

The Public Safety Broadband Trust: Interoperability for Public Safety Communications

The members of the Commonwealth of Virginia Interoperability Executive Committee (SIEC) support the **Public Safety Broadband Trust** (“PSBT”) proposal to achieve both operability and interoperability for public safety communications nationwide. The (SIEC) consists of 14 representatives from local and state public safety associations and government including:

- Virginia Association of Chiefs of Police
- Virginia Fire Chiefs Association
- Virginia Sheriffs’ Association
- Virginia Association of Governmental EMS Administrators
- Virginia Association of Public Safety Communication Officials
- Virginia Association of Counties
- Virginia Municipal League
- Virginia Military Advisory Committee
- Statewide Agencies Radio System
- Virginia Information Technologies Agency
- Office of the Secretary of Public Safety
- Office of the Secretary of Technology
- Office of Commonwealth Preparedness
- Commonwealth Interoperability Coordinator’s Office

The members of the (SIEC) play a key role in the definition and implementation of the initiatives outlined in our Statewide Plan. The SIEC provides guidance and recommendations that draws upon their experience and knowledge of public safety needs and capabilities. With this in mind, the members of the Virginia SIEC suppose the Public Safety Broadband Trust (PSBT) proposal as the best and most cost effective method to deliver broadband capabilities and interoperability to public safety in Virginia and across all of America.

The PSBT proposal would assign to public safety an additional 30 MHz of radio spectrum in the upper 700 MHz band (consisting of a paired 15x15 MHz allocation from 747-762 MHz & 777-792 MHz) to allow for development of a new nationwide public safety broadband network. Our 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 first responders to the latest broadband technologies and services being developed for commercial network customers. The broadband communications needs of public safety have become ever more clear and compelling in recent years while the existing spectrum allocations to public safety have been recognized as inadequate for those purposes.

The members of the Virginia SIEC believe it is in the public interest to provide public safety access to sufficient suitable spectrum to encourage the development of a next generation broadband nationwide public safety network. The scheduled availability of

recovered broadcaster analog spectrum (from the DTV transition) in the upper 700 MHz band affords the citizens of the United States a unique opportunity to secure sufficient contiguous spectrum to support a new, truly national broadband network that would be built, maintained and operated for the primary benefit of public safety and the people whose lives and property we in public safety are tasked to guard.

The Public Safety Broadband Trust proposal would deploy a nationwide, seamless, next generation mobile broadband network capable of integrating broadband data services such as forensic quality streaming video, extruded 3D based GIS solutions, mobile device level video conferencing, incident white boarding, remote asset location management, mobile hosted license plate and facial recognition systems, bio-metric sensor data delivery, and high speed data delivery (e.g. mug shots) not currently available in existing public safety land mobile systems using 30 MHz of spectrum currently scheduled to be auctioned by the FCC for commercial only usage . This is a one-time opportunity for our country 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 and is spectrum perfectly matched for the formation of a next-generation broadband nationwide network because of its unique physical properties) to enable full nationwide operability and once and for all achieve interoperability.

Public safety deserves to operate in the 21st century. We cannot continue to operate with antiquated technology and devices which do not allow for operability let alone interoperability. The solution is not a simple one. For example, an “IP patch” that would somehow connect the multitude of proprietary networks and the devices operating on those networks is, regrettably, insufficient for public safety. Such a patch does not place 21st century technology and devices into the hands of public safety. Rather, public safety finds itself continuing to rely on devices that are as much as 30 years old – devices incapable of supporting 21st century applications. What public safety **requires** is a nationwide, high speed wireless network, built to a single, common standard. This network will place 21st century devices and applications in our hands while allowing us to leverage economies of scale to ensure we always have the latest and best technology with which to protect and save lives.

Time, however, is a huge obstacle to achieving the PSBT. The spectrum requested by the PSBT is required to be auctioned by congressional mandate by February 2008 and media accounts indicate it could be auctioned as soon as this summer. With the auction, public safety’s and our Nation’s last, best hope for a nationwide, broadband network – and national interoperability - will be forever lost. Therefore, Congress must act now to introduce and pass appropriate legislation creating the PSBT and enabling the 30 MHz of spectrum to be allocated to public safety. The states, through the governors, the NGA, the SGA, and others have a moral obligation to speak up and speak out so that this prospect does not vanish.

