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Subcommittee on Communications and Technology

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Chairman Doyle and Ranking Member Latta:

Thank you for the opportunity to appear before you today on behalf of APCO International. Founded in 1935, APCO is the world's oldest and largest organization of public safety communications professionals. APCO is a non-profit association with over 33,000 members, primarily consisting of state and local government employees who manage and operate public safety communications systems – including 9-1-1 Emergency Communications Centers (ECCs), emergency operations centers, radio networks, and information technology – for law enforcement, fire, emergency medical, and other public safety agencies.

I serve as APCO's Chief Counsel and Director of Government Relations. It's an honor to be back before this subcommittee to address spectrum issues of importance to public safety communications.

For many decades, public safety professionals have relied upon the availability of dedicated and interference-free spectrum allocations for mission critical communications ranging from 9-1-1 centers performing essential dispatch operations, to voice communications among police, fire, and EMS responders. This is consistent with the purpose under the Communications Act of "promoting safety of life and property through the use of wire and radio communication."

Today, I will address three spectrum matters of pressing concern for the public safety community: the 6 GHz band, the T-Band, and the potential of 5G technology.

In October 2018, the FCC initiated a proceeding to explore the potential of introducing new unlicensed operations into the 6 GHz band. The 6 GHz band is used for a variety of critical services and is heavily encumbered by public safety for extremely reliable fixed, point-to-point microwave transmissions. Public safety uses the 6 GHz band mainly as backhaul for 9-1-1 dispatch and first responder radio communications, which is especially important in rural areas where the alternative to microwave would be prohibitively expensive or impractical fiber deployment, if it is even available. That is why we told the FCC in our public comments that it is critical that both current and future public safety operations in the 6 GHz band remain reliable and free from interference.

The prospect of sharing this band comes down to two important questions. First, what is the potential for interference? And second, can a spectrum sharing mechanism be reliably demonstrated in advance to ensure that there will be no interference to public safety?

Concerning the potential for interference, the unlicensed community has submitted technical showings that do not appear to fully appreciate the real-world implications of the deployment of hundreds of millions of unlicensed devices, or the fact that public safety microwave links are designed to ensure high reliability and availability (a downtime of no longer than 30 *seconds* per year). APCO remains unconvinced that there is any way unlicensed devices could share this spectrum without being required to use some form of an automated frequency coordination mechanism. Additionally, any automated frequency coordination system must undergo substantial testing and be proven in advance to be effective at preventing interference to public safety communications. Further, public safety must be assured that any interference that does occur will be rapidly resolved.

The bottom line is that spectrum bands housing public safety operations are not the appropriate arena to deploy new, unproven spectrum sharing and frequency coordination methods. Considering the introduction of unlicensed uses into a public safety band warrants increased scrutiny. Fixed service systems such as those relied upon by public safety for mission critical communications are not designed to detect interference and are incapable of attributing it to a particular source. Thus, it is important to be especially mindful of the fact that if the sharing mechanism fails, or consumers or equipment manufacturers disable or misuse the interference protection mechanisms, there is no way to reverse the resulting interference. There will be hundreds of millions of unlicensed devices out in the stream of commerce, and should interference occur to public safety microwave (which we must assume will occur), it will be very difficult if not impossible to identify and stop the interfering device. Worse, public safety will have no alternative communications path. That would mean the irreparable loss of communications critical to public safety.

Switching over to the T-band, this spectrum is located in portions of the 470-512 MHz band available in eleven metropolitan areas to support public safety communications. As part of the 2012 spectrum legislation, the FCC must reallocate and auction this spectrum by February 2021. The options for replacement spectrum to account for the loss of the T-Band remain very limited. Accordingly, given everything that would have to be set into motion, including all the actions the FCC would need to take, and with nowhere for public safety to move to, the right thing to do is for Congress to repeal this provision. There would be no budgetary impact with repeal. Further, there has been little if any interest expressed by potential bidders for this spectrum, making the prospect of any new spectrum efficiencies or significant auction revenue slim, contrary to the typical goals of spectrum auctions. Further, it remains APCO's position that it would be unfair to ask public safety for anything in exchange for repeal of this provision.

I would like to acknowledge that Congressman Walden has been engaged on this matter, which we appreciate. Further, the International Association of Fire Chiefs has been at the forefront of representing the interests of public safety on this important topic.

Finally, I'd like to turn to the potential benefits to public safety that we see from the advent of 5G technologies.

First, 5G has the potential to provide better location accuracy for 9-1-1 callers in both indoor and outdoor environments. In-home and in-business 5G products can provide dispatchable location-quality information (meaning the street address of the building plus the room, suite, apartment number, etc.) outside of any other location solutions. For example, if there was a 5G hotspot inside of this hearing room, and someone needed to call 9-1-1, the hotspot would be able to automatically and quickly convey that the caller is at 2322 Rayburn House Office Building. Further, the relatively smaller coverage area and denser nature of 5G outdoor antennas can provide more accurate location estimates to 9-1-1 centers. But we are not hearing enough from the wireless industry on these important opportunities, and we encourage service providers to more actively leverage 5G as a 9-1-1 location solution.

5G can also contribute to significant advances in wireless emergency alerts, which have been a real success story for emergency management and public safety. The platform currently used by the wireless industry, cell broadcast technology, is outdated. Even before moving to 5G technology, the wireless carriers are required to offer wireless alerts with better geotargeting so as to not over- or under-alert the public, and they should also take advantage of existing network technology to enable inclusion of multimedia content into the alert, such as a photo of a suspect at large or an evacuation map. A 5G-based platform would lead to new opportunities to modernize wireless emergency alerts and this transition, as with all advances in wireless technology, should be viewed as an appropriate time to enhance public safety features.

Finally, if we don't upgrade the nation's 9-1-1 systems, 5G will never reach its full potential. While 5G technology will tremendously enhance the communications capabilities of the general public and first responders, it will only further widen the gap between those capabilities available to the public and what's possible for 9-1-1. Unless we modernize the 9-1-1 system, all these innovations are lost at the door of the 9-1-1 center. To improve communications where it counts - making sure the public can leverage modern technology during emergencies and that police, fire, and EMS have the best information available - we need to modernize 9-1-1. Consumer expectations already significantly differ from reality when it comes to 9-1-1, and this will only worsen as 5G puts more power and features into their hands.

While I'm discussing 9-1-1, I would like to specifically thank Representatives Eshoo and Shimkus for their bipartisan work to introduce the Next Generation 9-1-1 Act of 2019, and to Chairman Pallone for including the provisions of this bill into the LIFT America Act. This legislation would modernize 9-1-1 networks across the country in an innovative, interoperable, effective, and efficient manner, while preserving state and local control over 9-1-1 operations, which are all goals that we fully support. We would welcome further opportunities to work with this subcommittee to make additional progress.

Again, I thank you for the opportunity to present APCO's views. I look forward to any questions you may have.