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RE: ET Docket No. 19-138, FCC 19-129

The American Society of Civil Engineers (ASCE), in coordination with the Transportation Development Institute (T&DI), is pleased to submit the following comments to the Federal Communications Commission (FCC) on the notice of proposed rulemaking (NPRM) entitled “Use of the 5.850-5.925 GHz Band,” issued on February 6, 2020. ASCE supports preserving dedicated 5.9 GHz band allocations for transportation-related communications to enhance human safety and to protect future research. **Allowing unlicensed devices to operate in the lower 45-megahertz portion of the band at 5.850-5.895 GHz is misguided.**

Founded in 1852, ASCE is the oldest national engineering organization and represents more than 150,000 civil engineers in private practice, government, industry, and academia. ASCE members are dedicated professionals who hold paramount public health, safety, and welfare as they design, build, construct, operate, and maintain the built environment. It is through this commitment that our members recognize the impacts of evolving technologies and advocate for policies that enhance human safety, support innovation, and strengthen the quality of our nation’s infrastructure. ASCE also includes the Transportation and Development Institute (T&DI) which is a membership-based organization from academia, government, and the transportation and development industry which strives to advance an integrated and developed transportation system that is safe, secure, and sustainable.

To educate the public on the needs of our nation’s infrastructure, every four years ASCE releases an Infrastructure Report Card. The most recent report, *ASCE’s 2017 Infrastructure Report Card*, gave the nation’s infrastructure a grade of “D+” and found that while our infrastructure deficit is significant, it is also solvable. We can address our infrastructure through strategic and sustained investment, bold leadership, thoughtful planning, and careful preparation for the needs of the future, which includes the preservation of the 5.8 – 5.9 GHz band for live saving transportation technologies.

As the FCC considers allowing unlicensed devices to operate within the 5.9 GHz band, ASCE urges strong consideration on the following areas:

- Preservation of the entire 5.850 to 5.925 GHz band for transportation applications; and
- The implications of reducing spectrum before full technology deployment.

#### **Preserve the Entire 5.850 to 5.925 GHz Band for Transportation Applications**

ASCE strongly recommends that the entire 5.850 to 5.925 GHz Safety Band allocated by the FCC in 2003 for Intelligent Transportation Systems (ITS) be preserved for that purpose. The dedicated 5.9 GHz band ensures that within vehicle-to-vehicle (V2V), vehicle-to-infrastructure (V2I), and vehicle-to-pedestrian

(V2P) communication, collectively known as vehicle-to-everything (V2X) communications, emerging vehicle technology is able to stay connected and communicate effectively as part of a safer, more integrated surface transportation network.

Through the deployment of V2X communications, current and future vehicle technology can reduce traffic-related fatalities and serious injuries, while supporting stronger planning, design, operation, and maintenance of our nation's roadways. While expanding Wi-Fi deployment remains an important issue, it should not be done at the risk of public safety on American roadways. Therefore, to secure the safe communication between current and future driving technology, we must ensure that the dedicated 5.9 GHz band of spectrum remains free from interference. Opening and sharing the band to unlicensed applications would interrupt high-speed communication and compromise public safety. The likelihood of interference has been documented by both the U.S. Department of Transportation (DOT) and the National Highway Traffic Safety Administration. Unfortunately, the NPRM fails to provide any mitigation for this interference.

### **Consider Implications of Reducing Spectrum on Full Technology Deployment**

While continuing to ensure human safety, preserving the current spectrum allocation has the added benefit of providing regulatory certainty for long-term development. As developers continue to test this ever-growing technology, we should provide a framework that allows industry to study and improve high-speed communication applications. Within the current V2X communication system, unlicensed use can impede the ability to improve issues impacting vehicle speed, acceleration, and heading; control information such as transmission state, break status, and steering wheel position; and vehicle path history and prediction. In the long-term, regulatory certainty can help the transportation industry to develop a comprehensive cooperative automated transportation (CAT) system and encourage industry growth and innovation.

### **Conclusion**

In short, preserving the 5.9 GHz band of spectrum is critical to provide a dedicated platform for high-speed, secure, reliable and interoperable communication between vehicles, infrastructure, and road users. As the FCC examines the merits of allowing unlicensed devices to operate in the lower 45-megahertz portion of the band at 5.850-5.895 GHz, ASCE joins traffic safety agencies and many other associations to support preserving the entire 5.9 GHz band for interoperable V2X communication to save lives and support future research.