Achieving National Interoperability

Spectrum

The infrastructure to achieve national interoperability for public safety among all local, state and federal first responders is attainable within a relatively short period of time with the allocation of an additional 30 MHz of spectrum in the 700 MHz band. Spectrum in the 700 MHz band is uniquely suited to deploy broadband for public safety. 30 MHz will enable the construction of a high speed, wireless broadband network for public safety while allowing commercial carriers to utilize excess capacity which, in turn, will enable private funding for the network.

The proposed PSBT spectrum is separate from the 24 MHz of spectrum in the same band that has been allocated to public safety by the Congress and the FCC for narrowband and wideband use. Many local and state public safety agencies have or are implementing or planning locally managed and licensed systems in this spectrum. 12 MHz of the spectrum is designated to address the urgent need for additional mission critical public safety narrowband voice channels and 12 MHz of the spectrum is currently designated for wideband data channels. This spectrum is designated for local and state management and licensing and is insufficient in capacity to meet the need for a nationwide public safety broadband network such as proposed for the PSBT.

A Single National Licensee

It is critical that public safety be the single, national licensee of the 30 MHz of spectrum in the 700 MHz band. As the national licensee, public safety will find itself at the "*head of the table*" in the design, construction and deployment of the broadband network that will meet public safety's needs and requirements. The network we build must be built according to our direction for public safety to ensure that we get the tools necessary to serve, protect and save lives. Our nation's first responders must not continue to rely on others to tell us what our needs are. Public safety knows public safety's needs and we need to be in control of our network. The PSBT would set appropriate rules and technical standards to ensure maximum interoperability, reliability, redundancy, competition, innovation and choices for the public safety patrons of this spectrum.

Software, Hardware and Equipment

The investment costs necessary to deliver the required software, hardware and equipment would be raised through private capital. The PSBT would enter into leases with commercial operators who would build a nationwide public safety network to one technology standard which would be paid for by the commercial operators using excess capacity, not by the public safety community or taxpayers. These leases would pay for the spectrum. In turn, the commercial operators will pay for the network over time. The operators' commercial users would, through their revenues, provide the bulk of the ongoing financial support for the system and for funding the latest technical improvements. In this manner, public safety will always have access to the latest technology and to the devices that would operate there, providing an evergreen environment that public safety has not previously enjoyed.

All costs associated with all aspects of the approach are advocated by the members of the Virginia SIEC shall be covered through this model.

Role of the States

The PSBT will require **no state or local funding** to enable this infrastructure. The public-private partnership contemplated in the PSBT will enable construction of a high speed wireless broadband network benefiting public safety while also deploying broadband across the nation. Additionally, rural communities, heretofore without broadband service will be able to realize the benefits and advantages that broadband brings.

The PSBT proposal includes a solution to make the federal budget whole since it requires the FCC to remove the 30 MHz of spectrum from an upcoming auction for commercial use. The PSBT would raise \$5 billion in the private markets to pay the U. S. Treasury for the spectrum, using the revenues from the commercial users and the assistance of federal loan guarantees like those that have been made available to other industries (airlines, shipping companies, pipelines, automakers). This financing arrangement would ensure that the other federal public safety spending priorities, including the \$1 billion for other Public Safety Interoperable Communications needs, would not be harmed.

The PSBT would be controlled by a Board of Directors, the majority of whom would be designated by national public safety organizations. The Board of Directors of the PSBT also would include representatives from other priority user groups and governmental bodies from the federal, state and local levels thereby ensuring that state and local government continues to play a significant role in the future of public safety communications.

