

**REMARKS OF FCC CHAIRMAN AJIT PAI  
TO THE CTIA 5G SUMMIT**

**OCTOBER 28, 2020**

Good morning! It's great to be with you. Thank you to our hosts CTIA and GSMA—the peanut butter and jelly of wireless trade associations.

By my accounting, this is the fourth iteration of this joint venture, and it's the third that I've been a part of. I did a fireside chat at last year's Mobile World Congress Los Angeles. I was there for your first joint venture in 2017, when you co-hosted Mobile World Congress Americas in San Francisco. And now, here we are together—on our laptops and tablets for the GSMA Thrive North America-slash-CTIA Summit.

While the names and locations of this event have changed over the years, there has been one constant: 5G.

Back in 2017, 5G was a big focus of my remarks. But back then, 5G was largely hypothetical and aspirational. This year, I'm speaking to you just a few days after the release of the first 5G iPhone. Over the past three-plus years, 5G has gotten real—very real.

How did we get from there to here?

Obviously, many of you in the audience led the way. But I'd like to think the FCC put a tailwind at your back. I'd like to walk through the actions we've taken at the FCC to accelerate the arrival of the 5G revolution.

At the FCC, we dubbed our strategy to promote the development and deployment of next-generation wireless our 5G FAST plan. This plan has had three central planks: freeing up spectrum, promoting wireless infrastructure, and modernizing our regulations to encourage more fiber deployment.

On spectrum, we've been taking an aggressive, all-of-the-above approach. We're freeing up high-, mid-, and low-band spectrum for 5G.

High-band spectrum enables ultra-high-speed, gigabit-plus wireless connectivity. Last year, the FCC successfully concluded our nation's first two auctions of millimeter-wave spectrum for 5G services, in the 28 GHz and 24 GHz bands, respectively. Earlier this year, we concluded bidding in an auction of the upper 37 GHz, 39 GHz, and 47 GHz spectrum bands. This was the largest auction in American history, releasing 3,400 megahertz of spectrum into the commercial marketplace.

All told, we've made available almost five gigahertz of high-band spectrum for commercial use through these auctions. To put that in perspective, that was more spectrum than was used before for terrestrial mobile broadband by all wireless service providers in the United States combined.

With respect to low-band spectrum, we've finished repurposing spectrum in the 600 MHz band, which was long used for broadcast television, for mobile broadband. To clear the 600 MHz band spectrum for wireless use, roughly half of our nation's broadcast TV stations—nearly 1,000 in total—had to change their transmission frequencies. This summer, we completed this enormous undertaking—known as the “repack.” Now, all of the valuable low-band airwaves sold in the ground-breaking broadcast incentive auction are available for wireless broadband service, and this spectrum is already being used to provide 5G service to areas where over 200 million Americans live.

I got a glimpse of the 5G future for this band during a visit to Nevada, where I saw a T-Mobile deployment delivering over 180 Mbps speed using 600 MHz spectrum, transmitted from an antenna almost a mile away.

Since we first rolled out the 5G FAST plan, I'd say we've made the most headway on mid-band spectrum.

Mid-band spectrum is appealing for 5G largely because of physics: it combines good geographic coverage with good capacity.

Under my direction, the FCC has systematically identified mid-band airwaves that were being underused and set plans to put these airwaves to work for the American people.

In July 2019, the Commission adopted flexible new rules for the 2.5 GHz band. This is our nation's single largest band of contiguous spectrum below 3 GHz, and it's well-suited for 5G deployment. We approved a Tribal Priority Window so that Tribal Nations in rural America would have early access to 2.5 GHz spectrum. This window closed on September 4, and we received over 400 applications. Commission staff have already conducted initial review of, and accepted for filing, 157 of these applications. We intend to auction any remaining spectrum shortly after we finish processing the applications filed during the window.

We also targeted rule changes to bring the 3.5 GHz band into commercial use. The rules for this band had not been optimized to encourage 5G deployment. But, with the leadership of Commissioner O'Rielly, we designed new rules to promote investment in the band. This August, the Commission successfully completed an auction of 70 megahertz of licensed spectrum in the 3.5 GHz band—the first-ever auction of mid-band spectrum for 5G. And we've completed the necessary technical work so that the band's entire 150 megahertz is now available for commercial use.

