

Preparing for Public Safety Broadband

Title VI of the Middle Class Tax Relief and Job Creation Act of 2012 allocated a portion of the radio spectrum called the “D Block” for the creation of a nationwide broadband network dedicated to public safety communications—a major success for states’ efforts to achieve interoperable communications among first responders and the public safety community. The law dramatically changes the future of public safety communications by creating a public safety broadband network (PSBN) that will allow first responders and other public safety officials to share mission-critical data and eventually mission-critical voice communications.

Governors have an important role in building and operating the network and would be well served by taking a number of actions immediately even though the network’s governing authority and the holder of the license for the spectrum, the First Responder Network Authority (“FirstNet”), will not be seated until August 2012. FirstNet is responsible for the design, building, and ongoing operation of the network. As per the law, however, FirstNet must consult with state, local, regional, and tribal jurisdictions regarding a range of activities including construction or access to the core network and any radio access network (RAN), placement of towers, assignment of priority to local users, and training. The sooner states begin their preparation, the better situated they will be when FirstNet issues network requirements. The more knowledgeable states are of their own needs, the better they can inform FirstNet as it designs the network.

The law grants states the option to either allow FirstNet to build the network in their state or to “opt-out” and build their own portion of the network that would be partially financed by federal grants. However, states can only make that decision after FirstNet has issued plans for network construction. Although it will be several years until governors have to make the opt-in or opt-out decision, states that decide to build their own network will need to address a number of technical and financial decisions quickly. Issues governors must consider include:

- How will ongoing decisions regarding the network be made within a state?
- What structures and business processes should a state use to engage multiple stakeholder agencies and end users?
- How will a state establish the minimum operational requirements of the network? That is, how will first responders use their system, and who will make those types of operational decisions?
- What process will a state use to decide whether or not to opt out of the network? How will they finance the balance of the building costs? How will they fund ongoing upgrades?
- How will states pay ongoing usage fees?

In an effort to help governors prepare for broadband deployment, the National Governors Association (NGA) hosted an experts’ roundtable in April 2012 that included representatives from public safety agencies at all levels of government. The focus of the meeting was

to identify actions governors can take immediately to prepare for broadband. Perhaps the most significant result of that meeting was that the sense of urgency that led to the enactment of D Block legislation has not abated. Public safety agencies remain energized and are well aware that decisions are or will be quickly made regarding the network, including the selection and meeting of the Federal Communications Commission (FCC) Interoperability Board, the requirements for state planning grants, and the selection FirstNet board members.

The experts' roundtable also concluded that there are significant differences in terms of states' readiness for public safety broadband. Those differences will make uniformity across states difficult. Much will depend on a range of conditions, including a state's geography, the effectiveness of its existing structures governing public safety communications, and the existing technical assets available in a state.

The urgency of the issues raised by the coming deployment of the network and the unique circumstances of different states leads the NGA Center for Best Practices to recommend the following actions to help governors prepare for the network. Those actions include:

- Convening a multidisciplinary advisory group on broadband;
- Ensuring public safety's participation in design, operation, and governance;
- Building partnerships with local governments, special districts, and key state associations;
- Engaging tribal nations;
- Communicating with the private sector and utilities.
- Assessing the assets in the state;
- Establishing security practices and rules governing access to information; and
- Ensuring that the state's procurement and contracting rules and regulations allow for the turn-around time set forth in the law.

Highlights of the Legislation and Other Important Information to Know

The Middle Class Tax Relief and Job Creation Act of 2012 contained several public safety provisions that include reallocating the 700 MHz D block spectrum to public safety to build the nation's first interoperable broadband network for public safety use.

To assist in the development of the network, the law requires the establishment of two boards. The first, established by the, FCC, is the technical advisory board, which will develop technical standards to ensure interoperability across the country. The second board established by the National Telecommunications and Information Administration (NTIA) is FirstNet, which will oversee deployment and operation of the nationwide network.

