

**REMARKS OF FCC CHAIRMAN AJIT PAI
AT THE WIRELESS INFRASTRUCTURE ASSOCIATION
CONNECTIVITY EXPO**

CHARLOTTE, NC

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Good morning! It's great to be at the Connectivity Expo, and it's great to be with the Wireless Infrastructure Association.

As a native Kansan, it's also a pleasure to be in another state where college basketball is a bigger deal than college football. Speaking of, I see that former FCC Commissioner and Duke graduate Rob McDowell is kicking off the next session. If you know Rob, you know that he loves talking about Duke basketball. Being Rob's good friend, I thought I'd mention Duke's matchup with Kansas in this year's NCAA tournament. For those who don't recall, that would be the game Kansas won 85-81 in overtime to earn a trip to the Final Four. I know that some might call talking trash about Duke basketball gloating; I call it a public service. In all seriousness, Commissioner McDowell was a model public servant and a superb advocate for forward-looking policies on wireless infrastructure.

If there's one person who can appreciate that take, it's my good friend Jonathan Adelstein, who served on the FCC with Rob for three years. I never shared the dais with Jonathan, but I did get to know him when he was a Commissioner and I was working in the General Counsel's office. You already know it, but you couldn't have a better leader. And those aren't empty words. When I chartered a panel of outside experts to advise the FCC on ways to speed broadband deployment, Jonathan was one of the first people I enlisted. Not surprisingly, he answered the call to serve and chaired a key subcommittee. Thank you, Jonathan, for your service. Thank you for your friendship. And perhaps most important, thank you for changing this association's name from PCIA.

This organization has always been first and foremost about one thing: infrastructure. Now, I'll concede that some eyes glaze over when they hear the word infrastructure. But when people like you and me hear it, we get fired up. It's a telecom version of the Royal Wedding.

I'm dead serious when I say that I love geeking out on infrastructure issues. I've traveled extensively across this country since becoming Chairman last year, logging over 5,000 road miles across more than half the states to better understand the connectivity challenges facing U.S. communities. A common staple of these trips is getting a firsthand look at the physical infrastructure at the heart of our networks and the people who are building it.

Just three weeks ago, I scaled a utility pole on the side of a highway near Gainesville, Florida, to get an up-close view of how difficult it is to string aerial fiber. While there, I gained an appreciation for the risks posed by things like squirrels. Earlier that week, I met with MillerCo, a company in Gulfport, Mississippi that maintains and repairs towers from Wisconsin to Puerto Rico. Later that week, I checked out separate small-cell deployments by Charter and AT&T in Tampa and St. Petersburg.

Even better than the places are the people. I love talking to the technicians who work hard day in and day out to connect more Americans with digital opportunity. I enjoy meeting with engineers to try to understand the technology as well as my liberal arts and legal education will allow. And I benefit from talking to others in these companies to get a better handle on the economics of buildout.

When many people think about wireless, their minds typically spring to spectrum. They may give the laurels to the airwaves, but I usually hear the "yanny" (in this month's parlance) of infrastructure. Physical infrastructure isn't an option. It's a necessity. For none of the wireless innovations that have transformed our lives and economy would be possible without it. In my view, all of you are the unsung heroes of the digital revolution. And you're about to get your biggest chance yet to step into the spotlight.

Obviously, I'm talking about 5G. During the build-up to 4G, wireless policy was synonymous with spectrum policy. But 5G is different. Everyone in this room, and increasingly people outside this room, understands that when it comes to 5G policy, infrastructure and spectrum are each headliners. That's because 5G requires much more densified networks. For example, we'll need to install hundreds of thousands of small cells—an exponential increase in the number of antenna locations for our current networks. That makes vital the work of WIA's members.

