

POLITICS

Why Police and Firefighters Struggle to Communicate in Crises

A maddening tale of what happened when Washington got its hands on a good idea.

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MARK M. LAWRENCE/CORBIS

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ON SEPTEMBER 11, 2001, just a few minutes after the South Tower of the World Trade Center collapsed, a police helicopter pilot circling the remaining tower reported that the top 15 floors were “glowing red” and said he believed the building would soon

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implode. Four minutes later, another helicopter pilot also warned that he didn't think the second tower could last much longer. Most of the police officers in the North Tower heard those warnings and were able to evacuate. But that information never reached firefighters, for a simple reason: Radio systems for the Fire Department, the Police Department, and the Port Authority Police were all incompatible with each other.

And not only could firefighters and police not hear each other; due to technical problems that day, the Fire Department radios, in particular, had very limited range. "As soon as they went five or ten floors up in the buildings, they couldn't talk to each other," recalls Chuck Dowd, who was the head of New York's 911 call center. It got so bad that Dowd says he heard at least one fire lieutenant call 911—instead of using his own radio system—to report that a firefighter was in cardiac arrest and needed immediate help.

One of the fire chiefs in the lobby of the North Tower sent out his own evacuation order after the first tower fell. Some of the firefighters heard the order and were able to escape. Others refused to leave because they were helping injured civilians or fellow firefighters. But, according to *The 9/11 Commission Report*, firefighters on higher floors never got the message. One fire chief had to resort to using his bullhorn to relay the order, running between stairwells and shouting, "All FDNY, get the fuck out!"

When the 9/11 Commission released its report in 2004, it identified communications failures as a "critical element" that undermined the response to the attacks. That was no surprise to first responders or public-safety officials, who have long struggled to communicate during crises: As far back as 1967, President Lyndon Johnson's

Commission on Law Enforcement noted that, “in emergency situations that require mutual support, neighboring police departments cannot communicate because their radios operate on different frequencies.” After the Oklahoma City bombing in 1995 and again during the Columbine shooting in 1999, first responders experienced communication problems.

Despite the predictable public outcry following each new failure, the same story has kept repeating itself. During Hurricane Katrina—four years after September 11—the storm and flooding totally wiped out communications networks in many areas. Internet, radios, cell phones, and even backup systems like satellite phones all failed—leaving first responders to improvise low-tech solutions. “It got to the point that people were literally writing messages on paper, putting them in bottles and dropping them from helicopters to other people on the ground,” Louisiana State Senator Robert Barham told *The Washington Post* in 2005.

Public-safety communications systems failed again during Hurricane Sandy in 2012 and in the chaotic aftermath of the Boston Marathon bombing in 2013. A Justice Department investigation found that city and state police officers in Ferguson, Missouri, were using incompatible radio systems during last year’s protests and riots over the police shooting of Michael Brown.

Indeed, 14 years after September 11, America’s roughly 65,000 public-safety agencies still rely on a patchwork of radio systems that are often incompatible with each other. Some cities, including New York, have improved radio communications between departments—but there is still no national solution.



In 2005, Hurricane Katrina totally wiped out communications networks in many areas--with Internet, radios, cell phones, and even backup systems like satellite phones failing. (Chris Graythen/Getty Images)

Nor, crucially, do these radios have mobile Internet access—which can serve any number of key functions, from allowing firefighters to download floor plans of burning buildings, to helping E.R. doctors plan surgeries by examining patients through an ambulance video feed, to giving police officers instant access to vital statistics in the field. As then-New York City Police Commissioner Ray Kelly noted at a congressional hearing in 2011: “A 16-year-old with a smartphone has a more advanced communications capability than a police officer or deputy carrying a radio.”

To be sure, in many jurisdictions first responders use commercial smartphones. But that’s not an ideal solution, because commercial networks don’t always have good rural coverage and can get congested, especially during emergencies or even large sporting

events. “For everything from computers in the car to fingerprints in the field, we are slaves to the carriers,” says Chris Moore, the former police chief of San Jose, California. “We are just another customer. There are many stories where public safety is being throttled off the network or just can’t get access to the network when we need it the most.”

The solution—or at least a partial solution—to these problems is something that public-safety officials have been calling for since the 1990s: a nationwide cellular network dedicated to public safety, one that wouldn’t become overloaded by commercial users in emergencies. This network wouldn’t necessarily replace first responders’ handheld radios for “mission-critical” voice calls, but it could give commanders in different agencies a way to communicate in disasters; and it would allow first responders to have reliable Internet. Plus, if it’s successful, a high-speed cellular network dedicated to first responders could prompt app-makers to build a whole new universe of innovative public-safety tools.

While the 9/11 Commission didn’t explicitly call for such a network—it merely recommended that Congress dedicate more radio spectrum to help public-safety agencies communicate—first responders turned the report into a rallying cry. “When they made that finding as part of their report, it was helpful for us to use that to point out what we had been saying all along,” says Harlin McEwen, a retired police chief in Ithaca, New York, who has been a leading advocate for better first-responder communications for decades.

