

**TESTIMONY OF FCC COMMISSIONER AJIT PAI
BEFORE THE U.S. SENATE COMMITTEE ON COMMERCE,
SCIENCE, AND TRANSPORTATION**

“OVERSIGHT OF THE FEDERAL COMMUNICATIONS COMMISSION”

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Chairman Thune, Ranking Member Nelson, and Members of the Committee, thank you for giving me the opportunity to testify this morning. Since 2012, it has been an honor to work with you on a wide variety of issues, from encouraging broadband deployment in rural America to saving taxpayers over \$3 billion by cracking down on abuse of the designated entity program.

I would like to focus my testimony on four issues where this Committee has led. They are: (1) ensuring direct dialing for 911 calls; (2) combating the threats posed by inmates’ use of contraband cellphones; (3) freeing up 5 GHz spectrum for the next generation of unlicensed use; and (4) opening up spectrum bands above 24 GHz for 5G and other innovative wireless technologies.

I’ll start with the two public safety issues.

Direct Dial 911.—Ensuring direct access to 911 is important both to me and the Members of this Committee. Last month, Senators Deb Fischer and Amy Klobuchar, along with Senators John Cornyn, Ted Cruz, and Brian Schatz, introduced The Kari’s Law Act of 2016. I commend those Senators for their leadership.

Many people now know the tragedy that inspired this legislation. In December 2014, Kari Rene Hunt Dunn was attacked and killed by her estranged husband in a Marshall, Texas hotel room. Her nine-year-old daughter, who was with her, tried calling 911 four times as she had been taught to do. But her calls for help never went through. That’s because the hotel’s phone system required guests to dial a “9” before calling 911.

When I learned about this two years ago, I started an inquiry into the status of 911 dialing at properties across the country that use multi-line telephone systems. I wanted to understand the scope of the problem and what we could do to fix it. At the time, I gave Kari’s father, Hank Hunt, my personal commitment that I would do my best to ensure that no one would ever again confront that situation.

Hank has been a tireless advocate for this cause. One year ago, I visited Marshall, Texas, and the 911 dispatch center where the call from Kari’s daughter would have—and should have—gone. I was honored to stand with Hank and report on the progress that had been made in just one year’s time.

The progress continues to this day. The American Hotel & Lodging Association, which has been a leader in changing industry practice, just sent me a progress report. When we started, none of the major hotel companies required franchisees to permit direct 911 dialing. Now, nearly every hotel chain, including Best Western, Carlson Rezidor, Hilton, Hyatt, La Quinta, Motel 6, Starwood, and Wyndham has established such a requirement as part of its brand standard. When we started, direct dial 911 calls would not have gone through at 55% of franchised hotels. Now, that percentage is substantially lower. Consider InterContinental, which includes Holiday Inn, Crowne Plaza, and Staybridge. At the start of my inquiry, it reported that nearly 1,000 of its properties lacked direct dialing capability. Today, each and every one of those properties allows direct dialing.

And the progress isn’t limited to hotels. Even the FCC itself has changed; it now allows direct 911 dialing. I want to thank Chairman Wheeler for making this happen.

But the job isn’t done. The Kari’s Law Act of 2016 would take us one step closer to accomplishing Hank’s mission. It would require that all multi-line telephone systems sold, leased, or installed in the United States allow direct 911 calling as the default setting. So I applaud the efforts of

Hank, Members of this Committee, and the many others who are making a difference on this issue. I hope this bill, like Congressman Louie Gohmert's companion legislation in the House of Representatives, becomes law soon.

Contraband Cellphones.—I want to turn next to another public safety issue that this Committee has worked on. That is the threat posed by inmates' use of contraband cellphones. This Committee has a longstanding interest in this issue. For instance, in 2009, this Committee examined bipartisan legislation designed to help law enforcement combat this threat.

In 2013, the FCC picked up the baton by releasing a Notice of Proposed Rulemaking. The agency teed up technological solutions and identified possible regulatory reforms—everything from streamlining our review of spectrum leases to making it easier for corrections facilities and wireless providers to work together. To date, the FCC has not taken further action in the rulemaking.

The use of contraband cellphones is a major public safety problem. And the threats they pose have only gotten worse over the past few years. They are now flooding into our nation's jails and prisons. Inmates are using them to order hits, run drug operations, direct gang activity, and victimize innocent members of the public.

I've heard about these disturbing developments firsthand. Last October, I visited a maximum-security prison in Jackson, Georgia to learn more about this problem. To put it mildly, I was disturbed by what I heard.

Georgia Department of Corrections Commissioner Homer Bryson, Warden Bruce Chatman, and other corrections officers told me that prisoners are using contraband cellphones to extort the family and friends of the incarcerated, putting inmates' safety and lives at risk. For example, inmates texted the wife of one Georgia prisoner and demanded \$1,000. When she couldn't gather the money, she was texted an image of her husband with burns, broken fingers, and the word "RAT" carved into his forehead. In another case, a woman received images on her phone of her incarcerated boyfriend being strangled with a shank held to his head. She was told that unless she forked over \$300, the beatings would continue. She could only afford to send about half that amount. Sadly, the assaults didn't stop, and after a severe beating, he died.

