

**REMARKS OF
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TO THE 2021 NTIA SPECTRUM POLICY SYMPOSIUM
“MODERNIZING U.S. SPECTRUM STRATEGY AND INFRASTRUCTURE
FOR 21ST CENTURY GLOBAL LEADERSHIP”
SEPTEMBER 21, 2021**

Hello, everyone! Thank you to NTIA for hosting this important discussion and inviting me to participate. This is a forum where it can be easy to get deep into the weeds about what we should do with one spectrum band or another. And I'll admit, I get excited talking about things like duplexing, propagation, or beam forming—and I bet you do too—but of course, that has its limits. So I want to start by taking a step back and offering some perspective on why today's gathering is so important for our economy and our national competitiveness.

If you look at the history of the wireless revolution, you see that a big reason the United States has been a global leader in mobile innovation is that we have led on spectrum policy innovation. Time and again, we have done so many unconventional things—and we have done them first.

Go back to the 1980s, when the first cell phones were being introduced, and the FCC was using—let's be honest—a totally inefficient approach to allocate commercial spectrum, with regulators deciding on an almost arbitrary basis how spectrum should be used and who those users should be.

In 1993, we moved in a dramatically different direction and reimagined how we distribute our commercial airwaves. Instead of doling out specific licenses for specific uses based on political cues, we ushered in a new era of spectrum auctions—selling access to bidders and allowing them to use it however they choose. It's hard to imagine now, but these ideas were once mocked by experts, opposed by industry, and dismissed by policymakers. Nobody's mocking them now. Over the past two decades, the FCC has completed over 100 spectrum auctions, adding over \$200 billion to the Treasury, and unlocking more than \$1 trillion in benefits for the American people. This model was also adopted for spectrum auctions around the world. In fact, last year's Nobel Prize for Economics was awarded to two Stanford economists for their work designing the FCC's and the world's first successful spectrum auction.

We also pioneered the use of unlicensed spectrum. More than three decades ago, we took a handful of underused frequencies known as “garbage bands” in the 900 MHz, 2.4 GHz, and 5.8 GHz bands and decided to test a new model. Instead of dismissing these airwaves as junk we put in place a new model that set technical parameters and then did something radical—we gave the public access to these airwaves. This was edgy stuff. It was a move away from command and control spectrum policy. And this experiment was a wild success. Because this is the spectrum where Wi-Fi was born.

This history makes clear that spectrum policy is a really big deal. We're talking Nobel Prize and 100s of billions of dollars big. When we get it right, we can enable dramatic, meaningful improvements for our economy and in people's lives.

It also reminds us that it's not hard to get spectrum policy wrong. These policy innovations had such a dramatic impact because our previous policies allowed valuable airwaves to go underutilized. More recently, we've seen how simply focusing on the wrong spectrum bands at the wrong time can drive up spectrum costs to unprecedented levels. Over the long term this has a price—because it can make it more expensive to deploy and harder to foster competition.

So when it comes to spectrum policy, the stakes have never been higher.

Mobile technology has already reshaped almost every facet of our lives and our economy. Now, 5G is poised to unlock the potential of countless technologies that we've been talking about and slowly developing for years: the internet of things, telemedicine, virtual and augmented reality, precision agriculture, smart transportation networks, smart energy grids, I could go on. This in turn, will drive the future of industry and expand the potential for machine learning and the possibilities of artificial intelligence.

We embrace these possibilities at the FCC, and we are focusing on five key principles to help guide our 5G future.

First, we are freeing up more spectrum—and especially mid-band spectrum—for 5G. I believe our pivot to mid-band spectrum will be a game changer for 5G in the United States. It will foster more competition, wider coverage, and better performance—and up next is our auction next month of prime mid-band spectrum in the 3.45-3.55 GHz band.

Second, we are expanding the reach of fiber facilities. Our wireless networks will only be as good as the wired connections that help make them work. I'm particularly pleased that building more broadband is at the heart of the legislative discussions we are having about infrastructure in this county.

Third, we are diversifying the equipment in our networks. This is how we will return the United States to a position of strength and leadership in the market for 5G equipment. Open and interoperable equipment is the future, and we are taking action to ensure that Open RAN technology is being built here and now.

Fourth, we are building security and resiliency in our supply chains. We're taking direct action to keep untrusted equipment and vendors out of our networks. We are working on a program to replace this equipment to the extent that it is present in our domestic networks today. And we are making adjustments to the FCC's equipment authorization process to help prevent insecure equipment from ever reaching our shores and to encourage better security practices across the board.

Fifth, and finally, we are fostering American leadership in setting the technology standards of the future. I believe it is imperative that the United States government invest the resources necessary to lead in international standards development processes because when we do, we can lead the world. Greater participation in these efforts means more innovation at

international scale and broader support for the democratizing possibilities of access to modern communications.

Now here's the best part. As today's gathering demonstrates, in each of these principles—whether it is freeing spectrum, expanding broadband, diversifying networks, securing communications, or leading internationally—we have embraced the idea that no single entity can meet this challenge alone. We need a whole-of-government approach to get this done and one that is open to commercial innovation and opportunity. To do this, we need to draw on the strengths in our national DNA—our hard-wired belief in the creative possibilities of the future, the power of coordination, and the rule of law. This is how we turn spectrum scarcity into spectrum abundance.

I know many of the decisions before our agencies will be complicated. And again, I know that the stakes are high. It's why it's vital that the FCC keep an open door and an open mind and advance policies that are consistent with the facts, the law, and our most critical mission: ensuring world-leading communications reach everyone, everywhere in this country.

Thank you again to NTIA for hosting this discussion. Have a great conference.