Laying a Foundation for an Automated Transportation System

Remarks by Deputy Assistant Secretary Diana Furchtgott-Roth
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Today I want to take the opportunity to talk about the safety that can come about through connected vehicle technology and intelligent transportation systems. I want to make sure you can keep innovating.

Each year, America suffers more than 36,000 fatalities and 2.7 million injuries on the roads. These are not anonymous and unknown people. Some are our friends. Others are our family members.

Two decades ago, in 1999, the Federal Communications Commission, an independent agency, wisely set aside 75 MHz of spectrum on the 5.9 GHz band. This is a "Safety Band," spectrum air waves reserved for transportation safety. In anticipation of the future, transportation safety was important enough to set aside spectrum air waves clear from any possible interference.

Over the past 20 years, the Department has been funding research based on the existence of this band of spectrum. This research has helped the automotive industry and State and local governments to develop new technologies that rely on the Safety Band, uncluttered by interfering uses. These new technologies depend on clear wireless signals that can help cars avoid accidents in the smallest fraction of a second. Sometimes even a fraction of a second wait means the difference between life and death, or between safety and harm.

From 2004 through 2012, the Institute of Electrical and Electronics Engineers worked on standardizing wireless communications for vehicles, and, by 2016, the Society of Automotive Engineers completed standards governing performance requirements and data elements for devices that enabled vehicles to communicate with each other, using a technology called DSRC—Dedicated Short Range Communication.

In 2017, certified technology enabled cars to communicate not only with other cars, but also with traffic signals, cyclists, and pedestrians. New technologies including autonomous vehicles will rely on the Safety Band. The new Safety Band technologies are now being pilot tested and preparing for wide deployment.

These new technologies are rolling out in countries around the world and in the United States. Here is a map of U.S. deployments, and a list of planned deployments waiting to be approved.

Virginia Tech, Texas Transportation Institute, Ohio State, and Mcity at the University of Michigan are just a few universities testing connected vehicles, and vehicles connected with infrastructure.

However, a new notice of proposed rulemaking by the FCC would take 45 MHz of this spectrum—over half—and give it to unlicensed WiFi. The remaining 30 MHz would be divided into 20 MHz for CV2X, a yet unproven technology, and 10 MHz for DSRC, the proven technology.

While such an action will help people eager to add ever more internet and other communications services, it could jeopardize your research—and the schedule and ability to leverage communications to vehicles to improve traffic safety and increase travel efficiency. We cannot be sure that those billions of new devices wanting to use those airwaves will not delay deployment of vehicle safety systems or interfere with traffic safety, contributing to car accidents. Our research shows that unlicensed WiFi can create out of band interference that would lower the reliability of CV2X and DSRC, making it unfit for transportation safety.

The Federal Aviation Administration would never allow unlicensed devices to operate in FAA bands for radar and communications that protect the safety of hundreds of thousands of air travelers at any time. The safety of hundreds of millions of automobile passengers would be no less important. The integrity of the Safety Band should be preserved.

If the Safety Band remains closed to unlicensed devices, these devices can simply be used in other bands where public safety is less at risk. There is plenty of spectrum for unlicensed WiFi, as you can see from this chart.

The federal government and taxpayers do not benefit by opening up the Safety Band to unlicensed devices.

We admit and acknowledge that devices using unlicensed WiFi are extraordinarily valuable to the American consumer. All Americans use unlicensed devices every day. We have no objection to allocating more spectrum for them, we just don't think that it should be on the Safety Band.

WiFi and unlicensed devices already operate in many different bands without entering the Safety Band. There will be no fewer unlicensed devices or applications if the Safety Band remains off limits to unlicensed devices. In contrast, there is no other possible

dedicated band for traffic safety if the Safety Band is taken away and given to or shared with unlicensed devices.

Further, communications between transportation vehicles and equipment cannot tolerate interference and delays. In the complex, fast paced world of modern traffic, fractions of seconds are the difference between getting safely home for dinner or the trauma of an accident.

Other countries, including China and European nations, have set aside their own Safety Bands in the same part of the spectrum—the 5.9 GHz band. Canada and Mexico have set aside the same 75 MHz on the Safety Band. How sad if drivers are protected in these countries, but not in the United States.

Many of you are at work on a host of improvements that will make moving people and freight safer, faster, cleaner and more efficient. Enhanced driver assistance capabilities and ultimately self-driving vehicle will depend on fast interference free communications. The original commitment of airwaves for transportation was and still is a prudent decision. Preserving this capability is important for America to remain the world leader in transportation automation.

The FCC will soon put its Notice of Proposed Rulemaking in the Federal Register. It will be open for preliminary comments for 30 days and reply comments for 60 days. This will give the traveling public, emergency responders, and all of you researchers, the opportunity to comment on the proposal.

Thanks for listening.