Functioning as an independent authority within NTIA, FirstNet will be granted a single license by

Highlights of the Act

- Reallocates the D block portion of radio spectrum to public safety;
- Provides \$7 billion in funding to construct the nation's first interoperable broadband network for public safety;
- Establishes the First Responder Network Authority ("FirstNet") that will hold the license for the D block and the existing 10 MHz of broadband spectrum already allocated to public safety; and
- Enables governors to choose to participate in construction of the nationwide broadband network through FirstNet or to seek a waiver to deploy their own interoperable network.

What is the “D block?”

The Federal Communications Commission divides the 700 MHz portion of radio spectrum into 5 blocks: A, B, C, D, and E. Blocks A, B, C, and E are primarily for commercial purposes. The D block is the 10 MHz portion of radio spectrum between 758–763 and 788–793 MHz that is now set aside for first responders under the new law. This spectrum is adjacent to an existing 10 MHz of broadband spectrum previously allocated for public safety use. The First Responder Network Authority (FirstNet) is the license holder of the 20 MHz of public safety broadband spectrum. States will need to lease spectrum from FirstNet once the public safety broadband network is deployed.

FCC to use the D block and the 10 MHz of radio spectrum that was previously allocated to provide broadband communications for public safety users. FirstNet will consist of 15 members to include the Secretary of Homeland Security, the Attorney General, and the Director of the Office of Management and Budget. The Secretary of Commerce will appoint the remaining 12 members, of which at least three must represent state and local interests and at least three must have public safety expertise, such as knowledge and experience in state, local, and federal public safety and emergency response.

As part of its mission, FirstNet must consult with state, local, and tribal jurisdictions through a state designated officer or governmental body regarding the distribution and expenditures of funds to carry out its responsibilities. Those include construction, cell tower placement, coverage areas, resiliency requirements, assignment of priority to local users, assignment of priority to other users, and training needs of local users.

FirstNet is also required to develop and present a plan to each governor to build, operate, and maintain the nationwide network and the network in each state. Once FirstNet has developed a plan, notified the state, and provided each state with funding levels

as determined by NTIA, governors will have 90 days to decide whether to opt in and participate in the deployment of the nationwide public safety broadband network or opt-out and deploy its own portion of the network. States cannot opt-out of the nationwide public safety broadband network until FirstNet presents its plan.

Beginning from the decision to opt-out, a state has 180 days to develop and complete a request for proposal (RFP) for the construction, maintenance, and operation of its portion of the network. This time frame includes applying to NTIA for a grant for construction and leasing spectrum from FirstNet. A state will also need to have their plan for construction and operation of its portion of the network approved by the FCC. That plan must demonstrate compliance with FCC’s technical requirements and must be interoperable with the national network. If the FCC disapproves of the state plan, the state must abide by the plan developed by FirstNet.

Funding Available to States

Funding for network construction will come from proceeds from voluntary incentive auctions authorized by the law that will be conducted through fiscal year 2022. Those auctions will allow current holders of broadcast spectrum to relinquish that spectrum

	<i>Anticipated Amounts Available for Grants</i>	<i>Purpose</i>
Implementation Grants	\$135 million	<ul style="list-style-type: none"> • Assist states and localities identify and plan the most effective way to use and integrate the infrastructure, equipment, and architecture associated with the nationwide network • 20 percent of grant must be matched
Network Construction Grant	\$7 billion	<ul style="list-style-type: none"> • Available to construct the nationwide network • States choosing to opt-out of the national network may apply to NTIA to receive a portion of the \$7 billion

in exchange for a share of the auction proceeds. In the long-term, current plans foresee the network being sustained by fees paid by public sector users. To assist states in planning and preparing for the construction of the network, NTIA will establish an implementation grant program. The available funding under this program will be \$135 million and will require a 20 percent match by the state unless waived by NTIA. By August 22, 2012, NTIA will develop grant guidance that will determine the scope of eligible activities, define eligible costs, and prioritize activities to ensure coverage in rural and urban areas. The same officer or governmental body designated by each state as the liaison to FirstNet will serve as coordinator of the implementation grant funds. While the grant guidance must be developed by August 22, 2012, in accordance with the legislation, those funds will most likely not be available at that time and may be dependent upon the status of activities pursued by

FirstNet. Moreover, \$7 billion was authorized by the law to build the public safety broadband network. That funding will not be available to build the network until after the auction and after FirstNet completes the RFP, and contracts are awarded. The law also provides, however, up to \$2 billion in borrowing authority for building that states can draw upon until proceeds from the auction are available.

