

**REMARKS OF FCC CHAIRMAN AJIT PAI
AT THE ONGO WORKSHOP**

LOS ANGELES, CA

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Thank you, Dave. It's great to be here with the CBRS Alliance to discuss the exciting opportunities presented by the 3.5 GHz band. I was sorry to miss OnGo's commercial service launch event in Washington last month. It's not often that an event to discuss a new FCC action is billed as, and I'm quoting your website here, "The Hottest Party of the Year." Here's hoping today's event is the rare Hollywood sequel that lives up to the original.

When it comes to the 3.5 GHz band, there's cause to celebrate. After years of anticipation, the FCC last month gave the green light to initial commercial deployments in the band. And in September, we also took an important step toward beginning our 3.5 GHz band auction on June 25, 2020.

There are so many people who deserve recognition for this progress, which says a lot about the degree of difficulty for this endeavor.

I'd like to start by thanking the CBRS Alliance and its members. We wouldn't be ready to sprint out of the gate on 3.5 GHz deployments if it weren't for the investments and innovation by operators of Spectrum Access Systems and Environmental Sensing Capability systems. The new sharing paradigm for the 3.5 GHz band also reflects input from large and small carriers, as well as fixed and mobile providers. You're also bringing software developers, chip manufacturers, and the makers of equipment and handsets to the table. I can't wait to see the results from this diverse coalition of businesses tinkering in this new sandbox.

Of course, progress on the 3.5 GHz band has resulted from a unique public-private partnership, and I'm grateful to all of our government counterparts at the National Telecommunications Information Administration and Department of Defense. The issues involved weren't easy, but we resolved them, and I hope that our work in the 3.5 GHz band will offer a model for future inter-agency collaboration.

And it goes without saying that at the FCC, this was an all-hands-on-deck effort. I'm so grateful to the staff of the Commission's Wireless Telecommunications Bureau, Office of Engineering and Technology, and Office of Economics and Analytics who have labored long on this.

Special thanks to my fellow Commissioners, past and present. This has been a bipartisan effort going back to Chairman Genachowski, who first proposed spectrum sharing in the 3.5 GHz band back in 2012. I especially want to thank Commissioner Mike O'Rielly. I tapped him as the Commission's point person on 3.5 GHz, and he delivered. Mike tackled this complicated job with energy and dedication, and we wouldn't be where we are today without his outstanding work.

Getting here has been quite the journey. Given all the talk about 5G, many think of 3.5 GHz primarily as part of the push to free up mid-band spectrum for next-generation wireless technologies. And it is, in fact, a key piece of the Commission's 5G FAST plan.

But it's worth noting that when the campaign began to open up the 3.5 GHz band for commercial use, it wasn't about 5G at all. It was more of an experiment. Federal users occupied much of the band. Even though they made little use of it across much of the country, if they had it, nobody else could use it. For years, the FCC tried to square this circle.

And then, in 2012, we decided to test a theory—a sharing regime that would allow different services to flourish. A press [article](#) about this move had a prescient headline: "3.5 GHz Sharing Effort Could Take Years to Produce Results."

In 2015, this sharing regime began taking shape. The FCC voted to create a dynamic, three-tiered, hierarchical framework to coordinate shared federal and non-federal use. Incumbents, which are federal users, comprised the highest tier and would receive protection from all other users, followed by Priority Access Licenses, or PALs, on the second tier, and General Authorized Access, or GAA, on the third tier.

There were many positive aspects of this framework. But unfortunately, the rules that the Commission adopted in 2015 did not do enough to encourage investment and innovation with respect to the Priority Access Licenses.

So when I became Chairman, I knew we had to institute reforms, in particular to encourage 5G deployment in the band. Led by Commissioner O’Rielly, we re-examined the rules governing the Priority Access License tier. We finished that review last year, and here’s some of what we did. We determined that the earlier decision to license PALs by census tracts was ill-suited for 5G deployment, so we replaced that plan with county-based licensing. And to encourage more investment in the band, we also extended the license terms from 3 years to 10 years and created an expectancy of license renewal. These reforms have made 3.5 GHz licenses much more appealing for 5G operations and will encourage the rapid deployment of next-generation wireless networks in the band.

All this came to a head last month, when the Commission voted to advance procedures for an auction of 3.5 GHz Priority Access Licenses, which will begin on June 25, 2020. Seven 10-megahertz channels will be made available, for a total of 70 megahertz of spectrum. Bidders will pay for the right to use a 10-megahertz channel, but they won’t bid on a specific channel. Instead, the specific frequencies will be assigned by the SASs and may change from time to time as a result of dynamic spectrum sharing between federal and non-federal users. The FCC will offer over 22,000 licenses in this auction, which will be the most ever.