Today, the result of all this lobbying is one of the largest government technology projects ever undertaken: a single nationwide network for public-safety officials known as FirstNet.

But FirstNet is still years away from even starting construction, much less providing any useful tools to first responders.

The story of how we got to this point is a classic tale of contemporary Washington—a tale of just how slowly and awkwardly and ineffectively the machinery of government often moves.

Former Sen. Jay Rockefeller of West Virginia, one of the leading champions of the public-safety network, is not particularly surprised at the winding road it has taken. “One of the things that I have learned in my years as governor and in the Senate is that most often things that are really important, they either happen in a quarter of a second in some not-read part of a bill that goes through, or they take 10 years,” he told me. In the case of FirstNet, it will be much more than 10 years. And even once it is up and running, there are good reasons to wonder whether it can ultimately succeed.

WASHINGTON'S FIRST MAJOR stab at addressing this issue came in 2007. That year, George W. Bush’s Federal Communications Commission—which was already planning to auction some prime spectrum to the cellular industry—decided to designate one band of frequencies for public safety. The company that bought the public-safety band—dubbed the “D-Block”—would be required to prioritize public-safety communications and would have to maintain a network that could survive storms, terrorist attacks, or other disasters. The idea was that a commercial cellular carrier would be willing to take on that costly obligation because getting access to the spectrum for commercial use would be so valuable.

To understand how spectrum works, it can be helpful to think of an old-style radio dial, with set ranges of AM and FM frequencies, and

different stations claiming the spots along the dial. Cellular providers, TV stations, radio stations, satellite systems, and military radar all have licenses to use different sections of the spectrum “dial” so they don’t interfere with each other. But there is only a limited amount of useful spectrum, and traffic has been skyrocketing in recent years as people increasingly watch videos, stream music, and browse the Web on their mobile devices. This “spectrum crunch” has meant that commercial cellular carriers are willing to spend billions of dollars to get the rights to any additional spectrum to upgrade their networks.

Public-safety advocates played a limited role in shaping the FCC’s plan, and their reactions were mixed. On the one hand, they were excited about any plan that could finally lead to a seamless cellular network for public safety. But they were skeptical about giving a commercial carrier primary control over the network. Would public safety really have priority over the company’s own customers in an emergency? The advocates also wondered whether any company would agree to take on the massive responsibility of building a public-safety-grade communications network without any government funding. “We could see some value, and we could see some problems,” explains McEwen. “The problem was that it was a high hurdle for anyone to want to do.”

It was too high of a hurdle, as it turned out. While the FCC raised nearly \$20 billion in 2008 from auctioning the other blocks of spectrum, no company offered even the minimum price of \$1.3 billion for the block with the public-safety requirements. The first responders were back to square one.

IN SPRING 2009, with a new administration in town, top police officers, firefighters, sheriffs, and emergency-medical-services officials from around the country gathered in the Renaissance Hotel in downtown Washington. They were disappointed with the failure of the FCC's spectrum auction, but they also saw an opportunity. Chris Moore, Chuck Dowd, and a handful of other major-city police officers wanted to demand more than what the Bush administration had offered: They wanted exclusive control over the D-Block. They didn't think they should have to rely on a commercial carrier to prioritize their communications in emergencies. "It's extremely rare that we will need all of the spectrum, but when we need it, we need it," Moore told me. "We would no longer be the tenant on the network, we would be the landlord."

They could only succeed, they knew, if they presented a united front to Congress and the White House. "If we did not act together, we would surely lose that spectrum to the commercial marketplace," Moore recalls. "If we were divided, we were done." But that wouldn't be easy; different public-safety agencies have different priorities and agendas, and they can be a fractious bunch. "Police and firefighters have never really been known to get along when it comes to political issues," says Moore. "Everyone always seems to be rowing their own boat in their own direction." The discussions were guaranteed to be tense, so the public-safety officials hired a Harvard lecturer to act as a mediator and keep them on track.

Ultimately, all of the factions decided to back the plan. Moore, Dowd, and other major-city officials were able to persuade the rest of the group that this was a onetime opportunity to gain control over a prime set of airwaves and that they could succeed if they all stuck together. But they still had to convince the White House and

Congress. So they did what everyone looking for a policy change does in Washington: They launched a lobbying campaign. The associations for police, firefighters, sheriffs, EMS, and emergency-communications specialists created a new organization: the Public Safety Alliance. “It was an unprecedented collaboration between public-safety” groups, says Jeff Johnson, a retired Oregon fire chief who helped lead the effort. “It had no predecessor and no successor to date in terms of the scope of the associations coming together for one cause.”

The alliance set up a website promoting the cellular network. Firefighters and police officers held briefings for reporters and congressional aides on Capitol Hill and at the National Press Club. They organized private meetings with lawmakers, often bringing along a fire or police chief from the member’s district to make the case. And when Congress held hearings on the issue, they showed up in force, filling the audience with a sea of police, fire, and EMS uniforms. “When you’re in uniform, it does leave a lasting impression,” Moore says.



