

**REMARKS OF FCC CHAIRMAN AJIT PAI
AT THE NATIONAL UNION BUILDING**

WASHINGTON, DC

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Good afternoon. Thanks to everyone for coming out for a lunch-time discussion on mid-band spectrum. This crowd knows where the real action is in Washington today.

I also want to thank the cosponsors of this discussion: Citizens Against Government Waste, New America's Open Technology Institute, and WifiForward. And thank you to the FCC staff who are working hard to ensure that spectrum is put to its highest-value use—most notably, the legendary head of our Office of Engineering and Technology, Julie Knapp.

I'd like to begin my remarks by talking about the one thing in Washington that may be more beloved than Julie: the 2019 World Series champion Washington Nationals. I start with the Nats for two reasons. First, one should always pander to one's audience. Second, the Nats are an excellent metaphor for the 5.9 GHz band.

Think about it. After years of disappointment, the Nationals front office chose a new path. Instead of staying the course and re-signing Bryce Harper, they gave his slot in the lineup to teenage phenom Juan Soto and re-allocated some of his salary to sign pitcher Patrick Corbin. Corbin went on to be the winning pitcher in Game 7 of the World Series; Soto blossomed into a star; and the Nats won it all.

This is essentially the winning formula the FCC seeks to replicate with the 5.9 GHz band: move on from something we've tried for a long time that wasn't working, and open the door to exciting, new alternatives.

Let me elaborate. Back in 1999, the FCC allocated 75 megahertz of spectrum in the 5.9 GHz band for a service called Dedicated Short-Range Communications. Commonly known as DSRC, this technology was intended to enable ubiquitous transportation and vehicle-related communications.

But results haven't matched that intent. Here we are, two decades later, and the situation can at best be described as "promise unfulfilled." DSRC has evolved slowly. It's not widely deployed. And in the meantime, a wave of new transportation communication technologies has emerged.

As a result, a lot of people are wondering whether this valuable spectrum—a public resource—is really being put to its best use.

In my view, it clearly is not. After 20 years of seeing these prime airwaves go largely unused, the time has come for the FCC to take a fresh look at the 5.9 GHz band. And I'm pleased to announce that today, I shared with my FCC colleagues a proposal to end the uncertainty around the 5.9 GHz band and set a path for the deployment of new services. Specifically, I'm proposing to make available the lower 45 MHz of the band for unlicensed uses like Wi-Fi and allocate the upper 20 MHz for a new automotive communications technology, Cellular Vehicle to Everything, or C-V2X. I'm also proposing that we seek public input on whether to allocate the remaining 10 MHz in the band to C-V2X or DSRC. The Commission will vote on this Notice of Proposed Rulemaking at our December 12 meeting.

Let me go into a little more detail on what we're proposing, starting with unlicensed uses.

DSRC's lack of progress over the past 20 years becomes even starker when you consider that 1999 also marked the birth of Wi-Fi. Since its launch, Wi-Fi has become a staple of everyday life. It binds together all our phones and laptops. It has become a foundational technology for the Internet of Things, connecting our TVs, thermostats, baby monitors, refrigerators, washing machines, toys, and even toilets. It drives basic consumer decisions, like where to reserve a hotel room. Small wonder that a

survey a few years ago found that 40% of consumer-respondents said Wi-Fi was more important to them on a daily basis than intimate relations, alcohol, and chocolate. Wi-Fi now carries more than half of the Internet's traffic. It has arguably kept cellular networks afloat by reducing the traffic load on those networks.

But Wi-Fi's popularity has raised a challenge for regulators: We need to make more spectrum available for unlicensed use. Indeed, to meet growing consumer demand, it's estimated that the U.S. will need to allow unlicensed use of up to 1.6 GHz of new mid-band spectrum by 2025.

The FCC hears this call. Last October, we began to explore opening up a massive 1,200 megahertz of spectrum in the 6 GHz band for different types of unlicensed uses. And as I mentioned, today, I'm proposing to permit unlicensed operations in the lower 45-megahertz portion of the 5.9 GHz band. Thanks to its neighbor, this spectrum would punch above its weight. The adjacent 5.725-to-5.850 GHz band is currently available for unlicensed operations, making this 45 MHz sub-band ideally suited for unlicensed use. Having more contiguous spectrum here is essential for the larger channels needed to support innovative use cases.