Before legislation was enacted, 21 jurisdictions had received waivers from the FCC to begin construction of their own broadband networks. Since those jurisdictions will be required to become part of the nationwide network when it is developed, NTIA has asked those jurisdictions to consider halting their work in order to ensure interoperability when the network is deployed and to avoid wasting resources on infrastructure construction that may have to be abandoned later.

Important Dates

	<i>Deadline</i>	<i>Requirements/Background</i>
<i>FCC Technical Advisory Board</i>	May 22, 2012	<ul style="list-style-type: none"> Board must develop technical requirements to ensure interoperability Board terminates July 7, 2012
<i>FirstNet Board Appointments</i>	August 20, 2012	<ul style="list-style-type: none"> Appointments will be made by the Department of Commerce/NTIA 3 designated state and local slots and 3 public safety
<i>State Implementation Grants</i>	August 22, 2012	<ul style="list-style-type: none"> NTIA must develop grant guidance, including prioritization of activities to ensure coverage in rural and urban areas Total funding available will be \$135 million
<i>Governor Decision to Opt-Out</i>	90 days	<ul style="list-style-type: none"> After FirstNet provides plan for construction within the state (not anticipated until late 2014 at the earliest), including the state's funding level, the governor must decide whether to participate in national network deployment or to deploy a state network that would be interoperable with the national network If opting out, the state must submit an alternative plan for construction and operation to the FCC that demonstrates compliance with technical requirements and interoperability with national network; must also apply to NTIA to lease the spectrum and for a grant to construct the radio access network within the state
<i>State Request for Proposals (if opting out)</i>	180 days	<ul style="list-style-type: none"> If the governor chooses to opt-out of the national network, governor must complete RFP for construction, maintenance and operation of network within 180 days

What Deployment of the Network for Means for Public Safety

At the heart of the transition to public safety broadband is ensuring reliable access to data and video through devices such as smartphones, blackberries, tablets, mobile data terminal (MDT), and other remote devices. Those tools provide access to high resolution videos and pictures, maps, and a range of other types of information that from public safety's perspective have become "mission critical." The nationwide network will provide the bandwidth necessary to securely provide access to that type of critical information to first responders.

Currently, most public safety broadband technologies are carried on commercial networks and only on a limited basis. The transition to the nationwide PSBN will allow for significant improvements in how the public safety community accesses critical information in several key ways. First, public safety will not be sharing spectrum with the general public. As a result, public safety will not have to compete with the general public during high demand times such as an emergency. However, the public safety community will now need to determine which of their own users have priority access during high demand situations.

Second, because the spectrum for the nationwide network will be dedicated to public safety use and has yet to be built, security will be "baked" into the system from the outset. That is important because currently broadband communications among public safety users are transmitted over commercial systems and share the same spectrum as the general public where security is "overlaid." Additionally, unlike commercial systems, only authenticated users will be allowed access to the network and only to appropriate information. Those factors will allow for a very secure network from the outset.

In terms of voice communications, the transition from land mobile radios (LMR) to broadband technologies will not be immediate. It will be many years before

voice over internet protocol (VoIP) will be carried over the network so states will need to continue to sustain LMR systems far into the foreseeable future even as they build toward public safety broadband.

Preparing for Public Safety Broadband

Although many of the major decisions states need to make will be contingent on the guidance issued by FirstNet, governors can begin to prepare immediately for the deployment of the network by:

Convene a multidisciplinary advisory group on broadband. Among the first major actions a governor must take is determining how decisions regarding public safety broadband will be made within a state. Those decisions relate to managing federal funds, designing business processes within the state, and establishing mission requirements, what is sometimes referred to as the "statement of requirements" (SoR). It may be premature, however, to put in place either an officer or commission because many of the decisions to be made by FirstNet could affect a state's choice about governance structures. A preparatory step governors can take is convening an internal advisory group that will comprise senior policy advisors and cabinet officials to track developments and oversee state preparations. Such a group could be made responsible for overseeing many of the other steps that states need to take to be ready to act once FirstNet is in place.