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Then-Sen. John Rockefeller of West Virginia (at podium) appears with Senate colleagues to advocate for improved communications tools for first responders. (Tom Williams/Roll Call)

The public-safety advocates separated themselves from the other lobbyists on Capitol Hill, according to Dowd, by their total unwillingness to negotiate. “Typically, when lobbyists go in to advocate for something, they go in with one position and they have fallback positions. So they’ll take less than the whole enchilada,” he explains. “Public safety, that’s not the way we approached this. We went in and told them, ‘This is absolutely what we have to have.’”

Many officials, however, believed that devoting so much spectrum to a public-safety network would be an expensive mistake. In March 2010, the FCC released its National Broadband Plan, a comprehensive strategy for improving Internet access across the country. The FCC recommended that the government try again to auction the D-Block, this time with federal funding and more flexible requirements for public-safety access.

It wasn’t just the FCC that took this view. Some of the White House’s key economic advisers—including Larry Summers, then the director of the White House National Economic Council—were initially leaning toward selling the D-Block because of the economic boost from faster smartphone connections and the revenue the government would bring in from the auction. In a June 2010 congressional hearing, James Barnett, then the head of the FCC’s Public Safety Bureau, argued that dedicating an entire

communications network to public safety would be unnecessary—like building a separate four-lane highway instead of having everyone pull over to let emergency vehicles go by.

But the public-safety advocates refused to accept the FCC's plan and kept up the pressure for control over their own network. And they had some powerful allies. At an October 2009 conference of police chiefs in Denver, Attorney General Eric Holder had announced his support for allocating the D-Block directly to public safety. (He later confided in a private meeting with public-safety officials that the speech landed him in the “doghouse” with the White House, according to officials who were present.)

Vice President Joe Biden, who has close ties to police and firefighters dating back to his days in the Senate, was also a forceful advocate for their cause. The public-safety advocates who spoke to Biden about the issue were struck by his passion for it. “A guy like the vice president has thousands of things that folks want to talk to him about,” Dowd recalls of one meeting. “But it was clear he knew what this was about. He was able to speak about it impromptu like that, and he was well aware of its importance. That told me this was high on his list.” Biden dispatched one of his top aides, Terrell McSweeney (now a commissioner at the Federal Trade Commission), to join the main group of White House aides studying the issue and to push for public-safety interests.

In February 2011, President Obama entered the fray, urging Congress to allocate the D-Block to public safety during a speech in Marquette, Michigan. The announcement was an embarrassing rebuke to the FCC, an agency that is officially independent but not used to being on a different page from the president. “It took a while

before the administration actually chose to support our proposals, but once they did, then the thing seemed to move forward pretty quickly,” recalls Harlin McEwen.

With the tenth anniversary of September 11 approaching, the public-safety advocates argued that the cellular network was “one of the last remaining recommendations of the 9/11 Commission.” That wasn’t strictly true, but it made for a clear, compelling talking point. They got a boost when 9/11 Commission Chair Thomas Kean and Vice Chair Lee Hamilton endorsed their plan in 2011. Bipartisan support was building: In both 2010 and 2011, Sens. John McCain and Joe Lieberman introduced a bill to allocate the spectrum to public safety; so did Rep. Peter King, a New York Republican.

But the most important champion for the public-safety network on Capitol Hill was Sen. Jay Rockefeller. For Rockefeller, the issue was personal. In the early 1970s, a mentally ill woman with a gun broke into his home while he was away and confronted his wife, Sharon. After carefully talking the woman into setting down the gun, she was able to call 911. By the time Rockefeller got there, his home was swarming with state, local, and federal police, all arguing over who was in charge. “Every level of jurisdiction was roaring over there,” Rockefeller told me. “But nobody would, or could, talk to each other. The place was just jammed with state police cars and all kinds of things, but very little cooperation going on.”

As chairman of the Senate Commerce Committee, Rockefeller was in a strong position to push an emergency-communications bill through Congress. The panel has jurisdiction over the FCC and telecom policy, including which companies and agencies get to use which airwaves. In his time on the panel, Rockefeller had developed

a deep distrust of the telecom industry. For years, in speeches and hearings, he would often bitterly recount how major companies swore to him that they wouldn't sue over an education technology program he helped create but then did anyway. Rockefeller believed that the phone companies would put their own bottom lines first in an emergency. "I have dealt with the telecommunications companies on every level and all the ways they add things on to your bill wrongly but don't tell you," he says. "They're a slippery lot."

Rockefeller knew his ideal bill would never pass. The senator originally wanted the project to be fully federally funded, but he acknowledged early on that such a model would take too big of a chunk out of the federal budget to get through Congress. Having to battle the telecom industry would only make it that much harder. But in a bit of legislative jujitsu, Rockefeller and his aides found a way both to turn an expensive bill into a moneymaking one and to transform industry opposition into support.

