



**The Collective Voice of
Public Safety
Communications**

MEMBER ORGANIZATIONS

- American Association of State Highway and Transportation Officials
- American Radio Relay League
- American Red Cross
- Association of Fish and Wildlife Agencies
- Association of Public Safety Communications Officials - International
- Forestry Conservation Communications Association
- International Association of Chiefs of Police
- International Association of Emergency Managers
- International Association of Fire Chiefs
- International Municipal Signal Association
- National Association of State Emergency Medical Services Officials
- National Association of State Foresters
- National Association of State Telecommunications Directors

LIAISON ORGANIZATIONS

- Federal Communications Commission
- Federal Partnership for Interoperable Communications
- National Telecommunications and Information Administration
- Telecommunications Industry Association
- US Department of Agriculture
- US Department of Justice
 - NIJ CommTech Program
- US Department of Homeland Security
 - FEMA
 - SAFECOM Program
- US Department of Interior

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NPSTC Position Paper Spectrum Allocation for Public Safety Broadband

The National Public Safety Telecommunications Council (NPSTC) strongly supports all efforts to commit more spectrum resources for public safety. NPSTC has always been a strong advocate for the additional spectrum allocation public safety needs in the 700 MHz band, especially for wide-area broadband communications. Currently there are several proposals for the allocation of available spectrum for public safety use, including broadband nationwide communications networks. Additional proposals may be forthcoming. NPSTC has reviewed the various proposals and continues to monitor these proposals through their individual member organizations. NPSTC is encouraged that a public discussion on this issue has ensued.

There is an increasing demand for public safety communications capabilities as our population grows and public safety adds the new responsibilities of preventing and responding to acts of terrorism to its long-standing mission to protect life and property. Public safety has not had adequate spectrum resources to support life-saving broadband applications. While mission-critical voice communications remain the priority, in today's world, public safety also needs the capability to reliably transmit and receive detailed, critical information to field personnel, such as documents, photographs, text messaging, and video. These applications require spectrum that public safety simply does not have.

To address this public safety shortfall we look to a total of 60 MHz of spectrum in the 700 MHz band that is now slated to be auctioned for commercial services. NPSTC strongly supports changes to existing law to require that 30 MHz of spectrum be reallocated instead for broadband public safety operations for local, state, and federal public safety agencies. This reallocated 30 MHz of spectrum would advance immeasurably a core domestic security/emergency preparedness requirement- namely a public safety wide-area mobile broadband network. It would provide a crucial tool paralleling today's public safety's demands.

Background

On September 11, 1996, 5 years to the day before the 9/11 terrorist attack (2001), the Public Safety Wireless Advisory Committee (PSWAC) released its final report, which stated that *“unless immediate measures are taken to alleviate spectrum shortfall and promote interoperability, public safety will not be able to adequately discharge their obligation to protect life and property in a safe, efficient, and cost-effective manner.”* Ten years later, public safety is still grappling with inadequate spectrum and radio communication systems that do not communicate with one another. Moreover broadband technology has overtaken public safety's capacity.

To meet the immediate and future needs of the public safety community, the PSWAC Steering Committee made a number of recommendations, including an immediate call for more spectrum and long-term planning for the spectrum required to allow public safety to do its job.

“More spectrum is required: Immediately, 2.5 MHz of spectrum should be identified for interoperability from new or existing allocations. In the short term (identified in the PSWAC report as within 5 years or by the year 2001), approximately 25 MHz of new public safety allocations are needed. The present shortages can be addressed by making part of the spectrum presently used for television broadcast channels 60-69 available as soon as possible.”

“Over the next 15 years, *as much as an additional 70 MHz of spectrum* will be required to satisfy the mobile communication needs of the public safety community. The currently allocated public safety spectrum is insufficient to meet current voice and data needs, will not permit deployment of needed advanced data and video systems, does not provide adequate interoperability channels, and will not meet future needs under projected population growth and demographic changes.”

In 1997, Congress directed the Federal Communications Commission (FCC) to allocate 24 MHz of spectrum from television channels 60-69 for new and expanded public safety radio communications operations. In early February 2006, Congress finally passed digital television (DTV) transition legislation in its budget reconciliation bill. The final bill, enacted into law, sets February 17, 2009, as the date certain for completion of the DTV transition.

