment in and deployment of broadband infrastructure over the past few years. Almost every segment of the communications industry is competing to offer newer, faster, and better broadband service. Wireless providers are expanding 4G LTE networks, and have invested more than \$33 billion in U.S. dollars in their networks in 2013 alone. Wireline providers invested nearly \$25 billion in 2012 deploying fiber. Cable operators are spending billions of dollars upgrading their technology using a new technical standard that transmits data much more quickly. Satellite companies are transforming their technologies and offering 12 megabit broadband speeds to the remotest parts of the country. A new entrant, Google, is activating gigabit fiber in cities across the country. And numerous telecom and cable companies have recently announced plans to offer affordable gigabit service to the public.

To put it simply, consumers in the United States are reaping the rewards of all this innovation and investment. On the wireless side, for example, nearly 98 percent of American consumers have access to two or more facilities-based providers, and almost 92 percent can choose from three or more—not to mention a host of wireless resellers. The fastest mobile broadband technology in wide deployment, 4G LTE, now covers 86 percent of Americans.

One might ask: How has this all happened? Well, it wasn't by government fiat. It was private enterprise, taking risks to innovate and build, and competing for consumers in the free market. It was our

private sector that spent over \$1.2 trillion over the past 15 years to lay fiber, upgrade cable systems, launch satellites, build towers, and deploy our broadband infrastructure. Rather than owning companies or directing capital spending, the United States Government has created a regulatory framework that gives companies the right incentives to make these investments. It has focused on removing barriers to infrastructure investment rather than picking winners and losers in the market.

Let me give just three examples.

First, for the last twenty years, it has been the policy of the United States that the Internet be unfettered by government regulation. In other words, instead of micromanaging broadband networks and the data they carry, we have focused on removing obstacles to infrastructure investment wherever we find them.

This was a conscious decision by regulators. At the beginning of this century, the United States faced a fundamental choice. Would we apply to the Internet the heavy-handed economic regulations designed for telephone monopolies? Or instead, would we adopt a modern approach that would give the private sector more flexibility to innovate? Thankfully, we chose the latter path. In 2002, the FCC applied a light-touch regulatory model to cable operators offering Internet service. In 2005, we did the same for telephone companies. And in 2007, we made clear that this deregulatory model also applied to wireless broadband.

These decisions yielded major results. From 2001 to 2009, the number of Americans with broadband at home skyrocketed from six percent to 63 percent. And during those same eight years, the price of wireline broadband fell by more than 50 percent.

Second, we've removed regulatory barriers in the video marketplace. When providers sought to enter this market in the early 2000s, they faced many challenges. Cable companies had to get permission from local governments to offer cable service, and that was often difficult. This caused a problem for broadband deployment because building out infrastructure is generally profitable only if a provider is able to offer a competitive bundle of services: Internet, telephone, and video.

To fix this problem, the FCC, joined by many state governments, made it easier for competitors to offer video services. This produced big benefits for consumers as telephone companies, in particular, entered the video market, expanded their fiber networks, and accelerated the deployment of high-speed broadband.

A third way we've removed barriers to infrastructure deployments is by streamlining the process for constructing the towers, antennas, and other physical infrastructure necessary to provide broadband service. You see, back home, we have an expression: "Not in my back yard." I believe it translates to "*No en mi patio trasero*." It refers to a common attitude in our country and, I suspect, throughout the world. Everyone wants the benefits that come with progress. But few want to have something built right next to their house. People want high-speed mobile broadband, but they don't want a tower they can see from their kitchen window. This attitude can slow down the deployment of infrastructure and deny consumers the benefits of wireless and other broadband services.

A few years ago, the FCC made it easier for providers to deploy network infrastructure. We did this by establishing what's known as the FCC's "shot clock." The shot clock gives state and local governments—the entities in the United States that normally review applications to construct or modify wireless facilities—90 days to act on applications seeking to collocate an antenna on an existing structure and 150 days to act on all other requests. The FCC's shot clock has encouraged state and local governments to approve and issue permits more quickly. This has made it easier for providers to invest in and deploy network infrastructure.

But we're not stopping there. Right now, the FCC is looking at more ways to streamline the deployment of wireless infrastructure. Back in the United States, providers are increasingly deploying

small cell technologies that can help ease congestion and add capacity to the traditional cellular networks. So one idea we're looking at is to tailor government oversight to the physical size and dimensions of the infrastructure. Under this approach, small cell deployments wouldn't need the same level of regulatory review as the construction of thousand-foot towers.

Each of these—broadband, video, and wireless—are examples of the FCC adopting policies that have been successful in promoting investment in infrastructure.

B. Spectrum

Turning away from infrastructure, the next policy I would like to discuss is the promotion of a free market for spectrum. Here, the United States made some key decisions that set the stage for explosive growth in mobile broadband.

First, we adopted what we call a flexible use policy. Instead of prescribing how wireless carriers must use spectrum, we left those choices to the private sector, which has a much better sense of consumer demand. This has enabled networks to evolve with technology without the need for government sign-off at each step.

Second, the United States pioneered the use of competitive auctions to distribute spectrum licenses. This market mechanism has allowed us to put spectrum to its highest value use. Between 2006 and 2008, for example, the United States successfully pushed 142 MHz of spectrum into the commercial marketplace. These auctions raised over \$30 billion for the United States Government. And this spectrum is now being used to provide tens of millions of Americans with 4G LTE service and is the main reason that the United States is currently home to almost half of the world's 4G subscribers.