IN 2011, THE top priority for the telecom industry was legislation that would pay local TV stations to give up their broadcast licenses and go off the air. Cellular carriers like Verizon and AT&T would then pay billions of dollars to buy those licenses in an auction, and all of the revenue left over after paying the TV stations would go to the government. While the wireless carriers wanted control of the D-Block, they cared more about passing the TV auction legislation, because it would mean a lot more spectrum to power their customers' devices.

Rockefeller fused the two issues together in a single bill. It proposed using some of the revenue from the spectrum auction to help pay for building a public-safety network on the D-Block, while also giving

the government tens of billions of dollars in revenue. In May 2011, he introduced the measure. The perfect bill number was about to come up, and Rockefeller took it: S.911.

The effort now had momentum. But Rockefeller's S.911 still had to run the legislative gauntlet. Biden joined with Rockefeller, using connections with his old Senate colleagues to try to get the bill passed. In June, the vice president hosted first responders and lawmakers for a White House summit to rally support. "I think we have to keep the drums beating," he said, urging Congress to act before the September 11 anniversary. "The only way this will not come to fruition is if we take our foot off the pedal."

Ultimately, skeptical House Republicans—who had generally favored allowing the public-safety network to be built and controlled by commercial carriers—recognized they were on the losing side of the debate. They decided to focus instead on shaping the rules for the TV spectrum auction and the governance of the public-safety network.

Because the bill would raise revenue, it became a valuable chip in negotiations over how to pay for larger legislative packages. The so-called "super committee," which was trying to find a deal to reduce the deficit, looked at using the auction revenue but ultimately disbanded after failing to reach any broader agreement. The tenth-anniversary deadline went by without the issue getting resolved.

Then, in February 2012, congressional negotiators were frantically looking for a way to pay for an extension of a payroll tax cut and jobless benefits affecting millions of Americans. So they turned to Rockefeller's bill. After years of debates over how to fix emergency

communications in the wake of September 11, the actual legislative language was hashed out in a matter of days, often late at night, by a small group of aides in a conference between the House and Senate. The public-safety advocates were largely sidelined, watching as Congress hammered out the final deal.

The resulting legislation contained a series of compromises. Rockefeller had envisioned an independent corporation, similar to Amtrak, overseeing the construction and operation of the public-safety network. That independence would mean, among other things, that the network wouldn't have to follow all the federal rules for hiring and contracting, making the new system easier to get up and running.

But House Republicans, worried about creating a new federal behemoth, demanded that the organization be part of an existing federal agency. "What we didn't want was to create yet another big Washington bureaucracy that sucks all the money out, and our first responders are left trying to figure out how to pay the bill," says Rep. Greg Walden, chairman of the House Communications Subcommittee and the lead Republican negotiator on the issue. And so, FirstNet (short for First Responder Network Authority) was created as an "independent authority" that is "within" the National Telecommunications and Information Administration, which is part of the Commerce Department.

The Republicans also wanted more state control over the project. They would have preferred to have just given federal grants to the states to build the networks themselves. "Our approach in the House," Walden explains, "was more to build it from the ground up, leveraging local and state resources with a common platform."

In the end, as a compromise, the legislation gave states the right to opt out of the federal project if they built their portion of the network. This set up a potential problem for FirstNet even before the project got underway: If too many states opted out, the project would become less economical to build in the remaining states, even with the help of federal funds. And those federal funds were also cut during negotiations. Rockefeller's proposal would have allocated \$11.75 billion to fund construction of the network, but he and other supporters ultimately settled for \$7 billion—far less than the system will end up costing.

"I don't know how much you can do for \$7 billion," Rockefeller says, "but you can't do anything national—maybe just the Northeast plus a couple of states." According to a Government Accountability Office report, FirstNet could actually cost as much as \$47 billion over the next 10 years. Under the law, FirstNet will have two other sources of revenue to cover the difference: fees that local police departments, fire departments, and emergency medical services will have to pay to get access; and money from the selling of any excess capacity on the network to commercial carriers.

Building a nationwide cellular network is a daunting challenge. There are, after all, only four private companies in the United States that have accomplished the feat. FirstNet wouldn't need to build its entire cellular network from scratch: The law requires that, to the "maximum extent economically desirable," FirstNet reach agreements with commercial providers to use their existing cell towers and other infrastructure. But FirstNet will need to tweak those towers to make them compatible with its system and will likely upgrade the networks in many areas to ensure they can

survive disasters. And in rural areas with poor commercial service, FirstNet may have to construct a new network.

Those were the big-picture challenges that lay ahead on February 22, 2012, when Obama signed the Middle Class Tax Relief and Job Creation Act, which called for the creation of FirstNet. McEwen recalls that he felt “elated.” “The law wasn’t exactly as we had hoped, but it is very good,” he told me. The details, however, were yet to come.