It's important to note that my proposal marks a departure from our recent exploration of allowing unlicensed devices to share the same spectrum with DSRC. Preliminary testing of a sharing regime showed some promise, but further testing would be needed to carry out a complex sharing regime, and more testing would mean this valuable spectrum would likely lie fallow for several years. As it is, this valuable mid-band spectrum has been lying largely fallow for two decades. We are well past the point where American consumers should accept significant additional delays in putting this spectrum to use for them. And it's not just that sharing spectrum between unlicensed uses and DSRC would take time. It also adds complexity and raises the question of whether, given its past, DSRC is a technology with a future. That's why I believe the best course is to dedicate 45 MHz exclusively for unlicensed operations, and also to establish a home exclusively for transportation-related communications.

That brings me to the second half of my proposal: dedicating 30 MHz of spectrum in the 5.9 GHz band for Intelligence Transportation Systems.

Stepping back from the trees to the forest, the FCC has long been a supporter of innovation in the transportation sector. Keyless entry, tire pressure monitors, anti-theft systems, and security services to name a few. These are all technologies enabled by FCC actions. And during my tenure, automotive safety has been an important priority. Back in 2017, I led an effort to allocate a large swath of contiguous spectrum in the 76-to-81 GHz band exclusively for vehicular radars. These radars have proved especially useful for emergency braking and adaptive cruise control.

The improvements in transportation technology that we've enabled demonstrate that many of the features originally envisioned for DSRC are being provided today by other means. Applications like Waze help with traffic management and provide alerts far in advance of road hazards ahead. Blind-spot detection and lane-departure warnings have become common features on the latest cars.

And one promising new technology that is gaining momentum in the automotive industry is C-V2X. C-V2X would use standard cellular protocols to provide direct communications between vehicles, and, as the name suggests, everything—including other vehicles on the road, infrastructure (like light poles), cyclists (like me), pedestrians, and road workers. C-V2X is also expected to support new, advanced applications as we transition to faster, more responsive 5G networks. And it is backed by automakers like Ford, Audi, BMW, Daimler, and Tesla.

Here's one more thing that's important to know about C-V2X: It is incompatible with DSRC-based operations.

Based on the evidence in the public record, I believe that we should encourage the expansion and evolution of this new vehicle-safety technology. That's why I'm proposing that we authorize C-V2X

operations in the upper 20 megahertz of the 5.9 GHz band. Our hope is that this move will unlock new vehicle safety services, using less spectrum and on a much faster timeline than we have seen or realistically could see with a DSRC-focused policy.

Now, just because we're changing course and prioritizing C-V2X technology doesn't mean we're closing the door entirely on DSRC. Even after 20 years, we are once again being told that DSRC technology is about to take off. Japan, for example, has a single 10-megahertz channel for DSRC that is actively used for collision avoidance around intersections. So I'm proposing that we seek public input on whether to allocate the remaining 10 MHz of spectrum in the 5.9 GHz band for DSRC or C-V2X. Advocates of each will be able to make their case.

This balanced approach makes one thing absolutely clear: The FCC is committed to transportation safety. The Commission will no longer tolerate automotive safety and spectrum allocation policies that are not delivering significant results for American consumers. We are focused on forward-looking spectrum policies to make our transportation networks safer and more efficient—including policies for the 5.9 GHz band.

So moving forward, let's resist the notion that we have to choose between automotive safety and Wi-Fi. My proposal would do far more for both automotive safety *and* Wi-Fi than the status quo.

Of course, as those in this room know, this is the beginning, not the end, of the FCC's rulemaking process. We're seeking public comment on my proposal, and we'll make our final decisions based on the facts in the record.

But there are some things we can already say for certain. As my fellow Commissioners have noted in public statements, and as most reasonable observers confirm, the policy we have had in place since 1999 has not maximized the value of the 5.9 GHz band for the American people. After four presidential administrations, eight FCC chairs, and 20 years, it's long past time to turn the page. Let's move on from our failed strategy, look to the future, and score a major victory. If the Washington Nationals can do it, so can the FCC.