

# FirstNet Explained

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The attacks of 9/11 revealed the incompatible and balkanized state of emergency and public safety communications in America, with police unable to communicate by radio with firefighters. When Hurricane Sandy hit New York and New Jersey in 2012, the situation was remarkably different. Police commanders talked with fire officials as they battled power failures in the wake of the storm. Yet when emergency officials from other cities showed up to help, their radios could not communicate with public safety commanders in New York.

The solution? Build a high-speed, nationwide wireless broadband network dedicated to public safety. That's the First Responder Network Authority or FirstNet in a nutshell: a single interoperable platform for emergency and daily public safety communications. On Feb. 22, 2012, the Middle Class Tax Relief and Job Creation Act was signed into law, creating FirstNet with the mission to build, operate and maintain a national wireless broadband, [radio access network](#) (RAN) for public safety. The goal is to put an end to the interoperability and communications challenges that have occurred during exceptional and complex disasters, such as hurricanes, earthquakes and terrorist attacks. Here are some of the key points about FirstNet:

## FirstNet Testbeds



Eight entities and jurisdictions applied to become testbeds for the First Responder Network Authority wireless broadband network -- four have entered into a spectrum lease agreement with FirstNet, three have not and for the final one, discussions are ongoing. For more information about these testbeds, [view our map](#).

**Participants and funding.** Participants include the federal government, all 50 states, six territories, local government and approximately 5.4 million first responders. FirstNet estimates the cost for the network at \$7 billion, with funds to be raised by spectrum auctions by the Federal Communications Commission, the largest of which will be the forthcoming incentive auction of spectrum held by broadcasters. The FCC will then repackage the spectrum and sell it to wireless carriers. Ongoing operations of the FirstNet network will be funded by fees raised by network users.

**The technology.** FirstNet will build a new Band Class 14 network based on commercial standards. (Band 14 is a section of radio spectrum within the 700 MHz band reserved exclusively for public safety.) The FirstNet plan includes a core network that will switch data, process and reformat information, store and maintain data, and keep it secure. In addition, applications, services and business support systems will reside in the core network, which will interface with state, local and federal networks, including 911 and the Internet. FirstNet envisions the development of a new class of rugged, but easy-

to-use devices -- from smartphones and tablets to laptops and specialty devices -- to access the network. The goal is to make the network accessible to millions of potential users. FirstNet believes the scale of the project will attract a number of new vendors, which will increase competition and lower costs. Just who those vendors are and how many will develop products for FirstNet remains unclear.

**Consulting, opting in or opting out.** So far, FirstNet has borrowed about \$2 billion from the U.S. Treasury and the National Telecommunications and Information Administration (NTIA) has distributed about \$116 million in state and local planning grants (SLIGP) to fund a series of regional workshops, to be followed by individual visits to each state and territory. The discussions are designed to establish the unique needs of each state, as well as to work out roles and responsibilities. Once the discussions are done, a plan will be drawn up and presented to each governor, who will have 90 days to decide whether or not to participate in the FirstNet network. Governors can opt out, but that just means the federal government won't build the network. States that opt out will have 180 days to submit a plan of their own to the FCC and NTIA and will be expected to pay for at least 20 percent of the cost. Most experts expect states to opt in.

**Establishing a business plan.** FirstNet has an ambitious plan to create a broadband network that covers the entire country, making it larger than any existing commercial network. It also calls for having the first responder community as its entire user base. In order to do that, FirstNet will have to rely on a very high percentage -- nearly all 5.4 million responders subscribing to the service at a rate that is comparable to what commercial providers now charge. These rates will have to cover not just existing operational costs, but will have to generate enough revenue for further expansion to cover remote areas and future upgrades to technology. For such a plan to succeed, FirstNet will have to aggressively market the service to the first responder community.

## Hurdles

*How costly?* Some experts believe the [true cost](#) of building a nationwide “public-safety grade” network could exceed \$10 billion, with some putting the figure as high as \$16 billion. The user base for FirstNet and the fees that can be obtained to cover the network’s costs have also come under question. Bill Schrier, a senior policy advisor for the state of Washington, points out that 5.4 million network users would have to include [virtually every potential responder](#) – from police and fire to public works, public health, school safety and even utilities. It’s not clear whether those numbers represent enough of a user base to fund such a network. Some have called for expanding the users to include front line workers on utilities, in transportation and public works, for example.

*Where’s the staffing?* In March, FirstNet had approximately 40 full-time staff with another 50 expected to be hired. However, the number of technical workers appears inadequate, according to Schrier. Finding qualified technical staff has also moved slowly in the wake of a board meeting last year when board member Paul Fitzgerald, a sheriff from Story County, Iowa, protested about the conflict of interest between board members and the hiring of technical staff to design and build the network.

*Will local law enforcement maintain control?* Preserving some level of [local management](#) is considered a cornerstone to broad acceptance of FirstNet, according to some experts. How local management and the sharing of data has yet to be clarified.

This article was printed from Government Technology magazine online.