

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

**“OVERSIGHT OF THE FEDERAL COMMUNICATIONS COMMISSION”**

**SEPTEMBER 15, 2016**

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 freeing up more spectrum for consumer use.

These days, we hear a lot about communications issues that engender vigorous disagreement, often along partisan lines. In my testimony, however, I want to focus on five important issues where we can reach consensus in the short term and benefit the American people. This Committee and its Members have shown tremendous leadership in many of these areas.

The issues I will focus on are: (1) ensuring direct dial 911; (2) helping law enforcement locate 911 callers in emergencies, (3) freeing up 5 GHz spectrum for the next generation of unlicensed use; (4) opening up spectrum bands above 24 GHz for 5G and other innovative wireless technologies, and (5) moving forward with ATSC 3.0, the next-generation broadcast standard.

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. Earlier this year, 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 nearly three years ago now, 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. And significant progress has been made.

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. Indeed, since I last testified before this Committee, the Committee approved Kari's Law as a part of the FCC Reauthorization Act of 2016 and the U.S. House of Representatives passed its own version of Kari's Law. So I hope that this bill soon becomes law.

*Locating 911 Callers.*—The sad story of Kelsey Smith highlights another important step that can be taken to improve public safety.

Days after she graduated from high school, minutes after she got off the phone with her mother, and seconds after she bought an anniversary present for her boyfriend, 18-year-old Kelsey Smith was kidnapped. She was abducted in broad daylight as she got into her car outside a department store in Overland Park, Kansas. Almost four excruciatingly long days later, law enforcement found Kelsey's body. She had been raped and then strangled to death. Her body was left in a wooded area about 20 miles from where she was abducted.

It never should have taken that long to find Kelsey. She had her cellphone with her, so her wireless carrier knew her location. Kelsey's family, local law enforcement, and even the FBI asked that company to help them find Kelsey by supplying the cellphone's geographic coordinates. There was no question that this was an emergency—surveillance video showed a man running up behind Kelsey and forcing her into a car—but days passed before the company agreed to provide the phone's location.

Once they got that information, law enforcement took approximately 45 minutes to locate her body.

As a parent, I cannot imagine the pain that Melissa and Greg Smith, Kelsey's parents, have endured. As Melissa has put it, "What does a parent go through when a child is missing? You do not eat because you do not know if your child is eating. You do not sleep because you wonder if they are sleeping. It is pure hell." And of course, no parent should ever have to bury a child.

It would be completely understandable if the Smiths decided to grieve privately over such a terrible crime. But they chose a different path—a public one. They became national advocates for change.

This is where the Kelsey Smith Act, sponsored by Kansas Senators Pat Roberts and Jerry Moran, among others, comes into play.

Right now, federal law doesn't prohibit telecommunications companies from providing location information to the police in actual emergencies. But, as Kelsey's parents discovered, it doesn't require them to do so, either. So companies take different approaches. Sometimes they provide the information, sometimes they don't. Sometimes they respond quickly, sometimes they don't. This inconsistent approach puts lives at risk.

We know that this bill can make a difference. The Kelsey Smith Act is currently the law in over 20 states. And it is already helping law enforcement save lives. For example, one month after it passed in Tennessee, police obtained location information in time to rescue a child who had been kidnapped by a suspected child rapist. Back in Kansas, not far from where Kelsey grew up, police officials told me how they invoked the law to quickly track down and save a 5-month-old baby who was strapped into the back seat of a vehicle that had been carjacked. Luckily, the mother's cellphone was in the stolen car; police used that phone's location information to find the vehicle and the baby, who miraculously was sleeping peacefully in the back seat.

To ensure that these successes become the norm across the country, I hope that a bipartisan compromise can be reached in order to help the Kelsey Smith Act become law.

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, 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. This bill has helped kept the 5 GHz band front and center in our spectrum discussions. And the efforts of 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.

So the FCC needs to open up these bands for consumer use. While the FCC recently issued a public notice that seeks to refresh our rulemaking record, I would have liked to see the Commission move more quickly in this proceeding.. Indeed, 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.*—I want to commend Chairman Thune and Ranking Member Nelson on the introduction of the MOBILE NOW Act and this Committee for passing it. In particular, I commend you for calling on the FCC to move forward on opening up millimeter-wave bands for mobile use. Your efforts are already paying dividends.

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.

Thanks, I believe, in no small part to your efforts, the FCC recently expanded our millimeter wave proceeding to include over 17 GHz of additional spectrum bands—many of which are bands that were identified for further study in the MOBILE NOW Act.

I'm glad to see that the Commission is looking to move these massive swaths of spectrum into the marketplace. I hope those efforts bear fruit and that the Commission will move quickly to bring this part of our proceeding to an order.

*Next-Generation Broadcast Standard.*—Another area where I hope that the Commission can move forward quickly in a bipartisan manner involves ATSC 3.0, the next-generation broadcast standard. In April, broadcasters and the consumer electronics industry filed a petition for rulemaking with the Commission asking the FCC to provide broadcasters with the option of using the next-generation broadcast standard.

The Commission sought comment on this petition, and following the close of comments in late June, there was widespread support for it. There is no dispute that the next-generation broadcast standard will allow broadcasters to provide better service to the American people. Consumers will easily be able to watch over-the-air programming on mobile devices. Picture quality will improve with 4K transmissions. Accurate sound localization and customizable sound mixes will produce an immersive audio experience. And broadcasters will be able to provide advanced emergency alerts with localized information and greater amounts of data.

I believe that it is important for the Commission to act with dispatch. Just as the United States is leading the way on 5G in the mobile space, so too should we be at the forefront of innovation in the broadcast space. Other countries aren't standing still. Earlier this year, for example, South Korea adopted the ATSC 3.0 standard, and ATSC 3.0 broadcasters are scheduled to begin there in February 2017. We should get moving, too.

I therefore hope that the Commission will issue a Notice of Proposed Rulemaking on ATSC 3.0 no later than the end of this year. Put simply, the FCC should not stand in the way of innovation. This is especially true because all we are talking about is giving broadcasters the option of using ATSC 3.0. No one would be required to do so. Let's allow broadcasters who wish to move forward with ATSC 3.0 pursue this pro-consumer path as quickly as possible.

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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.