The Expected Timeframe to Achieve Interoperability

The expected timeframe to enable interoperability is 28 – 38 months. There are 4 stages to development before network launch and national interoperability:

Requirements Development (2-4 month development cycle)

- ✓ Interpret and refine Public Safety user communication requirements
- ✓ Document functional requirements
- ✓ Produce gap analysis between requirements and existing technology capabilities

Specification Development (2-4 month development cycle)

- ✓ Develop technology roadmap and technology priorities
- ✓ Develop detailed functional and technology specifications
- ✓ Develop technology enhancements
- ✓ Submissions to standards commence

- ✓ - 3GPP
- ✓ - 3GPP2
- ✓ - 802.16

Technology Development (12-15 month development cycle)

- ✓ PS specification completed
- ✓ Submissions to standards accepted
- ✓ - 3GPP
- ✓ - 3GPP2
- ✓ - 802.16

Testing Deployment (12-15 month development cycle)

- ✓ Equipment available for deployment
- ✓ Devices available for testing

Conclusion

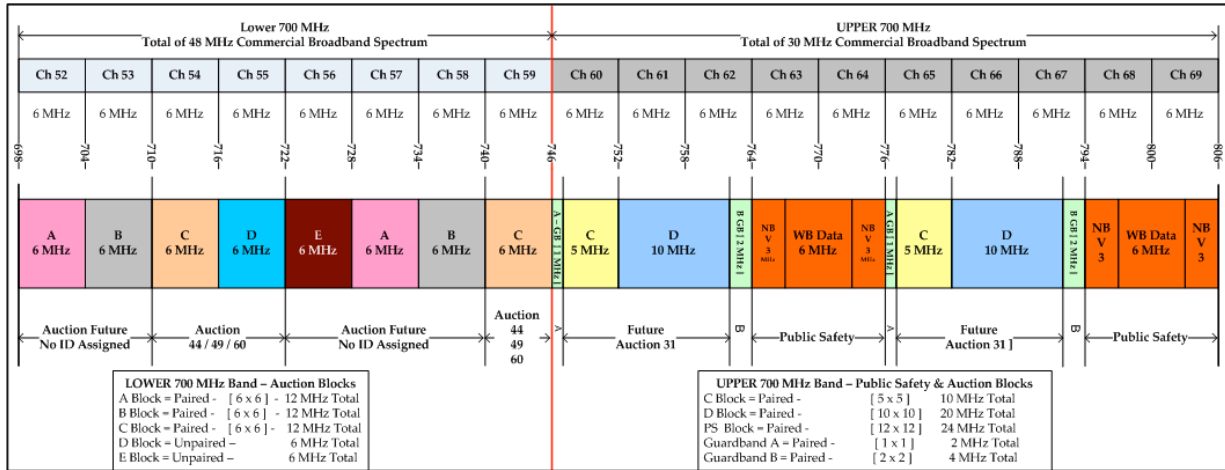
The PSBT proposal would provide public safety a path to interoperability and give us:

- Broadband data services (such as text messaging, photos, diagrams, and streaming video) not currently available in existing public safety land mobile systems. Streaming video, desperately needed by public safety is not available via commercial wireless carriers either.
- A hardened public safety network with infrastructure built to withstand local natural hazards (tornadoes, hurricanes, earthquakes, floods, etc) that would include strengthened towers and back up power with fuel supplies to withstand long term outages of public power sources.
- Nationwide roaming and interoperability for local, state, and federal public safety agencies (police, fire and EMS) and other emergency services such as transportation, health care, and utilities.
- Access to the Public Switched Telephone Network (PSTN) similar to current commercial cellular services.
- Push to talk, one to one and one to many radio capability that would provide a back-up to (but not replace) traditional public safety land mobile mission critical voice systems.
- Access to satellite services to provide reliable nationwide communications where terrestrial services either do not exist or are temporarily out of service.
- A back up system to the over 6500 Public Safety Answer Point (PSAP or E-911 dispatch centers) to enable redundancy and an ability to continue answering emergency calls regardless of the catastrophe.

It is critical that public safety have these capabilities and functionality.

Lives depend on it. My life and the lives of our first responders depend on it, and likely one day, yours will too.

700 MHz Band



800 MHz Band