BEFORE FIRSTNET COULD start building a network, it had to create a new federal bureaucracy. Lawmakers had required the secretary of Commerce to appoint at least three public-safety officials to the 15-member FirstNet board, but they also required that some of the board members have the telecom business experience necessary to build a gigantic communications network. Sam Ginn, a pioneer in the cellular industry who had never before served in government, came out of retirement to serve as the first chairman of FirstNet in August 2012.

“You have my commitment, as chairman of this board,” Ginn told a House hearing, “that we will do everything we can to get this done quickly and to get it done right.” And if anybody in the telecom world could make FirstNet hum, it seemed like it would be Ginn. An Alabama native, he had worked his way up in the industry to become the CEO of Pacific Telesis, a regional phone company, in 1988. He’d spun off the company’s cellular business into a new company called AirTouch in 1994 and had shocked many people when he left Pacific Telesis to lead the much smaller wireless venture. But the bet paid off. AirTouch quickly became a leader of the nascent cellular industry, and Ginn made a fortune when he sold

it to the British telecom giant Vodafone for \$65 billion in 1999. A year later, AirTouch became Verizon Wireless.



Sheriff Paul Fitzgerald (center) speaks to the Committee on Homeland Security in 2011. (William B. Plowman/AP Images for Public Safety Alliance)

Two other former AirTouch executives—Craig Farrill and William Keever—also got seats on the FirstNet board. Eventually, Ginn would name Bill D’Agostino, a former executive at AirTouch and Verizon, to serve as the agency’s general manager. In the meantime, Farrill was acting GM, and he moved quickly to hire outside consultants to provide technical input and business advice. Two contracts awarded almost immediately to Workforce Resources, a management-consulting firm, were worth a combined \$11 million, according to documents that were revealed later. FirstNet, citing a regulatory exception for “unusual and compelling urgency,” awarded the contracts without any competitive bidding from other firms. (Because it had essentially no staff, FirstNet had to get help

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from other federal agencies just to give out those initial contracts.) Workforce Resources then contracted the work out to another firm called 4G Partners, which had leaders who were veterans of AirTouch and Vodafone.

Ginn, who, through a representative, declined to be interviewed for this story, kept a tight grip on information, according to people familiar with FirstNet. “You’ve got to think about Sam Ginn, and where he came from—never worked in government, always used to moving in stealth because of the competition,” says Bill Schrier, the main official tracking FirstNet for Washington state. “If you’re creating a cell company, you don’t want the competition knowing what you’re doing. And Sam operated that way in FirstNet.”

Ginn’s management style did not sit well with Sheriff Paul Fitzgerald, a board member from Story County, Iowa. Fitzgerald, an elected official for more than 20 years, thought FirstNet was doing too much work behind closed doors, with board members discussing important issues in private. “I came up in the public sector, and to me, it’s open, it’s transparent,” Fitzgerald told me recently. He also disliked that folks from the business world were steering a network that rightly belonged to first responders. “Public safety worked hard for three years to get this spectrum. And all those years, I’d never seen any of those people out there with us,” Fitzgerald says. “So now, we’re here, and it seems like we don’t have control over our own network.”

At FirstNet’s very first public board meeting, in September 2012, Craig Farrill unveiled a 400-page “conceptual architecture” for building the network. The speed was impressive, but it had been put together, Fitzgerald says, without consulting the public-safety

members of FirstNet's board. (Farrill, Keever, and D'Agostino did not respond to requests for comment.)

Fitzgerald says he tried to raise his concerns with Ginn in private board meetings but was repeatedly dismissed. "Paul, I'm tired of hearing the same complaints at every meeting," Ginn snapped at one meeting, according to Fitzgerald. "If you don't like the way I'm doing things, then you can bring a motion to the board, and the board can vote."

That's what Fitzgerald did. At a public board meeting on April 23, 2013, the sheriff accused FirstNet of ignoring the public-safety community, violating transparency requirements, and allowing commercial interests to influence decisions. The board, he declared, was treating public-safety officials like a "necessary evil."

"Why is everyone sitting quietly while commercial members of this board tell public safety to sit in the corner and watch them work?" he asked as the other board members looked on uncomfortably in a small Commerce Department conference room. "Whose network is this anyway?" Fitzgerald said that Ginn and his telecom allies were keeping him from accessing important FirstNet documents, including information about how outside consultants were hired and how much they were being paid. The public meetings, Fitzgerald said, were just "well-rehearsed performances," while the real decisions took place in private.

"I worked hand in hand with the Public Safety Alliance for quite some time to see this network created, and I will not sit by and watch it built by my industry board-member colleagues in accordance with their commercial vision," Fitzgerald said. "This is

supposed to be our network.” He concluded his speech by vowing not to be “muffled, sidelined, pressured to back down, or circumvented.”

Many of the people in the room doubted that the Iowa sheriff had written the document himself. Fitzgerald acknowledges that he had discussed his concerns with a small group of private consultants for public-safety agencies, who encouraged him to go public. Those consultants helped him prepare his speech and legal motion, he says, but he emphasizes the ultimate decision was his alone.

