

D BLOCK SPECTRUM ACT AND THE FIRSTNET BROADBAND NETWORK

WHAT DOES IT ALL MEAN?

WHITE PAPER

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D BLOCK LEGISLATION ENACTED INTO LAW

On Feb 22, 2012, the Middle Class Tax Relief and Job Creation Act of 2012 was enacted into law. This legislation created the "First Responder Network Authority," (FRNA) referred to as FirstNet, as an independent authority established within the National Technology Information Administration (NTIA). FirstNet will ensure the establishment of a nationwide, interoperable public safety broadband network.

FirstNet will be headed by a Board, consisting of the Secretary of Department of Homeland Security (DHS), the Attorney General of the United States, the Director of Office of Management and Budget (OMB), and 12 individuals appointed by the Secretary of Commerce. The Secretary of Commerce must appoint at least 3 individuals to represent the collective interests of States, localities, tribes, and territories; seek to ensure geographic and regional representation of the United States; seek to ensure rural and urban representation; and appoint at least 3 individuals who have served as public safety professionals. Other qualification criteria include individuals with technical, network or financial expertise.

BENEFITS TO PUBLIC SAFETY

The establishment of a national communication-network for first responders was one of the final outstanding

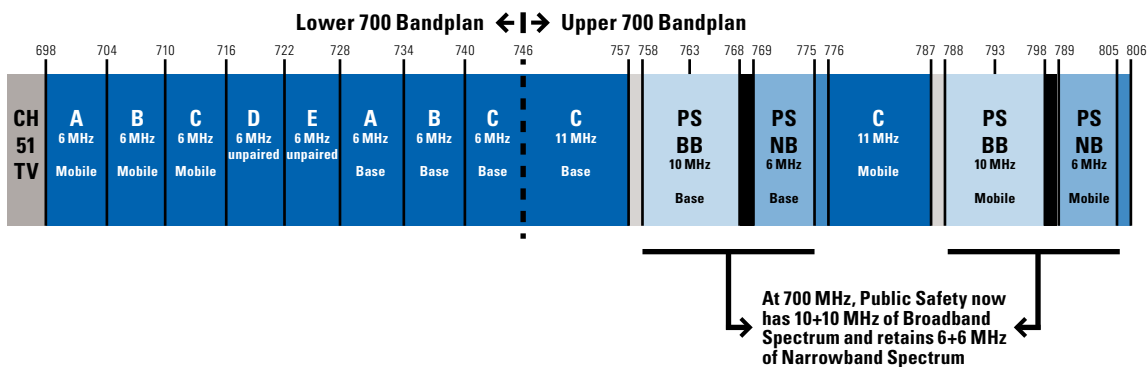
recommendations from the 9/11 commission to help increase national security. It is anticipated that the FirstNet broadband network will be built with standards-based 4G/LTE broadband technology, allowing for much faster data transmissions than legacy networks. It will enable a new host of next generation applications for public safety, such as high-definition streaming video, building plans and blueprint transmissions and much more.

Key elements of the legislation:

- Reallocates the 10 MHz D Block to Public Safety, and along with the Public Safety Spectrum Trust (PSST) 10 MHz, provides a total of 20 MHz broadband public safety spectrum.
- Establishes a Network Construction Trust fund of \$7 billion.
- Establishes a temporary FCC Interoperability Board.
- Establishes a standing FirstNet Board.
- Establishes a standing Public Safety Advisory Board to the FirstNet board.
- Establishes NTIA state planning grants (\$135M).
- Requires public safety licensees to vacate T-Band channels within 9-11 years.
- Provides a \$300 million fund to NIST for research.
- Does not affect the 700 MHz public safety narrowband (i.e. P25 voice) spectrum.