The Commission's biggest move to free up mid-band spectrum for 5G is in the swath of spectrum from 3.7 GHz to 4.2 GHz—what we call the C-band. This spectrum is mostly used by fixed-satellite companies to beam content to video and audio broadcasters, cable systems, and other content distributors. With advances in technology, however, these companies can now provide the same services using alternative technologies or considerably less spectrum.

That's why, this past February, the FCC voted to clear the lower 300 megahertz of the C-band and make 280 megahertz of this spectrum available for 5G through a public auction. All eligible space station operators currently using this spectrum have committed to an accelerated relocation to the upper 200 megahertz of the C-band—meaning that the lower 280 megahertz will become available for 5G two to four years earlier than otherwise would have been the case. We are currently on track to begin our auction of the lower 280 megahertz of the C-band on December 8.

And just a month ago, at our September meeting, the Commission proposed to make the 3.45-3.55 GHz band available for innovative commercial operations while accommodating limited remaining operations by federal incumbents. This action follows through on the White House and the Defense Department's August announcement that this 100 megahertz of contiguous mid-band spectrum should be made available for 5G as quickly as possible. I am optimistic that we will be able to auction the 3.45 GHz band next year.

The bottom line of all these mid-band efforts is this: With the aforementioned auctions of the C-band, the 3.5 GHz band, and a 2021 auction of the 3.45 GHz band, we are on a path to have a contiguous 530-megahertz swath—from 3.45 to 3.98 GHz—of mid-band spectrum available for 5G.

By any measure, this has been the most aggressive FCC in history when it comes to spectrum. And remember, that's just one of the three planks of our 5G FAST plan. We've been similarly productive on the other two: promoting wireless infrastructure and modernizing our regulations to encourage more fiber deployment.

When it comes to 5G, we all understand that infrastructure will be essential. 5G's more densified networks will require that we—and by we, I mean you—will need to install hundreds of thousands of small cells—an exponential increase in the number of antenna locations for our current networks.

At the FCC, we've taken many actions to streamline our rules and make it easier for you to build, maintain, and expand America's wireless networks.

To make it easier to install wireless infrastructure like small cells, we set a reasonable deadline for cities to rule on siting applications. We also set reasonable limits on siting fees—limits that still allow localities to cover their costs.

We also clarified the Commission's rules for when wireless infrastructure companies want to upgrade the equipment on existing structures, such as replacing antennas on a macro tower or adding antennas to a building. These clarifications will accelerate the build-out of 5G infrastructure by avoiding misunderstandings and reducing the number of disputes between local governments and wireless infrastructure builders—disputes that lead to delays and lawsuits.

To make it quicker and cheaper to enable new attachments to poles, we adopted our “one-touch make-ready” policy. Instead of having multiple parties sequentially prepare poles for a new attacher, as was the practice, a single construction crew now does all the make-ready work at once. This not only speeds up network buildout, it also opens the door to new entrants who can increase broadband competition. And by promoting fiber network buildout, we're supporting the expansion of wireless intermediate networks, too.

Some local governments challenged our “one-touch-make-ready” rules in court; but, just last month, a federal court rejected these appeals and affirmed the Commission's policy.

We've also modernized rules to make it easier for carriers to transition from maintaining yesterday's copper networks to building tomorrow's fiber networks. And we scrapped utility-style broadband regulation inspired by rules from the 1930s.

These reforms have helped to spur record-breaking capital investments in infrastructure essential for 5G, including fiber-optic cables and small cells. In 2018, and then again in 2019, the United States set records for annual fiber deployment. And the number of new cell sites in the United States has skyrocketed. For example, in the four years before I became FCC Chairman, the number of cell sites in the United States increased by fewer than 7,000. But in my three years in this role, the United States has gained over 87,000 cell sites—with over 46,000 added last year alone.

And that, ladies and gentlemen, is how the FCC has helped us go from a time where much of the activity around 5G was writing pie-in-the-sky white papers, to a time of 5G iPhones and meaningful deployments of next-generation wireless networks. And here's the exciting thing: This is only our first glimpse of our 5G future. We've still got a lot of work to do. But I love what I'm seeing, and I can't wait to see what comes next.

Thanks again to everyone out there who has worked to make this progress possible. I hope you enjoy the rest of the conference.