Unfortunately for Fitzgerald, however, he had neglected to line up the support of his fellow public-safety advocates before launching his dramatic attack. One by one, the other board members, including the members of the public-safety community, distanced themselves from his statement. “I do not share the sheriff’s viewpoint of this board. I do not share his suspicions of our motives. I do not share his observation that this is commercially dominated,” retired Oregon fire chief Jeff Johnson said at the meeting. “To level an allegation of this nature ... is not appropriate. While Paul and I have known each other for a lot of years, and I have tremendous respect for him, I could not disagree with him more on this motion.”

The other public-safety representative on the board, New York cop Chuck Dowd, said that “to some lesser degree,” he believed Fitzgerald had raised some legitimate issues. But Dowd emphasized, “I don’t see anybody on this board who I don’t have confidence in and that doesn’t warrant my trust.” Later, after the dust that Fitzgerald had kicked up had settled, Dowd told me the Iowa sheriff had been right that “they didn’t, at that point, clearly understand the real public-safety needs.” But he didn’t want a big

confrontation. “I think the better route was to continue down a process of give-and-take and education, and getting them to understand what the public-safety needs are going to be.”

But there was at least one company that was thrilled to see Fitzgerald stand up to Ginn. Motorola Solutions—the dominant manufacturer of walkie-talkies and other voice-only radios used by police and firefighters—quickly pounced on Fitzgerald’s insurrection to criticize the direction of the federal project.

“As a member of the board, Sheriff Fitzgerald’s concerns cannot be dismissed as mere speculation; his views are clearly based on firsthand experience. I am certain that he would not want to bring dishonor to the important work of this board if there was not a solid foundation for his concerns,” Motorola wrote in a form letter it asked public-safety groups to sign in April 2013. (*Politico* reported on the letter at the time.) After meeting with Motorola, South Carolina Attorney General Alan Wilson wrote in a May 2013 letter that it’s “unrealistic to assume a federal board in Washington D.C. can or should try to design and mandate a system” for every region of the country. (Fitzgerald adamantly denies that Motorola had any role in encouraging him to make his stand against Ginn.)

Motorola’s lobbying campaign prompted a scathing missive from Rockefeller, accusing the company of trying to erode support for FirstNet in order to protect its stranglehold on the public-safety communications market. “I will not stand by while your company continues to defend a business plan solely because you are unwilling to make the investments and commitments necessary to be a true competitor on the new level playing field for public-safety communications equipment,” Rockefeller wrote in a public letter to

Motorola's CEO in September 2013. "I urge you to immediately cease your campaign and to work constructively with the FirstNet board."

When I reached her this summer, Motorola vice president Debora Courtright said the company never wanted to undermine FirstNet; instead, she says, Motorola was only echoing the concerns of public-safety officials, the company's biggest customers, about the alleged early mismanagement of FirstNet. Courtright admits that voice-only radios are "the core of our being," as she puts it. But she says that Motorola plans to find a way to benefit from FirstNet, by making specialized smartphones for public-safety officers that will work on the national network. And she says the company is not lobbying any state officials against FirstNet—though Motorola may, as she acknowledges, try to build the network infrastructure for any states that opt out of the national cellular system.

Under fire from Fitzgerald, Motorola, and others, Ginn set up a special committee of FirstNet board members with input from Commerce Department lawyers to investigate the sheriff's claims. They issued their report on September 20, 2013, clearing board members of wrongdoing. The private conversations between board members "did not constitute decision-making," the special committee concluded, and "FirstNet did not withhold information from board members."

But Fitzgerald had never trusted the FirstNet board to investigate itself, so he'd also taken his concerns—and troves of documents that the consultants helped him prepare—to the Commerce Department's inspector general, Todd Zinser, who launched his own probe. (Zinser resigned this year, facing a congressional

investigation into unrelated charges of retaliating against whistleblowers, blackmail, and other misconduct.)

In mid-2014, as Zinser was wrapping up his investigation, Ginn resigned—less than two years after he’d become FirstNet’s first chief. D’Agostino and Farrill also stepped down. (Keever, another telecom board member, had left a year earlier.) A few months after Ginn’s departure, Fitzgerald and Dowd were on their way out, too, when Commerce Secretary Penny Pritzker appointed new public-safety officials to take their seats. “Looking back, I believe I did the right thing. If you don’t stand up for what’s right, what’s the purpose of sitting on the board?” Fitzgerald says. “I was disappointed not to get reappointed, but I understand the politics of it.”

When the inspector general’s report finally came out in December 2014, it found that FirstNet had violated an array of federal rules and procedures. The \$11 million in contracts to Workforce Resources did not qualify for the “urgency” exception to skip a competitive bidding process, the report concluded, and FirstNet had failed to conduct adequate oversight of the contracts.

FirstNet board members had also failed to fully disclose their financial assets and potential conflicts of interest. Board members had submitted inaccurate time sheets, in at least one case to avoid triggering other disclosure requirements that come with working more hours, the report found. Consistent record-keeping and oversight at FirstNet, the inspector general wrote, is “especially critical, given Board member ties to the telecommunications industry.” No punishments or criminal charges were brought against the departed board members. The report just urged FirstNet

and the Commerce Department to impose tighter controls for financial disclosures and outside contracts.

