June 12, 2019

The Honorable Eleanor Holmes Norton
Chair
Subcommittee on Highways and Transit
Committee on Transportation and Infrastructure
United States House of Representatives
Washington, DC 20515

The Honorable Rodney Davis
Ranking Member
Subcommittee on Highways and Transit
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Dear Chair Holmes Norton and Ranking Member Davis:

In anticipation of the Subcommittee on Highways and Transit upcoming hearing entitled “Under Pressure: The State of Trucking in America,” the Intelligent Transportation Society of America (ITS America) writes to underscore how new and developing Vehicle-to-Everything (V2X) technology that depends on the 5.9 GHz band can dramatically reduce truck fatalities and crashes. Vehicle-to-Vehicle (V2V), Vehicle-to-Infrastructure (V2I), and Vehicle-to-Pedestrian (V2P) – collectively referred to as V2X – have incredible potential to dramatically improve the safety, accessibility, and operational performance of our roads and truck safety.

According to the U.S. Department of Transportation’s National Highway Traffic Safety Administration (NHTSA), 70% of crashes involving trucks happened in situations that could be addressed by V2V systems. V2V deployments available today include systems that provide emergency braking. Another benefit of connected vehicles is their ability to be the “eyes and ears” of other vehicles. Non-Line-of-Sight awareness means that drivers and vehicles will be able to see around corners and receive information about hazards in the roadway, even if they cannot see the hazard. V2V communications help move traffic more efficiently with demand responsive traffic signaling and allow emergency response vehicles to preempt signals.

The concept of V2I is to provide the vehicle and the driver information about infrastructure operations – weather and pavement condition, how signals are directing traffic, and even the location of potential hazards at intersections and other critical road safety hotspots. V2I applications include red light violation warnings, reduced speed zone warnings, curve speed warnings, and spot weather impact warnings. V2I 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. According to NHTSA, V2I technology helps drivers safely negotiate intersections and could help prevent 41 to 55 percent of intersection crashes. Another connected vehicle safety application that helps drivers with left turns at intersections could help prevent 36 to 62 percent of left-turn crashes, according to NHTSA.

Public sector agencies can also reap the benefits of V2X. Tens of millions of dollars have already been invested in this effort, including incorporating connected vehicle (CV) technologies into infrastructure. Through the combined efforts of the public and private sectors, hundreds of millions of dollars have been invested in development, rigorous testing, and deployment of today’s V2X solutions. A majority of states and dozens of cities are deploying or planning to deploy CV technology.

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 CV 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 would be heavy trucks that are expected to be regular users of I-
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 V2V and Vehicle-to-Cloud (V2C) communications links the active safety systems, braking, and acceleration between pairs of trucks. Using connected vehicle technology, trucks and their drivers benefit from shared safety and awareness and the trucks can safely operate at closer distances to form a ‘platoon.’ This kind of connected “cooperative” automation improves safety and driver teamwork as well as fuel efficiency and emissions. 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 United States by companies such as Kenworth, Peterbilt, Volvo Trucks, Navistar, and Peloton Technology. In addition, in the EU, all six European truck OEMs have developed truck platooning systems enabled by V2V and the same is true for top OEMs in Asia. Currently, truck platooning systems using V2V continue to move freight in the United States on a daily basis as part of ongoing fleet activity, setting the stage for growing commercial use of platooning.

V2X will enable us to deploy safety solutions that protect vulnerable users of the system, which will be transformational. V2P is an extremely important component of communications. In Colorado, where the largest increase was in vulnerable users of the system, fatalities increased from 484 in 2014 to nearly 700 in 2017. By allowing vehicles to communicate with these users through sensors or vehicle to device communication, we can significantly reduce the number of pedestrians killed on our roadways.

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.

However, V2X communications are by no means guaranteed. The 5.9 GHz band for V2X is being targeted by cable companies and their supporters who are seeking additional spectrum for WiFi and are aggressively pressuring the FCC to force V2X to share that spectrum with unlicensed consumer broadband devices. Under this threat to the V2X band, wisely reserved by the US Government to allow for common-standard, cooperative vehicle safety that the marketplace cannot provide on its own, now is the time for national leadership to put public safety ahead of entertainment – particularly given that cable/WiFi solutions can expand into other areas of available spectrum.

Speed matters when safety information is involved. Sharing the band could compromise the speed and put lives at risk. What if a driver knew, in fractions of a second, that an airbag deployed in a car in front of him/her? Alternatively, that the car in front, around the next curve, was sliding on black ice? Or a pedestrian is around the next corner? Thanks to V2X technology, that driver would react – and avoid a crash. It is crucial to note that V2X can do things that are impossible for the best active safety systems or even automated vehicles: V2X enables vehicles and their drivers to see around corners, over hills, and perceive the status, non-visible characteristics and operational intent of surrounding vehicles. This allows for cooperative safety applications that cannot be achieved in other ways – dramatically improving safety for all vehicles and roadway users. Notably, V2X provides solutions that will allow for safer interaction between vehicles operating at all levels of automation – from traditional human-driven to driverless.

Deploying life-saving technologies that allow cars, buses, trucks, bicycles, pedestrians, motorcycles, streetlights, and other infrastructure to talk to each other will ensure more people arrive home safely. With roadway fatalities and injuries growing each year, even while individual vehicles themselves have been
made safer than ever before, it is clear we are facing major national health crisis. Given the unique safety solutions that can only be provided by V2X and which will strongly complement future advanced vehicle safety systems and automation, it would be a tremendous mistake by the US Government if the 5.9 GHz band, which it wisely reserved for transportation safety, is not firmly preserved and protected.

ITS America supports prioritizing the entire 5.9 GHz band for existing, new, and developing V2X technologies. We want to make sure all three phases of testing for the 5.9 GHz band are complete in a timely manner before the FCC rules on whether the spectrum can be shared between V2X operations and unlicensed devices like WiFi. Any unlicensed use in the band should be done without harmful interference to the incumbent technology or other intelligent transportation systems technologies. Furthermore, any protocols and solutions that are allowed to make use of the 5.9 band must adhere to common-sense fundamentals that allow for effective operations of V2X safety solutions across the nation: allowing for interoperability and backwards-compatibility with systems already deployed today on vehicles and infrastructure. Building on extensive government – industry collaboration over the past years, V2X deployment has been underway and is growing. As a key part of taking on the national health crisis of growing fatalities and injuries on our roads, now is the time to move past the current period of damaging regulatory uncertainty and accelerate the deployment of life saving V2X transportation technologies.

Sincerely,

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

Cc: House Subcommittee on Highways and Transit
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