The 24 MHz public safety will gain from the digital television transition is vital to providing relief to voice communication demands. The potential reallocation of 30 MHz of spectrum to public safety would be vital in approaching the vision of the PSWAC analysis and findings in this era of enormous challenges facing local, state and federal public safety agencies.

As the public safety mission expands, high-speed wireless data networks are essential. New and evolving requirements for homeland security, the need for greater regionalism and interoperability, plus the need to keep up with new technologies to ensure safe and adequate daily operations, require access to broadband capability. The challenges facing public safety cannot be met without broadband technology and the spectrum capacity it needs.

Public safety should be able to deploy government-owned or -managed next generation high-speed wireless data services that deliver not only secure text messages, but documents, photos, diagrams, and streaming video. Data such as these are being delivered to the public today by cell services. Unfortunately public safety cannot rely on commercial services because they are costly and often not reliable or available in public safety situations.

Public safety has been limited to narrowband slow speed 25 kHz radio channels in VHF, UHF, and 800 MHz at 9.6 or 19.2 kbps, which is only practical for text messages. As a comparison, dial up modems were first available at 14 kbps, which progressed to 28 and then 56 kbps. FCC rules require 25 kHz channels below 512 MHz to be narrowed to 12.5 kHz and perhaps eventually 6.25 kHz, which will mean even slower data on these channels. Due to a lack of adequate public safety radio spectrum that is suitable for high-speed wireless data,

public safety has been limited to narrowband slow-speed radio channels. That is changing as new spectrum has been allocated for public safety at 4.9 GHz and 700 MHz.

Public Safety Needs Access to Broadband Spectrum

Improved communications will help incident commanders make better decisions faster, reducing the number of injuries and fatalities. For example, fire agencies of the future will be able to utilize wireless Personal Area Networks (PAN) and wireless Vehicular Area Networks (VANs). Using high bandwidth transmissions, a PAN could link a portable radio worn by a firefighter to many useful and lifesaving accessories, including a helmet video camera, video viewing device, health monitor, wireless Self Contained Breathing Apparatus (SCBA) microphone and speaker, or a handheld computer. VAN technology could link a vehicle's radio to laptop computers, printers, remote headsets, bar-code readers, and cameras.

Public safety needs for radio spectrum to support current and future operational requirements have not been satisfied. Current spectrum allocations do not sufficiently meet the growing demands of public safety organizations for advanced broadband communications technologies and services. Current spectrum allocations are not properly structured to support interoperability.

NPSTC continues to be a strong advocate for improving traditional licensed public safety land mobile voice communications systems so mission critical voice communications are always reliable for everyday needs and events as well as extraordinary events such as disasters or catastrophes. At the same time, new concepts and technologies are emerging that need to be carefully examined.

Proposed Public Safety Broadband Trust

Public safety is a core function of government. As the public safety mission expands, high-speed data networks are essential. The 30 MHz block of spectrum in the 700 MHz band—presently allocated for commercial use and scheduled to be auctioned by 2008—is ideally suited for a nationwide public safety wireless broadband network because of its distinctive physical properties. NPSTC strongly supports changes to existing law to require the 700 MHz spectrum be reallocated instead for broadband public safety operations for local, state, and federal public safety agencies.

NPSTC, at this time, does not endorse, or reject any particular proposal, but does believe the potential benefits to public safety are substantial and that constructive public discussion would be worthwhile. The yet-to-be auctioned 700 MHz band provides this opportunity and a proposal to develop a nationwide public safety broadband network has been developed by Cyren Call Communications. Under Cyren Call's proposal, the FCC would establish a Public Safety Broadband Trust to reallocate 30 MHz in the 700 MHz band spectrum for a nationwide, interoperable broadband network that would be built by the private sector to public safety specifications and shared by both. Cyren Call proposes to improve significantly public safety's wireless access to data such as text messages, photos, maps, and video while at the same time provide redundancy and back up to traditional land mobile systems and also provide nationwide voice and data interoperability. The proposal states that public safety will be the primary user and afforded priority over other services.

Public Safety Response

A number of public safety leaders and organizations—all members of NPSTC—have expressed their support for preserving the 30 MHz block of spectrum for public safety’s use. In August 2006, the Association of Public-Safety Communications Officials – International (APCO) made the following statement, “APCO International has long-urged that an additional spectrum allocation is needed in the 700 MHz band, especially for wide-area broadband communications. Therefore, APCO International supports reallocating 30 MHz of spectrum from the 700 MHz band that is currently slated for auction. Rather than auctioning the spectrum, a more viable approach would be to assign the 30 MHz to a government-created entity that, through public/private partnerships, would construct and operate a nationwide broadband network to address public safety communications requirements.”