It would be easy to simply decry the fact that FirstNet officials failed to adhere to the rules of the public sector. But there was also no question that those rules slowed things down. Even Dowd, who was used to working in local government, wasn't prepared for the maze of federal government procedures involved in launching FirstNet. He recalls that it took three or four months just to get all the appropriate approvals for the agency's logo. "I could have gone to the cartography unit in the NYPD and gotten two or three drafts of logos in a week," he complains. The ever-thorny tension between public-sector values and business imperatives that bedevils so many enterprises in Washington had become a major stumbling block for FirstNet.

IN MAY 2014, the Commerce Department appointed Sue Swenson, one of the original FirstNet board members, to take over as chairwoman. Swenson was hardly a dramatic departure: Like Ginn, she is a former telecom bigwig, with stints as the chief executive of Cellular One and the chief operating officer of Leap Wireless. And like Ginn, she wants to treat FirstNet as a business. "Of course we're observing all the federal rules and regulations," she told me. "But we can't become complacent and get sucked into the federal bureaucracy. I think that's what happens sometimes with people who work for the federal government. They may go in with all kinds of ideas and excitement, but then I think you just get sucked down into it."

Swenson defends the former chairman and his allies from charges that they deliberately flouted federal rules. "They weren't aware of

all the rules and regulations,” she says. “Things that seem logical to me are not logical in the federal government—just in terms of paperwork that needs to be filled out, and you get different answers from different departments. ... A lot of these rules you have to follow are new to the private-sector people.”

But Swenson says she is making a concerted effort to keep public-safety and local government officials involved in the planning and construction of the network. “I’m a different person than Sam,” she says. (Swenson worked for Ginn at both Pacific Telesis and AirTouch.) “It wasn’t that he didn’t care. It’s just that we have different approaches.” She has sent FirstNet representatives out on road trips around the country, and in the past year, FirstNet has met with 2,600 officials in 43 states and territories. “It’s public safety’s network,” Swenson tells me. “It’s not FirstNet’s network—we’re just here to serve public safety. And I think it’s important that you articulate that we understand that that’s our responsibility.”

This approach seems to be winning over public-safety advocates. “I think Sue Swenson gets it,” says Dowd, who is keeping tabs on FirstNet even though he is no longer on the board. “I think she understands public safety, and I think she is committed to ensuring this meets public safety’s requirements.” Even Fitzgerald applauds Swenson for keeping public-safety officials involved in decisions.

FirstNet is past its long, ugly year and a half of turmoil. But the actual network is still years away. In April, FirstNet released a draft version of a public request for applications from companies to build the network. The agency has been sifting through feedback to the draft and may issue the actual request late this year (but more likely, early next year). It will probably receive the applications in late

2016, and make decisions in 2017 or 2018. The whole process could get derailed if there are any lengthy legal challenges to FirstNet's contract decisions. "I think the big question is, when the responses come in, how much time is going to have to be taken to deal with protests?" Swenson says.

If FirstNet can keep things on track, it will aim to start actually building the network sometime in 2018. At a Senate hearing earlier this year, Swenson said that if the network isn't up and running by 2022, "we should be shot."

But if FirstNet doesn't get its business model right, there is a very real possibility that the project could still be a costly failure. Like any business, FirstNet needs to convince customers that it is a better deal than the competition. "If you just build a gold-gilded communications tower, and then no one can pay to be on it, you've failed your mission," Rep. Walden tells me. In this case, the customers are public-safety agencies, who have the option of buying competing commercial services for mobile Internet access. Many police departments, in particular, already have contracts with cellular companies for mobile Internet. "Once they've got those commercial carriers, who already have good coverage, it's going to be hard for FirstNet to win the business away," warns Schrier, the Washington state technology official.



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"Of course we're observing all the federal rules and regulations," says FirstNet chair Swenson. "But we can't become complacent and get sucked into the federal bureaucracy." (First Responder Network Authority)

FirstNet's advantage is that it can guarantee the firefighters and police officers priority access: They won't lose service in crowded areas or during emergencies. And the public-safety network will be designed to hold up better to damage from storms and other disasters. FirstNet also hopes to provide stronger cell coverage in rural areas than the commercial competitors, which would give it an edge in large swaths of the country. The network may use drones or other deployable technologies in extremely remote areas to temporarily provide service to help fight forest fires, for example. "We have a unique chance and ability ... to fund a network that goes further into rural areas and allows rural first responders to have the tools they need," says TJ Kennedy, FirstNet's president, who is in charge of outreach to state and local officials.

