January 31, 2020

The Honorable Deb Fischer
Chairman
Subcommittee on Transportation and Safety
Committee on Commerce, Science, and Transportation
United States Senate
Washington, DC 20510

The Honorable Tammy Duckworth
Ranking Member
Subcommittee on Transportation and Safety
Committee on Commerce, Science, and Transportation
United States Senate
Washington, DC 20510

Dear Chairman Fischer and Ranking Member Duckworth:

In anticipation of the Subcommittee on Transportation and Safety’s upcoming hearing entitled “Keep on Truckin’: Stakeholder Perspectives on Trucking in America,” the Intelligent Transportation Society of America (ITS America) writes to emphasize how new and developing Vehicle-to-Everything (V2X) technologies that rely on dedicated spectrum – known as the 5.9 GHz band – can dramatically reduce truck fatalities and crashes. According to the National Highway Traffic Safety Administration, 70% of crashes involving trucks could be mitigated by V2X technologies.

A problem with a solution – but it is not that simple. The Federal Communications Commission (FCC) has recently proposed giving away a majority of that spectrum, and it has done so without any data or analysis. The FCC is prepared to sacrifice safer roads so that unlicensed devices can operate in the 5.9 GHz band. It is a reckless decision that will put truck drivers, other road users, and first responders at risk.

The Commission has made several flawed arguments to support its proposal.

First, the Commission says that the automotive industry has not done anything with the 5.9 GHz band since it was allocated for transportation safety in 1999. However, while the initial allocation occurred in 1999, it was not until 2008 that the transportation industry and incumbent satellite technologies reached a spectrum sharing agreement allowing V2X technologies to operate in the band without interference. Then, in 2012, Section 6406 of the Middle Class Tax relief and job Creation Act of 2012 required the National Telecommunications and Information Administration to study whether unlicensed devices could also operate in the 5.9 GHz band, increasing regulatory uncertainty about the future of the band. Next, Congress requested testing in 2015 regarding the operation of these unlicensed devices to ensure they would not interfere with incumbent transportation safety technologies, testing that has still not been completed by the Commission to this day. Finally, in 2018, two FCC Commissioners actually wrote a letter to Toyota, which was planning to deploy V2X in its vehicles starting in 2021, to suggest that the FCC could re-channelize the 5.9 GHz band, and warning Toyota to keep that in mind “when committing capital expenditures to DSRC technology.” As this timeline shows, there has been significant regulatory uncertainty surrounding the 5.9 GHz band, and the FCC’s own actions have delayed deployment of these lifesaving technologies. Despite all of this, as of 2018 there were roughly 60 V2X deployments in more than 30 states around the country.

Second, the Commission relied on an economic analysis claiming that opening up the 5.9 GHz band to unlicensed devices would provide $189.9 billion in benefits but failed to adequately consider the economic effects of retaining the 5.9 GHz band for transportation safety. While the Commission notes that the economic analysis did not estimate the potential loss of value from a reduction in spectrum for V2X, the Department of Transportation has stated that there are $800 billion in annual economic costs from the loss of life, injuries, and other quality of life factors that result from the more than 37,000 lives
lost on our nation’s roadways each year, much of which could be averted with lifesaving V2X technologies. That figure also does not include the significant economic benefits of reducing traffic congestion, another benefit of V2X technologies, which costs the nation more than $140 billion annually according to the Department of Transportation.

Third, the Commission states that automated vehicles will make the safety benefits of V2X technologies unnecessary. However, V2X technologies have applications that cannot be performed by un-connected automated vehicles, such as being able to communicate with vehicles that are out of line-of-sight, providing road hazard warnings from roadside infrastructure, and allowing automated vehicles to coordinate actions rather than making decisions individually.

Additionally, both the public and private sectors have invested hundreds of millions of dollars in developing and deploying V2X technologies. V2X is up and running today in more than 30 states and dozens of cities across the country. The FCC’s action would completely undermine much of this investment, discarding the significant advances that states, localities, and private companies have made in recent years. For example –

- Wyoming Department of Transportation (WYDOT) is deploying CV technology along the 402 miles of I-80 where winter wind speeds and gusts result in trucks blowing over and often lead to road closures. WYDOT’s V2X pilot focuses on commercial vehicle operators by developing applications to support advisories including roadside alerts, parking notifications, and dynamic travel guidance. WYDOT is equipping 400 vehicles, a combination of fleet vehicles and commercial trucks, with on-board units (OBUs). Of the 400 vehicles, at least 150 will be heavy trucks that are expected to be regular users of I-80. In addition, of the 400 equipped-vehicles, 100 WYDOT fleet vehicles, snowplows, and highway patrol vehicles will be equipped with OBUs and mobile weather sensors.

- Driver-assistive truck platooning enabled by Vehicle-to-Vehicle (V2V) and Vehicle-to-Cloud (V2C) communications allows a follow truck to react to the lead truck safety systems, braking, and acceleration. Using connected vehicle technology, trucks can safely operate at closer distances to form a platoon. This kind of connected “cooperative” automation improves safety as well as fuel efficiency and emissions. Deployment of commercial truck platooning can also increase the efficiency of today’s freight transportation without the need for additional investment in or modifications to today’s highway infrastructure. Since 2018, a number of U.S. truck OEMs and technology companies have been running commercial trials of truck platooning, working with major trucking fleets. These systems combine best-available truck safety systems with V2V, making trucks much safer in both individual operation and when paired in platoons. Truck platooning systems using V2V have been developed in the U.S. by companies such as Kenworth, Peterbilt, Volvo Trucks, Navistar, and Peloton Technology. Currently, truck platooning systems using V2V continue to move freight in the United States as part of customer fleet activity, setting the stage for growing commercial use of platooning.

- V2X technologies can also enhance automated driving systems, which can provide numerous economic, environmental, and societal benefits, such as decreased congestion and fuel consumption, and increased access for older adults and people with disabilities. While today’s automated driving systems rely on lidar sensors and mapping data, future ADS technologies will rely on V2X to provide accurate information on speed, heading, status of brake pedal, and more.
In the future, V2X communication will instantaneously alert an autonomous vehicle about objects it cannot directly see, which is vital for safety and facilitates better decision making by these autonomous vehicles.

V2X technologies are not only saving lives, they are improving operational performance of our roads – weather and pavement condition, how signals are directing traffic, and even the location of potential hazards at intersections and other critical road safety hotspots. V2X applications include red light violation warnings, reduced speed zone warnings, curve speed warnings, and spot weather impact warnings. V2X soon will support other applications that will disseminate the condition of the infrastructure, such as bridge integrity, and may even collect data from vehicles that describe pavement condition.

Even Secretary of Transportation Elaine Chao asked the FCC to reconsider its proposal. It “jeopardizes the significant transportation safety benefits that the allocation of this Band was meant to foster,” she wrote in a letter to FCC Chairman Ajit Pai. The U.S. Department of Transportation’s research shows that the FCC proposal would likely cause significant interference with V2X technologies operating in the remaining spectrum, which could in effect render the spectrum useless for transportation safety.

For the reasons noted above, ITS America urges the Senate Committee on Commerce, Science, and Transportation to use its FCC oversight authority to direct the Commission to reconsider the approach in the NPRM that reallocates spectrum within the 5.9 GHz band for unlicensed use, such as Wi-Fi. It is unfathomable that we would literally give away the best safety tool we have – and with it, our best chance to save tens of thousands of lives every year.

Sincerely,

Shailen P. Bhatt
President and CEO
Intelligent Transportation Society of America

Cc: U.S. Senate Committee on Commerce, Science, and Transportation
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