Key state-level individuals whose role will be essential to advising governors include the following:

Chief Information Officers (CIOs). Although the role and responsibilities of CIOs vary to some extent by state, CIOs generally lead their states in developing and operating communications and information systems and thus have the experience and enterprise-wide view that will be essential to broadband deployment.

Chief Technology Officers (CTOs) and Chief Information Security Officers (CISOs). CTOs and CISOs lead their state's technical development and operation of networks and have responsibility for and experience in network development, procurement, and implementation of security safeguards.

Homeland Security Advisors (HSAs). HSAs lead their states' homeland security enterprises. Although their role and operational responsibilities vary by state, HSAs will bring a critical perspective to the development of the network.

Emergency Managers (EMs). EMs lead their state's response to disasters. Their standing in the first responder community and their tactical understanding of network mission requirements are critical.

State Police. State police are often responsible for a state's existing public safety networks and, thus, their input is imperative.

Statewide Interoperability Coordinators (SWICs). SWICs work with emergency response leaders at all levels of government to implement the statewide communication interoperability plan (SCIP) for radio communications. Currently 44 of the 55 states, territories and commonwealths and the District of Columbia have a full-time SWIC or equivalent position.

State Fire and EMS Officials. Fire and EMS personnel will be major consumers of network services and also major contributors. Their understanding of mission requirements is critical.

Public Utilities Commissioners. Public utilities commissioners regulate utility services, including energy, telecommunications, and water, and are responsible for assuring those services are reliably provided and available to consumers at reasonable rates. Their role in regulating telecommunications

systems suggests that their input will be essential as well.

State Budget Officers. Funding the network will be complicated both initially and over time suggesting that early participation by state budget officers could be useful to implementing successful funding strategies.

State Health Officials. State health officials operate many public health information systems that support states' public safety missions. It is important to ensure that those systems are factored into the business design of the network.

Ensure the participation of the public safety community in design, operation, and governance. The nationwide network should be first and foremost a public safety network linking law enforcement, emergency management, fire, corrections, and emergency medical services (EMS). Although the network may eventually be used for other purposes, public safety considerations in design, operation, and governance must be kept paramount from the outset.

Governors need to ensure that the design of the network directly reflects the priorities of the public safety community by including its members in governors' advisory and technical design groups. One area where the public safety community's input will be essential is in ranking or prioritizing users' access during major events. For example, during the events of 9/11, many citizens using commercial wireless services were unable to place or receive calls because too many people were trying to use the system at the same time. The resulting gridlock paralyzed communications for many individuals. Although the nationwide network will not be a commercially available network, the challenge of gridlock during a major event remains. Prioritization will avoid network gridlock by ensuring that first responders and other key public safety officials are able to access the system ahead of "lower" priority users during times of high demand, such as in a crisis situ-

ation. Unlike the prioritization of public safety over public users on commercial systems, the challenge here will be prioritizing access among public safety officials at varying levels and units of government.

The changing and evolving mission requirements of the public safety community will also need to be continually reflected in the network's ongoing operations. For example, new technologies or data sources may redefine key aspects of how the public safety community wants the system to work within a state. Input from public safety users on these types of mission requirements will contribute to the efficient operation of the system in the long run.

Finally, governors need to ensure that the interests of law enforcement, fire, and EMS officials are adequately represented in governance and ongoing decision making. As noted above, governance issues will not be fully resolved until after FirstNet issues its guidelines. However, for the network to be successful, states will need to include the public safety and first responder community in governance and decision making processes.

Build partnerships with local governments, special regions, and key associations. Governors must consider the unique needs of local governments, special regions, and key state associations in planning for the broadband network. Examples of those interests include county managers and executives, mayors, urban area security initiatives (UASI) jurisdictions, state chiefs of police, fire, and EMS associations. Each of those will play an important role in terms of the ultimate success of the network. Their perspective will be essential. Engaging them early in planning and preparation phases will help ensure their support.