It’s an impressive testament to the speed of technology in the wireless sector that 5G was barely on the radar when we began re-imagining the way we use this band. But now, because the FCC made necessary mid-course adjustments to reflect changes in the marketplace, the 3.5 GHz auction will help make CBRS one of our primary channels for supporting 5G services.

I should note, by the way, that the auction is only part of what’s so exciting about the 3.5 GHz band. I think it’s fair to say that this room is also excited about the FCC’s recent decision authorizing Spectrum Access System administrators to begin initial commercial deployments in the band. You don’t have to wait until next June’s auctions to deploy new services. There are now 150 MHz of GAA spectrum that anybody can use right now for unlicensed-like use. And it can have real pop for consumers—for instance, the new iPhone 11 may not support 5G, but it does have a 3.5 GHz chip. The future of 3.5 GHz services is now.

Today’s program offers a great picture of how our work together has opened the door to a broad variety of new applications. Right after me, you’ll hear my former FCC colleague, Claude Aiken, explain how the 3.5 GHz band will allow small wireless carriers to roll out new fixed wireless services in rural Americans. You’ll hear about private LTE networks for facilities like airports, malls, or even wind farms and solar farms. Then there are the Internet of Things services that will operate at 3.5 GHz. And this is just the beginning. For example, there are many smart-city applications in development, and most of these LTE services are being devised with a path to evolve to 5G.

This economic opportunity is so big that it’s hard to quantify. But that doesn’t mean that you can’t try, which the CBRS Alliance has already done. In 2017, you released an analysis that said opening up the 3.5 GHz band for commercial use will unleash between \$8 billion and \$26 billion annually in consumer benefits. When \$8 billion a year in additional consumer surplus is the floor—that is well over a quarter-million miles of footlong Subway sandwiches put end to end, at current prices in California—you know this is a big deal.

But even though we just passed two major milestones for CBRS, we can't let up, because our work is not done. SAS administrators need to report back to us to let us know that the dynamic sharing is working without any interference problems, so we'll be monitoring that closely. If the sharing regime works as we expect, we can continue to fine tune the system, adjusting protection zones and power levels to make sure our rules aren't overly restrictive. And of course, the FCC must take the remaining steps necessary to hold the 3.5 GHz auction next summer.

Now, as part of our 5G FAST plan, we are pursuing additional opportunities to free up mid-band spectrum for next-generation wireless networks. So at the risk of making you feel like a middle child, I thought I'd spend a couple of minutes talking about sibling bands below and above you—the 2.5 GHz band and the C-band.

Following the 3.5 GHz band auction, the FCC plans to hold an auction in the 2.5 GHz band. With almost 200 megahertz, this is the largest contiguous band of terrestrial, flexible use spectrum below 3 GHz in the United States. But it's dramatically underused today—existing licenses cover only about one-half of the country, and the spectrum often vacant west of the Mississippi River. We haven't yet scheduled a start date for this auction, but I'm aiming for it to begin next year.

And there's significant interest in the 3.7-4.2 GHz band, commonly known as the C-Band. The C-band involves a complicated array of legal, policy, and factual issues, and I haven't yet made a final decision on the best way forward. But in my view, we must accomplish four goals. First, we must make available a significant amount of spectrum for 5G. Second, we must make this spectrum available for 5G quickly. Third, we must generate revenue for the federal government. And fourth, we must ensure that the services currently using the C-band will continue to be delivered to the American people. This is a critical band for 5G, and I'm optimistic that we will have results to show on this front this fall.

One more opportunity on the horizon is the World Radiocommunication Conference, which kicks off in Egypt less than a week from now. WRC-19 gives us a once-in-every-four-years chance to work with international partners toward solutions for connectivity. We see each of the agenda items for WRC-19 as being part of a comprehensive, multi-technology approach to increasing the spectrum available for connecting the unconnected and delivering more advanced services for our citizens.

Spectrum harmonization will be a leading issue on the agenda. This is particularly important for the 3.5 GHz band, because many foreign countries have prioritized it as a primary band for 5G. If we harmonize spectrum policies in 3.5 GHz and other bands, we will drive technological innovation and investment at home and across the world.

I'd like to close by thanking you once again for helping us get to this point. Thanks to unprecedented collaboration between public and private stakeholders, we've developed the most advanced dynamic sharing system in the world. This adds to a long legacy of world-leading spectrum management innovations to come out of the United States, from auctions to making airwaves available for unlicensed use.

To conclude, I believe that we've reached a hinge moment in the saga of the 3.5 GHz band. To this point, it's largely been about public policy decisions. From here on, it's mainly a story of private sector innovation. Since we're in Los Angeles, I can't resist paraphrasing the famous line from *Sunset Boulevard*: "You're ready for your close up." This is your time. Show us what you can do. Let's make the wait worth it.