"The nation's governors praise Congress for passing legislation that will reallocate the D Block to public safety and provide critical support for a public safety broadband network. Today's passage demonstrates the strong bipartisan support for providing our first responders with access to the most modern and reliable communications technologies."
- National Governors Association

700 MHz Band Plan



BENEFITS TO FEDERAL AGENCIES AND UTILITIES

Federal users and utilities may qualify to join FirstNet. Federal agencies that qualify as 'emergency response providers', as defined by the Homeland Security Act of 2002 can join and unless the FCC changes the existing rules, it

is assumed that Federal users will have co-equal status with state and local public safety users on the network. Utilities may be eligible as secondary users to operate on the network. Utilities are encouraged to work with their governor appointed designee to seek access to the network.

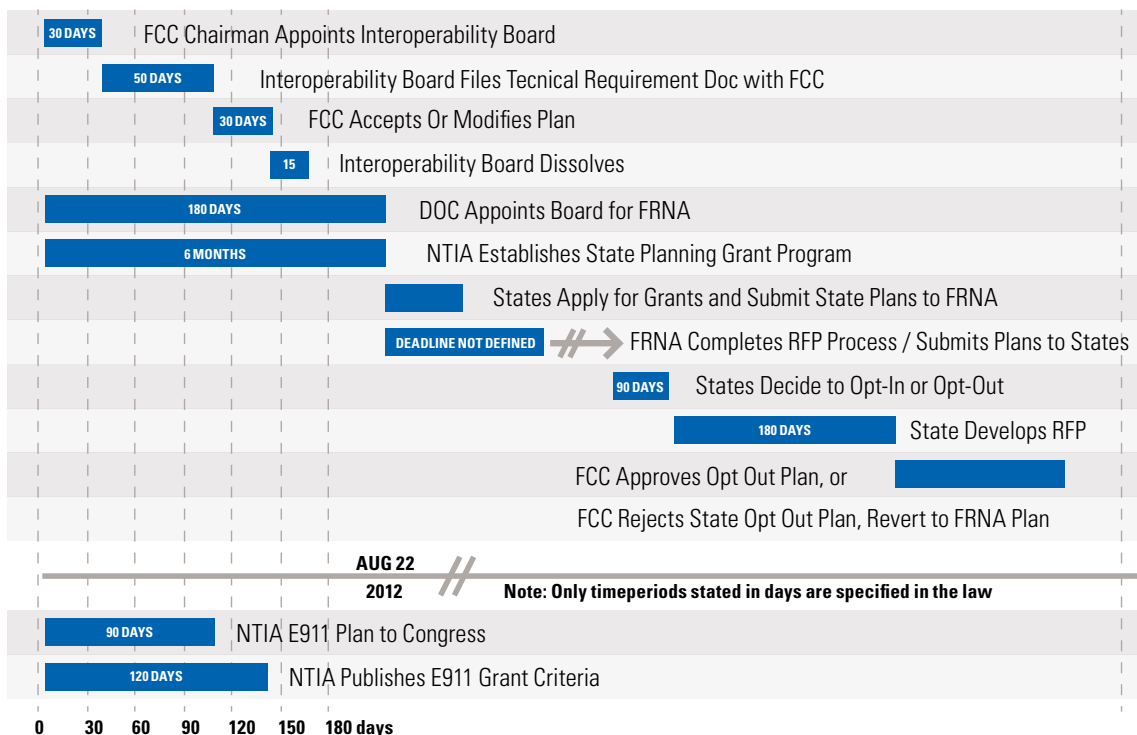
LAND MOBILE RADIO IMPACT

There will be no impact to most existing Land Mobile Radio (LMR) systems with the exception of some “T-band” (470 – 512 MHz) users. The nationwide broadband network will not replace the need for Project 25 (P25) mission critical voice systems. The new FirstNet network is intended to serve

public safety’s data needs and is not initially suited to the needs of public safety and first responder mission critical voice. “T-band” users are encouraged to contact the FCC or their Motorola Solutions sales representative for more information on potential impacts.

