

## Public-Safety Narrowband Voice Systems Can't Be Abandoned

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By Harlin R. McEwen

I have consistently sounded the alarm for public-safety agencies to not abandon their LMR narrowband mission-critical voice systems. Having been a law enforcement and public-safety practitioner and executive for more than 50 years, I know firsthand the criticality of voice communications for police, fire and EMS personnel.

In 2013, I was one of the principal authors of [a paper issued by the National Public Safety Telecommunications Council \(NPSTC\)](#) titled, "Why Can't Public Safety Just Use Cell Phones and Smart Phones for Their Mission Critical Voice Communications?" and "Why Can't Public Safety Just Use the Planned Nationwide Public Safety Broadband Network for Their Mission Critical Voice Communications?"

The NPSTC paper, available on the NPSTC website, was written primarily as an educational document for local, tribal, state and federal officials to explain the difference between cell phones and LMR. The public and many public officials don't understand the difference because they have never used a push-to-talk (PTT) radio that can communicate instantly to many people without dialing a telephone number. However, when pressed to consider the issues, they will all admit that their cell phones or smartphones don't always work.

As explained in the NPSTC paper, public-safety officials have unique and demanding communications requirements. If you have never been a public-safety official, it is difficult to understand those differences.

In public safety, communications often can be the difference between life and death, and that is why we insist on more reliable communications services than are currently available from commercial wireless systems.

Public-safety land mobile voice systems cover more land area in the United States than commercial systems. This is because commercial carriers build system coverage where there are enough customers to earn a return on their investments, while public safety generally builds coverage throughout its jurisdiction regardless of population density.

In a recent article titled, "The Politics of Mission-Critical Voice," Andy Seybold did a great job explaining some of the history and challenges that public-safety agencies face in protecting their land mobile voice systems (link to <http://andrewseybold.com/3408-the-politics-of-mission-critical-voice>). Seybold went into considerable detail explaining the hurdles that we must overcome before broadband wireless, either commercial or the planned nationwide public-safety broadband network (NPSBN), can start to replace LMR.

"Voice is the most important communications tool for first responders," Seybold said in the article. "Data and video will certainly be welcomed and will augment voice but at the end of the day, voice will continue to be the communications workhorse of public safety. If we don't get it right and make sure it is right it will cost lives."

Jeff Johnson, retired fire chief of Tualatin Valley, Oregon, and former president of the International Association of Fire Chiefs (IAFC), serves as a public-safety board member of the First Responder Network Authority (FirstNet). Johnson has explained in numerous forums that Long Term Evolution (LTE) technology, which will be used for the FirstNet NPSBN doesn't have the capability to replace public-safety LMR voice, and it is not known when that capability will exist. He has also said that FirstNet doesn't expect to offer mission-critical voice service for many years and indicated it is important for public-safety agencies to maintain their LMR voice systems.

There are three big challenges. Until the planned NPSBN is built and provides coverage equal to or better than the coverage currently provided by LMR, public safety cannot abandon LMR systems. No one knows when that will be, and although some differ with my opinion, I don't think it is likely to happen in less than 10 years.

Secondly until it is demonstrated that the NPSBN can provide public-safety service when the NPSBN is not working or is not reachable, it will simply not be reliable enough to meet the mission-critical needs of public safety. The direct mode or talk-around capability, which is communications from unit to unit when out of range of the wireless network or when working in a confined area where direct unit-to-unit communications is required, must always be available.

Finally, until the PTT features of voice over LTE (VoLTE) are fully developed, tested and demonstrated to meet the mission-critical needs of public safety, public safety cannot abandon LMR systems. Many public officials shudder at the cost to build and maintain these systems but when all hell breaks loose and public-safety officials are pushed to their limits to save lives and property, everyone can see the value of these expensive, but critically important systems.

I was speaking to this issue at a recent International Association of Chiefs of Police (IACP) Law Enforcement Information Management (LEIM) conference in Atlanta and one of the public-safety officials in the audience said after the session that he recently asked his city council for funding to upgrade their public-safety LMR voice system that is old and failing. He was told that there is no need to do that because there is going to be a new nationwide public-safety broadband network that will take the place of LMR systems. I hear this often as I travel throughout the United States and the reality and timeframe of the NPSBN replacing LMR mission-critical voice systems must be better explained to our local, county, tribal, state and federal officials.

The bottom line is that until it can be proven that VoLTE can provide as reliable a service as LMR, public-safety LMR narrowband voice systems cannot be abandoned.

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