There's a lot of competition to lead the world in 5G deployment. China, South Korea, and Japan, in particular, are moving aggressively. The motivation here and overseas is unlocking the growth industries of tomorrow: the Internet of Things, telemedicine, smart transportation, and energy networks, to name a few. But the first-mover could claim even more than that. Thanks in part to many of you, the United States set the pace globally for 4G LTE. The reward was huge; according to a recent analysis, our leadership boosted U.S. GDP by an estimated \$100 billion and increased wireless-related jobs in the United States by 84%. Some experts project that 5G technology will have an even greater impact, adding \$500 billion in U.S. economic growth.

Now, some say that there's a race to 5G. And being here in NASCAR country, I can't help but think of Ricky Bobby's most famous line from *Talladega Nights*: "If you ain't first, you're last." That ethos has some application to our work in this sense: We need to be aggressive in our policy decisions. We should act—and I use that word advisedly, in opposition to "talk"—as if U.S. leadership is the only acceptable option.

So what *is* the FCC doing to help seize the opportunities of next-generation wireless networks?

I strongly believe that the market, not government, should drive innovation and investment in the wireless sector. But the FCC has a role to play in promoting competition by maximizing carriers' willingness and ability to invest in their networks, making it easier to deploy the physical infrastructure necessary for networks to function, and freeing up spectrum for wireless services.

Reading the room, I think I'll start with our work to modernize our wireless infrastructure regulations.

As you know better than anybody, many of our current wireless infrastructure rules are a poor fit for the 5G networks of the future. They were designed with 200-foot towers in mind, not the highly-densified networks of small cells that will be common in the 5G world.

For example, as a result of the FCC's historic preservation rules, one company recently paid over \$12,000 to install one small cell outside a steel factory in Indiana. The price tag alone seems excessive. On top of that, everyone ultimately agreed there was no effect on historic property. Yet another company stated that 26% of small-cell deployment costs, including for equipment, came from historic preservation and environmental review alone. I wasn't a math major, but if we're going to deploy hundreds of thousands of small cells, and these installations can cost more than \$10,000 each, and federal regulations alone can amount to a 25% mark-up, it becomes clear: You can stick with outdated regulations from the past or you can have 5G technologies of the future. You can't have both.

We're looking forward. That's why we've launched a comprehensive review of our infrastructure regulations. We want to modernize our rules and make it easier to build next-generation wireless networks. I've asked Commissioner Brendan Carr to lead this effort. This work is ongoing, but thanks in large part to his office's leadership, we're already seeing results.

For instance, we used to require an extensive historic preservation review process just to replace an old utility pole with a newer one that's substantially identical. Not anymore, thanks to a decision we made last October.

We've finally moved forward on solving the longstanding problem of Twilight Towers. In December, we sought public input on a draft Program Comment and are now working to get the

document ready to go over to the Advisory Council on Historic Preservation. Our objective is simple: Put this issue to rest after more than a dozen years and make thousands of structures available for the placement of additional infrastructure.

Our most significant action came two months ago, when we updated our environmental and historic preservation rules. For instance, we found that small-cell deployments don't constitute a federal undertaking or major federal action under certain federal laws. In English: Small cells don't need big regulatory roadblocks. Thanks to our reforms, smaller infrastructure won't trigger federal environmental and historic preservation reviews designed for those 200-foot-tall towers. Additionally, we clarified our rules regarding deployments in floodplains and established shot clocks for the Commission to act on Environmental Assessments when they're required.

We also addressed the overarching issue of excessive Tribal fees. We decided that if you're installing infrastructure, you aren't required to pay upfront fees simply for initiating the consultative process under the National Historic Preservation Act. Fees like these are unfair and inconsistent with the law as well as guidance from the Advisory Council on Historic Preservation. They also can slow down or block much-needed projects. We also took other steps to make sure that the consultative process runs more smoothly. On the front end, we standardized the information that applicants have to provide. And on the back end, we established deadlines for acting on requests. One analysis estimated that all of these changes will save \$1.6 billion in deployment costs, create 17,000 jobs, and spur the deployment of 57,000 new small cells.

