REMARKS OF FCC CHAIRMAN AJIT PAI
AT THE 9TH ANNUAL AMERICAS SPECTRUM MANAGEMENT CONFERENCE

OCTOBER 12, 2020

Good morning! Thank you to Forum Global for inviting me and hosting this event. It's great to be at the Americas Spectrum Management Conference. Or should I say, it's great to be back.

This is actually the third straight year that I have spoken at this event. When making a return speaking engagement, it's a good rule of thumb to review your earlier remarks. Basically, you want to know if you made any big pronouncements that the audience would expect you to have followed up on. In other words: figure out if you did what you said you were going to do.

Having revisited my 2018 remarks, how do they hold up? As Larry David might say, "Pret-tay, pretty good."

First of all, my opening joke was surprisingly prescient. I'll spare you the elaborate set-up, but it was basically a riff about how, after only 4 NFL starts, phenom quarterback Patrick Mahomes had me believing my beloved Kansas City Chiefs were legitimate Super Bowl contenders for the first time in my life, and that I was never going to stop talking about this promising development. Having tempted fate like that, I still can't believe this played out the way it did. The Chiefs are Super Bowl champions, Patrick Mahomes was named MVP, and I've documented this fairy-tale story with hundreds and hundreds of tweets.

Patrick Mahomes was not the only shiny new thing I talked about that day.

The centerpiece of my 2018 remarks was the Commission's new 5G FAST plan. And when I say new, it was really new—as in, five days old. I had announced the plan at a White House Summit the previous Friday.

Two years on, as we approach the end of my fourth year as FCC Chairman, we can take stock of how we've done when it comes to executing that plan.

The 5G FAST plan had, and has, three central planks: freeing up spectrum, promoting wireless infrastructure, and modernizing our regulations to encourage more fiber deployment.

Considering this is a Spectrum Management Conference, let's start with the airwaves.

We've been taking an aggressive, all-of-the-above approach here: 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 though 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 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.

But 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. However, with advances in technology, 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 couple weeks 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.

Among our efforts on those two fronts, we set a reasonable deadline for cities to rule on siting applications, making it easier to install wireless infrastructure like small cells. We required localities to set nondiscriminatory fees for small cells and prohibited them from charging more than their reasonable costs. We clarified the FCC's rules for when upgrades of wireless infrastructure equipment on existing structures qualify for streamlined state and local government processing, which will eliminate disputes and accelerate network buildout. We adopted our "one-touch-make-ready" policy, which makes it much easier for broadband providers to attach fiber to utility poles and opens the door to new entrants who can increase broadband competition. We removed regulations that forced companies to prop up antiquated copper networks instead of investing in next-generation fiber networks. And yes, we ended our nation's failed and thankfully short-lived experiment with regulating the Internet using heavy-handed rules designed in the 1930s for Ma Bell.

There's a lot of evidence that our infrastructure policies are working. 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. We added fewer than 7,000 cell sites from 2013 to 2016, but added over 87,000 from 2016 to 2019, with an increase of over 46,000 in 2019 alone.

On top of all these efforts to promote the development and deployment of ultra-fast, high-capacity 5G networks, the FCC is committed to making sure those networks are secure. When 5G is embedded in almost every aspect of our society and economy—from businesses to homes, hospitals to transportation networks, manufacturing to the power grid—securing our networks will become much more important and much more difficult. At the FCC, we've focused on the integrity of the communications supply chain—that is, the process by which products and services are manufactured, distributed, sold, and ultimately integrated into our communications networks.

For years, U.S. government officials have expressed concern about the national security threats posed by certain foreign communications equipment providers. To counter this risk, the FCC has prohibited the use of money from our Universal Service Fund to purchase or obtain any equipment or services produced or provided by companies posing a national security threat, including the world's largest global 5G supplier—Huawei.

We also started a process to identify and catalog insecure equipment used in USF-funded communications networks so we can work to implement a program to remove and replace it. It could cost nearly $2 billion to remove this equipment from U.S. carriers' networks and replace it, and we are working with the U.S. Congress to secure the necessary funding to do just that.

Fortunately, technological innovation has the potential to address some of these security concerns. Open Radio Access Networks, or Open RANs, could transform 5G network architecture, costs, and security. Just last month, the FCC held a forum on open, interoperable, standards-based, and virtualized radio access networks. It featured the Secretary of State and top experts from the United States and around the world. A consensus emerged from the forum that Open RAN technologies are already showing great promise in the United States and around the world, and that the public and private sectors should continue to encourage development and deployment of these systems, which can enable a diversity in suppliers, improve network security, and lower costs.

While I wanted to focus my remarks on 5G this morning, I also need to briefly highlight a major initiative: our work to unleash next-generation Wi-Fi. Because under my Chairmanship, the FCC has been aggressively implementing a balanced spectrum policy that is opening up spectrum for licensed use and unlicensed use.

With our growing reliance on Wi-Fi, including cellular offload, we are going to need faster, stronger Wi-Fi networks. The good news is that Wi-Fi 6, the next generation of Wi-Fi, has already

started rolling out. Wi-Fi 6 will be over two-and-a-half times faster than the current standard, and it will offer better performance for connected devices. But in order to fully take advantage of the benefits of Wi-Fi 6, we need to make more mid-band spectrum available for unlicensed use.

And that's exactly what the FCC did on April 23. The Commission unanimously approved my proposal to make the entire 6 GHz band available for unlicensed use. By doing this, we are creating a massive 1,200 megahertz testbed for innovators and innovation. This is a big deal. We effectively increased the amount of mid-band spectrum available for Wi-Fi by almost a factor of five.

Ultimately, I expect that 6 GHz unlicensed devices will become a part of consumers' everyday lives. And I predict our decision will play a major role in the growth of the Internet of Things, connecting appliances, machines, meters, wearables, smart televisions, and other consumer electronics, as well as industrial sensors for manufacturing.

Let me close with where I began: Patrick Mahomes. Yes, he delivered Kansas City its first Super Bowl in 50 years in his second year in the league. But by all accounts, he's just getting started. Despite yesterday's loss, the Chiefs are a favorite in Vegas to win it all again this year. Well, we aspire to follow his lead at the FCC. I couldn't be more proud of what we've accomplished over the past few years. But I'm not satisfied. And as long as I am at the agency, I am committed to working with all of you to build on this progress and unlock the possibilities of 5G and wireless connectivity for the benefit of our people.

Thank you, and have a great conference!