“In arguably one of the most significant events in U.S. public-safety communications history, both houses of Congress passed payroll-tax legislation to reallocate 700 MHz D Block spectrum to first responders and provide \$7 billion in federal grant money for the deployment of a dedicated nationwide LTE network.”
- Urgent Communications

FIRSTNET TIMELINE



STATE DECISION PROCESS

As part of the law, each governor has the option to decide whether his or her state wants to conduct its own deployment of a broadband Radio Access Network (RAN). Specifically, once FirstNet is established and the Request for Proposal (RFP) process has been completed, states have 3 months to notify FirstNet, the NTIA and the FCC of their intention to “opt-in” or “opt-out” of the FirstNet RAN deployment plan for that State. If a state decides to opt-out, it has 6 months to develop and complete its own RFP process for a broadband RAN within the state, subject to FCC approval.

States that are approved to opt-out are eligible to apply to the NTIA for a grant for construction of their broadband RAN, and for a spectrum lease, however, they will be required to connect to the federal core. In addition, states would be allowed to generate state revenue for construction, operation, and maintenance of their network through leases to secondary users.

The law requires each state to designate a single officer or governmental body for purposes of both consulting with FirstNet on development of the RFP and coordinating implementation of grant funds in that state. It is anticipated that each state governor will make this designation.

FUNDING

A Public Safety Trust Fund is established in the Treasury with a total of \$7 billion allocated for the public safety network construction, to be overseen by FirstNet. The initial phase of the funding is set aside at \$2 billion dollars. Once the \$2 billion is exhausted, NTIA will require funding from an auction in order to award additional grants.

In addition the Assistant Secretary of NTIA is authorized to borrow from the Treasury up to \$135 million for planning purposes to implement the State and Local Implementation

Grant program. This program will make grants available to assist state, regional, tribal, and local jurisdictions with identifying, planning, and implementing the most efficient and effective way to integrate, implement, build, and utilize the public safety broadband network. The portion of federal funding is stated at no more than 80% for the Planning Grants and the Construction Grants. The planning funding may be available as soon as this year.

BROADBAND NETWORK ARCHITECTURE AND DEVICES

The nationwide public safety network will be based on a single, national network architecture that evolves with technological advancements and initially consists of:

- **Core network** consisting of national and regional data centers that provides connectivity between the radio access network and the public Internet or the public switched network, or both
- **Radio access network (RAN)** that consists of all cell site equipment and antennas, based on commercial standards, to enable wireless communications with devices using the public safety broadband spectrum, and that takes into account plans developed in the state, local and tribal planning and implementation grant program
- **Backhaul network** that consists of the network required to connect the RAN sites to the core network

- **PSAP connectivity** consisting of the network required to connect the broadband network to local Public Safety Answering Points (PSAP's)
- **Application components** consisting of the overlay software and testing necessary for the use of the network features

The Director of NIST, in consultation with FirstNet and the FCC, must ensure the development of a list of certified devices and components. Public safety entities and commercial vendors will need to adhere to appropriate protocols and standards, if such entities or vendors want to have access to, use of, or compatibility with the nationwide public safety broadband network.

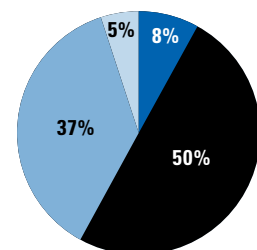
WHAT SHOULD YOU DO NOW?

All eligible users of FirstNet and state broadband networks are encouraged to establish a broadband plan for their jurisdictions.

Developing a plan now will aid users in providing their requirements up to the state designee and into the national framework.

Existing public safety LTE users, pending waiver holders, and agencies actively planning their networks are encouraged to contact their local Motorola Solutions sales representative for more information.

In a recent Next Generation Public Safety survey, responders were asked, "Based on your vision of the future of public safety communications, how would you assess your agency in terms of how prepared it is to achieve this public safety broadband vision?" With the majority of respondents not fully prepared for a public safety broadband network, it is important to begin developing a broadband plan for your community.



- Very Prepared
- Somewhat Prepared
- Not Prepared
- Don't Know