But it will be hugely expensive to build a network (or deploy drones) in areas with few potential customers, which is the exact reason why

commercial carriers generally have such poor rural coverage. An important measure of FirstNet's success will be how much of the country it can really cover without going bankrupt. At a congressional hearing in early 2013, Ginn vowed to make FirstNet available in "every square meter" of the country—a promise that today seems unlikely. Swenson and other FirstNet leaders now only emphasize that they plan to meet their obligation under the law to provide "substantial" rural coverage.

Big decisions are coming soon for FirstNet as it prepares to take bids for contractors and spectrum-renters. One of the most important: Who will get access to the network? By adding supporting personnel to its public-safety customers—like officials from utility companies and transportation departments—FirstNet would create a larger customer base and potentially more revenue. An electricity company, for example, could use FirstNet to coordinate its response to outages. But once again, this raises a point of contention: Some police, firefighters, and EMS officials are reluctant to share their network. Too many users could lead to congestion in emergencies, they warn, defeating the whole purpose of the dedicated network that they fought to create.

In addition to securing fees from local agencies, FirstNet is counting on raising billions of dollars from selling excess capacity on its network to the cellular carriers. But it's unclear just how much money companies like Verizon and AT&T will be willing to pay for that service. They're used to having exclusive control over their spectrum and their network. The most likely scenario is that the company that builds the public-safety network in an area will also get the rights to buy the excess capacity, which could help avoid problems integrating multiple systems.

FirstNet will likely need participation from major companies to succeed. But the big telecom companies are waiting to get more details about the network's plan before they make any commitments. Back in the 2008 FCC auction, the big cell companies refused to buy the D-Block over worries about having to coordinate with public-safety groups. FirstNet's plan would be less of an up-front expense for the big carriers, because they would be leasing access rather than buying the rights to the spectrum—but that last experience still does not bode well. “The lack of commercial interest in the D-Block was due in part to uncertainty about how the public-private partnership would work, which raises further questions about FirstNet's ability to partner with commercial carriers,” the Government Accountability Office wrote in a report this April.

Michael Poth, FirstNet's newly appointed CEO who now handles day-to-day operations, made the case for businesses to partner with FirstNet at an “industry day” conference the organization held in August. “The reality is, this is a great business deal,” insisted Poth, a former police captain who worked for the last two decades as an executive at Hewlett Packard and Northrop Grumman. “I'm shooting for a reasonable profit on your side.”

But while FirstNet needs to woo outside companies, its links to those companies also pose obstacles. Despite the turnover at FirstNet, many board members still have deep ties to major telecom companies. That could make for a tricky situation when FirstNet has to decide which company or companies will get the multibillion-dollar contract to build the network. Under federal rules, government officials usually have to recuse themselves from making any procurement decisions that affect their former

employers, so some of FirstNet's key board members may be on the sidelines for essentially the most important single decision the organization will make. "You practically have to be a monk," Swenson says of the federal rules. "I don't know if we're going to be able to get the people with the right expertise at the table."

FirstNet is also still struggling with compromises that were made in the last-minute rush in Congress. While local agencies can choose not to buy FirstNet's service, an even bigger threat to the network's viability would be if a few major states choose to opt out of FirstNet entirely. Swenson says a critical part of her job is "educating" governors about all of the technical requirements they would face to build their own portion of the network if they choose not to participate in FirstNet.

The confusion over being an "independent" agency inside of another agency has also never really been resolved. "In hindsight, it's clear that the term 'independent authority' in the legislation should have been more clearly defined," says Chuck Dowd. "I think we should have made an effort to avoid some of these federal requirements that have been placed on FirstNet, that I think hamstring FirstNet and slow the process down."

At a House Energy and Commerce Committee hearing in June, Rep. Frank Pallone, the panel's top Democrat, suggested that FirstNet should be spun out from the Commerce Department and finally gain full independence. Swenson told me she's not sure FirstNet necessarily needs to leave the Commerce Department, but she thinks it does need more power to make its own decisions and handle its own affairs. The organization has started to handle basic tasks like finances and human resources on its own, but it is still

shipping out jobs to officials in other agencies. “I would say it’s really not a matter of being spun out of anywhere,” Swenson says. “We just want to control our destiny.”

A point that FirstNet officials don’t like to highlight is that their network isn’t going to replace standard-issue public-safety radios for the foreseeable future; it will only supplement them. The cellular network will be able to handle voice calls, but not as reliably in emergencies as the decades-old radios. Firefighters and police officers in the field want to be able to push a button and instantly get connected to their colleagues. Taking time to search for a signal or having a choppy connection isn’t an option.

Experts say there will one day be smartphones that will allow public-safety agencies to ditch their pricey radios, which can cost as much as \$5,000 each. But the process of developing and testing that technology could be long and arduous. So even if FirstNet is successfully deployed, it won’t solve all public-safety communications problems immediately.

In the end, even in the best-case scenario, more than a decade and a half will have gone by between September 11 and the moment that FirstNet finally becomes operational. Then again, there are worse things than a government project that is maddeningly slow. In today’s Washington—where gridlock, both political and bureaucratic, is a way of life—perhaps it’s a miracle that FirstNet is happening at all.

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