These are big steps, no doubt. But we still have work to do.

Looking ahead, we're taking a close look at how state and local regulations impact wireless infrastructure deployment. As we examine this issue, we'll need to figure out the best way to address competing concerns. On one hand, we want to remove unreasonable barriers to installing the infrastructure that drives the mobile revolution, in a manner consistent with federal law. On the other, we need to respect the legitimate interests of states and localities. In short, it's important that we strike the right balance here. I look forward to receiving Commissioner Carr's recommendations on how we should do that.

Of course, 5G infrastructure isn't just about small cells; it's also about backhaul. Densified networks will require much more fiber. On that front, we've launched a separate initiative to remove barriers to wireline broadband deployment. For instance, we're trying to make it easier and cheaper to attach equipment to utility poles. And just last week, I announced that we'll vote June 7 on letting companies discontinue outdated, legacy services and transition to the networks of the future. This is good for residential customers, of course. But it's also vital for backhaul.

Now, I did say earlier that all the spectrum we devote to 5G won't matter if the physical networks to carry 5G traffic are never built. Of course, the converse is true as well. Physical networks won't matter much if we don't have spectrum to devote to 5G. Spectrum is critical to the wireless speed breakthroughs that 5G promises. And as you know, Eleanor Roosevelt once said "America is all about speed. Hot, nasty, bad-ass speed." At least that's how she was misquoted in *Talladega Nights*. Anyway, even though this is a Wireless Infrastructure Association event, I'd be remiss if I didn't briefly discuss spectrum policy.

The FCC's 2016 *Spectrum Frontiers Order* opened up nearly 11 GHz of spectrum in the bands above 24 GHz for flexible use. Last year, we followed up by making an additional 1,700 MHz of millimeter wave spectrum in the 24 and 47 GHz bands available for terrestrial 5G wireless use. This April, the FCC voted to seek public input on procedures for a 28 GHz band spectrum auction scheduled to start on November 14, with a 24 GHz band auction to follow immediately thereafter.

And we're making even more progress. In a little over two weeks, the FCC will vote on my latest plan for the Spectrum Frontiers proceeding. It would resolve pending sharing and operability issues in

the 24 GHz band. It also proposes making spectrum in both the 26 GHz and 42 GHz bands available for flexible wireless use. In short, it's the latest step in American leadership in the millimeter-wave bands.

But as I've said repeatedly, our 5G spectrum strategy isn't just limited to high-band spectrum. We're also focused on repurposing low-band and mid-band airwaves for broadband.

I've got some good news to report on the mid-band front. Last year, the FCC agreed to explore repurposing more mid-band spectrum, including the 3.7 to 4.2 GHz band, commonly called the "C band." We have done a lot of work on this issue in the time since—enough so that I'm pleased to announce today that at the FCC's July meeting, I intend to put up for a vote a proposal to make more intensive use of that 500 MHz of spectrum, including seeking additional input on making it available for commercial terrestrial use.

And when it comes to low-band spectrum, the post-incentive auction transition process for the 600 MHz band is going very well. Indeed, T-Mobile is already using 600 MHz spectrum to provide mobile service in 28 states.

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In closing, I'd like to return one last time to the cinematic classic *Talladega Nights*. Ricky Bobby's father had a memorable line: "You gotta learn to drive with the fear, and there ain't nothing more [] frightening than driving with a live cougar in the car." Well, I'm currently in the middle of a long road trip from Virginia to Georgia, and I'm pleased to say that there isn't a live cougar in our rental car. But the quote nonetheless seems apt for this occasion because the path to 5G is fast-paced and volatile. It will require focus and determination from all of us; coasting isn't an option. But if we rise to the challenge, we can ensure that the United States remains the best place for wireless innovation and investment. We can spur new innovations to grow our economy and improve our quality of life. We can help close the digital divide and extend digital opportunity to all Americans, no matter where they live.

That wireless future is a bright one. Let's make it happen.