



National Public Safety Telecommunications Council

**Why Can't Public Safety Just Use
Cell Phones and Smart Phones
for Their Mission Critical
Voice Communications?**

It's not that simple.
Commercial Cellular Voice is Different

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**Why Can't Public Safety Just Use the Planned
Nationwide Public Safety Broadband Network
for Their Mission Critical
Voice Communications?**

Again, it's not that simple.

Why can't public safety just use cell phones and smart phones for their mission critical voice communications?

Unfortunately it's not that simple.

Although public safety regularly use cell phones, smart phones, and other commercial wireless devices and services as a secondary form of communications, these devices and systems are currently not sufficiently suited for public safety mission critical voice communications during critical incidents.

Public safety officials cannot depend upon commercial systems that can be overloaded and unavailable. Experience has shown such systems are often the most unreliable during critical incidents when public demand overwhelms the systems.

Public safety officials have unique and demanding communications requirements. Optimal public safety radio communications require:

- Dedicated channels and priority access that is available at all times to handle unexpected emergencies.
- Mission-critical one-to-many group capability, a feature not available in today's commercial cellular systems.
- Highly reliable, secure, and redundant networks under local control that are engineered and maintained to withstand natural disasters and other emergencies.
- The best possible coverage within a jurisdictional area, with a minimum of dead zones – even in areas where commercial cellular services are not economically viable.
- And, unique, ruggedized equipment designed for quick response in emergency situations. First responders must not be forced to dial, wait for call connections, or get busy signals when seconds mean the difference between life and death!

Why can't public safety just use the planned nationwide public safety broadband network (NPSBN) for their mission critical voice communications?

Again, it's not that simple.

Although the nationwide public safety broadband network (NPSBN) will have voice capabilities that will be valuable to public safety, the network will not be able to initially provide (for many years and maybe never) the mission critical level of voice service and dependability needed by public safety. The NPSBN is intended to provide urgently needed broadband data capabilities for public safety and is not initially being designed to replace current land mobile radio (LMR) mission critical public safety voice systems.

One key element lacking for the NPSBN to replace LMR is that the NPSBN will use LTE commercial technology, a network technology that does not currently provide the "OFF NETWORK" capability that is critical to public safety. This means that when the broadband network is not available or not reachable there will be no communications, a critical requirement for public safety.

Other key elements required for mission critical voice include but are not limited to:

- **Nationwide broadband build out:** It will take 10 years or more to build out the nationwide public safety broadband network to provide mission critical coverage equal to current public safety land mobile networks.
- **Direct Mode or Talk Around:** The capability to communicate unit-to-unit when out of range of a wireless network OR when working in a confined area where direct unit-to-unit communications is required.
- **Push-to-Talk (PTT):** The standard form of public safety voice communications today. The speaker pushes a button on the radio and immediately transmits the voice message to one or many other units. When they are done talking they release the PTT switch and return to the listen mode of operation.
- **Group Call:** This method of voice communications provides communications from one-to-many members of a group and is of vital importance to the public safety community.

There is much debate relative to whether broadband will eventually have the capabilities to replace current mission-critical public safety LMR systems, however the facts are clear that if this capability becomes reality it is not likely to happen in less than 10 years.

Local, tribal, state, and federal public officials are urged to not abandon or stop funding their public safety voice LMR systems until such time as it can be demonstrated that broadband can safely and adequately provide public safety with the mission critical requirements currently provided by LMR.

The National Public Safety Telecommunications Council (NPSTC) is a federation of organizations whose mission is to improve public safety communications and interoperability through collaborative leadership.

Voting Members

1. AASHTOAmerican Association of State Highway and Transportation Officials
2. ARRLAmerican Radio Relay League
3. AFWAAssociation of Fish and Wildlife Agencies
4. APCOAssociation of Public-Safety Communications Officials – International
5. FCCAForestry Conservation Communications Association
6. IACPInternational Association of Chiefs of Police
7. IAEMInternational Association of Emergency Managers
8. IAFCInternational Association of Fire Chiefs
9. IMSAInternational Municipal Signal Association
10. NASCIONational Association of State Chief Information Officers
11. NASEMSONational Association of State Emergency Medical Services Officials
12. NASFNational Association of State Foresters
13. NASTDNational Association of State Technology Directors
14. NENANational Emergency Number Association
15. NSANational Sheriffs' Association

Associate Members (Non-Voting)

1. ATISAlliance for Telecommunications Industry Solutions
2. CITIGCanadian Interoperability Technology Interest Group
3. NCSWICNational Council of Statewide Interoperability Coordinators
4. TIATelecommunications Industry Association
5. UTCUtilities Telecom Council

Liaison Organizations (Non-Voting)

1. FCCFederal Communications Commission
2. FEMAFederal Emergency Management Agency
3. FPICFederal Partnership for Interoperable Communications
4. NTIANational Telecommunications and Information Association
5. OECOffice of Emergency Communications
6. OICOffice for Interoperability and Compatibility
7. PSCEPublic Safety Communication Europe
8. US DOIUS Department of the Interior
9. US DOJUS Department of Justice

Resources:

NPSTC Mission Critical Voice Definition

http://www.pscr.gov/projects/broadband/reqs_stds/Functional_Description_MCV_v5.pdf

Voice over Broadband Articles:

Voice and Public Safety Broadband <http://andrewseybold.com/3038-voice-over-public-safety-broadband>

Mission-Critical Voice over LTE: What, When and How?

<http://andrewseybold.com/2772-mission-critical-voice-over-lte-what-when-and-how>

Mission-Critical Voice and LTE: Be Careful

<http://andrewseybold.com/2772-mission-critical-voice-over-lte-what-when-and-how>