“An auction would forever place control of the spectrum in the hands of commercial enterprises that do not have public safety as their principal, overriding objective. ... APCO International intends to join with allied public safety organizations and others to advocate a reallocation of the 30 MHz, and to further develop proposals for a public/private partnership to construct and operate a broadband network using that 30 MHz of spectrum.”

The International Municipal Signal Association (IMSA) has passed a resolution calling for the FCC and all stakeholders to examine the benefits that “may be derived from a nationwide spectrum allocation for public safety use of advanced broadband communications technologies and services with full opportunity for interoperability, both between and among public safety organizations and between and among public safety organizations and non-public safety entities, including commercial entities providing critical infrastructure support, and the structural mechanisms appropriate to achieve implementation of such a system or systems.”

In October, the National Association of State Emergency Medical Services Officials (NASEMSO) issued a resolution “public safety as a whole needs additional spectrum beyond that current 24 MHz allocation at 700 MHz, ... [and] will join other public safety organizations to advocate such a reallocation of that spectrum and to further develop proposals for a public/private partnership, with significant public safety community oversight, to develop a national public safety broadband network using that spectrum.”

Both the International Association of Fire Chiefs (IAFC) and the International Association of Chiefs of Police (IACP) adopted similarly worded resolutions supporting the allocation of 30 MHz of spectrum in the upper 700 MHz band to be held in trust for public safety to create a nationwide public safety broadband network.

IACP and IAFC further resolved that their boards of directors and membership would actively engage their respective governmental executive and legislative components, and coordinate their efforts to achieve the goal of developing a nationwide broadband public safety communications network for the public safety community. The organizations noted that “... public safety personnel require access to the most advanced communications services that are available, and increased public safety and emergency response needs require access by public safety to the latest broadband technologies and services being developed for commercial network customers. Our nation has a one-time opportunity to take advantage of the clearance of a nationwide block of 30 MHz of contiguous frequencies in the 700 MHz spectrum band

which is adjacent to spectrum currently allocated to public safety. This spectrum [is] perfectly matched for the establishment of a next-generation broadband nationwide network because of its unique physical properties.”

The resolutions go on to note that “our nation will lose a tremendous opportunity to improve public safety communications through enhanced interoperability and perhaps its last meaningful chance of creating a fully interoperable, advanced nationwide public safety communication system, capable of linking each and every local, tribal, state, and federal emergency responder, and necessary to securing and defending the homeland, if a debate is not initiated to license this spectrum to public safety for a nationwide broadband network before the spectrum is auctioned off and lost forever.”

Summary

The National Public Safety Telecommunications Council (NPSTC) strongly supports all efforts to acquire more spectrum resources for public safety. NPSTC strongly believes that access to more spectrum resources that will allow broadband capability for public safety will make a tangible difference in public safety interoperability and enhanced public safety to persons and property in our nation’s communities. NPSTC will continue to monitor these proposals through their individual member organizations.

Formed on May 1, 1997, NPSTC is a federation of organizations representing public safety telecommunications. NPSTC was originally formed to encourage and facilitate implementation of the findings and recommendations of the Public Safety Wireless Advisory Committee (PSWAC), established in 1994 by the Federal Communications Commission (FCC) and National Telecommunications and Information Administration (NTIA) to evaluate the wireless communications needs of local, tribal, state, and federal public safety agencies through the year 2010, identify problems, and recommend possible solutions.

NPSTC has since taken on additional responsibilities including implementing the recommendations of the FCC Public Safety National Coordination Committee (NCC) and the support and development of the Computer Assisted Pre-coordination and Resource Database System (CAPRAD) for 700 MHz spectrum to assist the Regional Planning Committees (RPCs). NPSTC develops and makes recommendations to appropriate governmental bodies regarding public safety communications issues and policies that promote greater interoperability and cooperation between local, state and federal agencies. Issues include: 4.9 GHz, Software Defined Radio (SDR), US/Canadian/DTV Transition, Project MESA, Spectrum Resources, Amateur Radio, 800 MHz rebanding, State Interoperability Executive Committees (SIECs), Broadband, and Radio Interference in Border States.