I believe that our experience with auctions, which now spans about two decades, offers valuable insights. For example, auctions are more successful when they are kept simple, transparent, and market-driven. That means setting clear rules in advance and sticking with them. That means avoiding onerous conditions on particular spectrum. That means giving everyone a fair opportunity to bid. These are the best ways to promote network construction, to raise money for the treasury, and to give consumers the benefits of innovative new services. In short, the government should establish a level playing field when it comes to auction rules rather than trying to micromanage who wins and who loses.

Third, the United States has encouraged a robust secondary market in spectrum. The FCC has committed to reviewing transactions that would result in the transfer of spectrum from one company to another within 180 days of the transaction documents being filed. This is a good thing. By providing procedural certainty, the FCC has enabled spectrum to flow more freely to its highest value use.

We have also allowed licensees to “disaggregate” their spectrum, meaning that they can assign portions or blocks of licensed spectrum to someone else. So if I have a 30 MHz license, but I only need to use 20 MHz, I can grant another company the right to put the remaining 10 MHz to use serving the needs of its consumers. Licensees can also “partition” their spectrum, which means that they can assign geographic portions of their licensed areas to other providers. Similarly, the FCC also lets companies lease their spectrum, with certain restrictions.

We have found that these secondary market policies have encouraged spectrum efficiency and reduced transaction costs. Indeed, there have been thousands of secondary-market transactions involving mobile broadband licenses over the past several years.

Collectively, these two basic FCC policies—removing barriers to infrastructure investment and creating a free market for spectrum—have produced immense benefits for American consumers. They have helped to bring more and more Americans into the Internet age. They have given American more choices for better services at cheaper prices. And they have made the ICT sector a key part of U.S. economic growth.

III. Current Issues at the FCC

Finally, I would like to highlight just a couple of critical issues that the FCC is working on today. The first is freeing up more spectrum to meet consumers' growing demands for mobile broadband services. The second relates to the ongoing transition from an analog world to a digital one based on the Internet Protocol—something I have called the IP Transition.

So let's start with our efforts to free up additional spectrum. We all know that mobile data use has skyrocketed over the last few years. Estimates show that it grew by 81 percent last year alone, and it is expected to increase nearly 11-fold by 2018. And it won't just be more of the same. Consumers are increasingly using bandwidth intensive applications, like mobile video. By 2018, for example, video is expected to account for nearly 70 percent of all mobile traffic.

The FCC recognized a few years ago that these trends would strain wireless providers' existing spectrum capacity. So FCC staff prepared a National Broadband Plan in 2010 that is similar to Colombia's Vive Digital. Our plan called on the FCC to make 300 MHz of spectrum available for mobile broadband use by 2015 and another 200 MHz available by 2020. I am pleased to say that we're making progress towards these goals.

Earlier this year, the FCC completed its first major spectrum auction since 2008. Later this fall, we will commence an auction for an additional sixty-five MHz of spectrum in the 1695–1710 MHz, 1755–1780 MHz, and 2155–2180 MHz bands. Then, in 2015, we aim to hold the world's first broadcast incentive auction. This will be a two-sided auction. Broadcast television stations that currently operate in the 600 MHz band will have the option of selling their spectrum rights. In turn, wireless carriers will have the opportunity to buy them. The television stations that decide to keep their spectrum rights will need to be relocated to different channels. It is complicated to structure a spectrum auction when you do not know what the supply and demand is going to be. But given the need to free up more spectrum for commercial use, we have no choice but to be bold.

Indeed, we are not just looking at ways to push new licensed spectrum into the commercial marketplace, we are examining rule changes that could allow providers to have access to more unlicensed spectrum. Take the 5 GHz band as an example. This band is tailor-made for the next generation of Wi-Fi. From a technical perspective, 5 GHz use causes minimal interference. And its wide, contiguous blocks of spectrum allow for extremely fast connections, with throughput reaching 1 gigabit per second. Also, because the 802.11ac technical standard is already set, liberalizing the FCC's 5 GHz rules can go a long way in helping to meet consumer demand. The FCC earlier this year decided to allow greater unlicensed use of the 5 GHz band. We're currently examining ways to make an additional 195 MHz of this spectrum available for unlicensed use. Especially in dense urban areas where existing Wi-Fi channels are congested, this could be a breakthrough.

Apart from freeing up more spectrum, one of the biggest questions the FCC faces is how to facilitate the IP Transition. Right now, FCC regulations often require telephone companies to maintain two networks: a legacy network based on copper lines and a new, IP-based network. This is inefficient, and it deters high-speed broadband deployment. For every dollar spent to maintain the infrastructure of the past is a dollar that can't be used to build and expand the networks of the future.

That's why the FCC unanimously decided to move forward with local experiments in which companies can move customers from old networks to IP networks. We are going to see what happens when aging infrastructure is turned off. These tests will give us valuable data. And we will then use that data to make a successful national transition to all-IP networks. Once that happens, companies will be able to focus their investments exclusively on high-speed networks.

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In conclusion, I am deeply grateful for the invitation to speak with you this afternoon and participate in this wonderful conference. I appreciate the chance to talk to you about the FCC and look forward to your questions. And I am grateful for the chance to learn more about the ICT sector in Colombia. The very least I can do is to return the hospitality that you all have shown me. If you are ever in Washington, DC, please do not hesitate to visit. My office has an open door policy, both literally and figuratively, and I will always make myself available to discuss ICT issues with friends from Colombia.

Gracias a todos, buenas tardes, y espero que tienen un buen fin de la conferencia.