The problem is not limited to any one state. In South Carolina, for example, a gunman kicked down the door of a corrections officer in the early morning hours and shot him six times in the chest and stomach. Thankfully, he survived. The hit was coordinated by an inmate using a contraband cellphone, and it was ordered because the officer was too good at his job—which involved confiscating contraband, including cellphones.

These devices aren't only used for violent crimes. Inmates are also using them to run phone scams and con innocent members of the public out of their hard-earned money.

The bottom line is this: The status quo is not acceptable. We cannot let inmates treat prison as just another base of operations for criminal enterprises. The FCC needs to act.

To help meet that obligation, I announced earlier this week that I will hold a field hearing on contraband cellphones in Columbia, South Carolina on April 6, 2016. By gathering more facts and discussing possible solutions, I hope the field hearing will reboot the conversation and build a foundation for a robust FCC response. The FCC needs to do everything it can to help law enforcement combat this problem. I intend to do my part to make that happen. I look forward to working with my colleagues at the FCC and the Members of this Committee on this matter.

I'll turn next to two spectrum issues that this Committee has been considering.

5 GHz Band.—I want to thank the Committee for its leadership in identifying and drawing attention to the 5 GHz band, a band ideally suited for unlicensed use. The Spectrum Act, which was

signed into law four years ago last week, called on the FCC to begin the administrative process for opening up the 5 GHz band. The FCC did that in 2013.

Since then, Senators Marco Rubio and Cory Booker have introduced the Wi-Fi Innovation Act. That bill would require the FCC to test the feasibility of opening the upper portion of the 5 GHz band to unlicensed use—a portion of the band known as U-NII-4. Chairman Thune and others have also played key roles in helping to move the ball forward on this part of the 5 GHz band. I applaud those efforts.

Taken together, in the U-NII-4 band as well as the lower, U-NII-2B band, there are up to 195 MHz of spectrum that the FCC could open up for consumer use. It is not hyperbole to say that this could transform the wireless world. For this spectrum is tailor-made for the next-generation of unlicensed use. Its propagation characteristics minimize interference in the band, and the wide, contiguous blocks of spectrum allow for extremely fast connections, with throughput reaching one gigabit per second. The technical standard to accomplish this, 802.11ac, already exists, and devices implementing it are already being built. All of this means we can rapidly realize the benefits of more robust and ubiquitous wireless coverage for consumers, more manageable networks for providers, a new test bed for innovative application developers, and other benefits we can't even conceive today. I think you would be hard pressed to find a band that would be easier to open up for consumer use.

So the FCC needs to get this done. But progress has not been fast enough. I have been calling on the FCC to open these bands up since 2012. Both Qualcomm, through its re-channelization approach, and Cisco, through its detect-and-avoid proposal, have identified paths forward. I hope the agency gets this proceeding across the finish line, and soon.

Spectrum Above 24 GHz.—Finally, I want to commend Chairman John Thune and Ranking Member Bill Nelson on the introduction of the MOBILE NOW Act. In particular, I commend them for calling on the FCC to move forward on opening up millimeter-wave bands for mobile use.

Not long ago, most would have thought of the millimeter wave bands as dead zones when it came to mobile services. After all, nearly all commercial mobile networks operate in frequencies below 3 GHz. But as has been the hallmark of the communications sector, engineers are finding a way and technology is advancing.

Companies are now investing heavily in mobile technologies that rely on spectrum above 24 GHz as part of their work on 5G mobile technologies. Over a year ago, I visited Samsung's 5G research lab near Dallas, Texas. There, engineers are hard at work developing base stations and mobile technologies that are crossing into these spectrum frontiers. Their experiments with multiple-input, multiple-output antennas no bigger than a Post-it note have already demonstrated that 5G technologies can use millimeter wave bands to deliver mobile speeds in excess of 1 gigabit per second.

More recently, I attended Intel's demonstration of its millimeter wave technology at the FCC's headquarters. It showed how spectrum above 24 GHz can be used to beam signals off tables, buildings, or other objects to find the most efficient, highest-capacity connection between a base station and mobile user. These and many other efforts will enable consumers to enjoy the next generation of wireless connectivity.

What is the FCC's role here? In my view, we should put a framework in place that will allow 5G to develop in the United States as quickly as the technology and consumer demand allow. The U.S. has led the world in 4G, and there is certainly a lot of running room left with LTE and LTE-Advanced. But we must continue to lead as mobile technologies transition to 5G. The key is to make sure that the FCC does not become a regulatory bottleneck or send signals that would lead companies to focus their research and investments abroad.

On that score, there's plenty of work to do. On the plus side, we unanimously inquired about opening up numerous millimeter-wave bands in 2014, and the record contained robust support for moving forward on them.

But our recent rulemaking only addresses some of the bands above 24 GHz. There's another 12,500 MHz of spectrum in the 24 GHz band, 32 GHz band, 42 GHz band, and the 70 and 80 GHz bands that might be used for mobile services. I called on the FCC to focus on those bands as well. Although I wish that the Commission had found a way to do so, I'm glad that this Committee is looking to move those massive swaths of spectrum into the marketplace. I hope those efforts bear fruit and that the Commission will take appropriate action soon.

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Chairman Thune, Ranking Member Nelson, and Members of the Committee, thank you once again for holding this hearing and allowing me the opportunity to testify. I look forward to answering your questions, listening to your views, and continuing to work with you and your staff in the days ahead.