Engage Tribal Nations. Tribal nations will be able to make many of their own decisions about their participation in the nationwide network and the advice offered to governors to begin planning applies to the leaders of tribal nations as well. To improve planning and reduce duplicative efforts, states with recognized tribal nations

will need to either factor in or directly reach out to the tribes to enhance their planning efforts.

Additionally, given the limited resources of many tribes, decision making may take longer, and states will need to factor this into their planning processes.

Engage the private sector and utilities. Each state will need to determine the role that private sector companies and utilities should play in network build out and operation. As with the recommendations described above, many of the decisions and actions that states need to take will be contingent on the guidance issued by FirstNet. Some states could find it advantageous to keep the private sector and utilities involved in ongoing discussions and planning, but for others involvement may not be appropriate at this time. That decision will need to be based on a range of factors, such as a state's infrastructure and the role of the public utility commission. In either case, FirstNet will need to consult with states regarding this.

Assess your state's assets. As states prepare for broadband build out, they need an accurate understanding of their existing infrastructure used to provide communications for public safety users and the state, local, and tribal levels. That can also include knowing what assets are available within commercial networks. Among the assets to be inventoried are towers and the capacity to handle communications between towers and the core of the network (fiber and microwave "backhaul"). That type of information will be important for consulting with FirstNet on the design and building of the network.

Much of the necessary information might already be available at the state and local levels, but states will need to compile it into a usable and accessible format to ensure a comprehensive overview of their capabilities to support the new broadband network. Additionally, states should be aware of ongoing communication projects and may want to reexamine those efforts in light of the nationwide system. Fundamental questions that

need to be asked are: Will those projects be interoperable with the nationwide system? Will they support the core mission requirements currently being identified? And, are the resources currently being spent going to be wasted?

Establish security practices and rules governing access to information. When deployed, the network will allow remote access to tremendous amounts of critical and sensitive information and communications from around the nation. Although FirstNet will be responsible for establishing overall security for the network, states still need to ensure from the inception that appropriate safeguards are “baked” into the system at their end. Among the questions states need to consider are: What happens if a public safety cell phone or tablet is lost or stolen? How do system operators ensure that information is shared only with individuals with the appropriate authorization and under the right circumstances? And, how do states ensure accountability within the system?

States can turn to a number of current best practices to support their efforts to provide adequate safeguards. The most notable is the U.S. Department of Justice Global Justice Information Initiative (Global), a federal advisory committee comprised of representatives from leading state, local, and federal public safety organizations. Its goal is to develop resources and standards to assist states in their initiative to share information among their justice systems. In particular, Global has developed resources to assist states in the development and implementation of privacy policies as well as identity management practices for systems that share information and states can look to Global for examples across a range of those areas. In this context the term privacy refers to the fair use and access of information. Global’s privacy standards and practices have been applied to each of the 77 fusion centers around the country as well as to at least 7 states’ justice information sharing initiatives.

Ensure that the state’s procurement and contracting rules and regulations allow for the turnaround times specified in the law. The legislation that authorizes the nationwide network also includes very specific time frames. For example, states will only have 90 days to respond to the system requirements issued by FirstNet and 180 to issue their own request for proposals (RFP) if they decide to opt-out. Meeting the deadline could require issuing RFPs more quickly than usual and finalizing contracts in a streamlined process. However, the challenge is that some states’ procurement and contracting guidelines may prohibit them from moving at the pace required by the federal law.

States need to examine the key elements and timeframes set forth by the law against their own procurement and contracting guidelines. A fundamental question is: Does a state even have the authority to enter into a contract or issue an RFP under such conditions? States will need to complete their assessments of contracting authority well in advance of FirstNet to avoid any downstream issues. In some extreme case remedying problems with contracting authority could require legislative action, which is itself a lengthy process.

The Path Forward

The transition to public safety broadband will take years. However, the ultimate success of that transition will link back to the foundational actions taken by states to ensure the collaboration necessary for successful deployment. While FirstNet is responsible for all elements of building and operating the network, the law that allocates the spectrum for the network also requires that FirstNet consult with states. As such, states need to be as prepared as possible to respond to FirstNet by understanding the needs of the public safety community, knowing the assets available to support broadband, and ensuring that the requisite leadership and decision making processes are in place.

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