

**Written Testimony of Edward Parkinson
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Before the
Subcommittee on Communications, Technology, Innovation, and the Internet
Committee on Commerce, Science, and Transportation
United States Senate**

**A hearing entitled:
“An Evaluation of FirstNet’s Progress”
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Introduction

Chairman Thune, Ranking Member Schatz, and all Members of the Subcommittee, I would like to thank you for the opportunity to appear here today to provide an update on the progress we are making at the First Responder Network Authority (FirstNet Authority) on the deployment of the nationwide, interoperable public safety broadband network (Network or FirstNet). My name is Edward Parkinson, and I am the Executive Director of the FirstNet Authority.

The FirstNet Authority was established by the Middle Class Tax Relief and Job Creation Act of 2012 (P.L. 112-96) (2012 Act) based on recommendations of the 9/11 Commission Report.¹ The FirstNet Authority’s mission is to ensure the building, deployment, maintenance, improvement, and ongoing operation of a nationwide, interoperable broadband network that helps public safety save lives and protect our nation’s communities.

Leading up to the passage of the 2012 Act, the public safety communications market in the United States was stagnant. There were few advancements in technology for our first responders. As a result, teenagers with a smartphone had more advanced communications tools than our police officers, firefighters, or paramedics. Further, the lack of interoperability among vendors and equipment caused voice communications to be fractured, expensive, and resulted in a patchwork of networks across the country.² For broadband data, first responders relied on commercial solutions that were insufficient to meet their needs. To resolve these issues, public safety asked for a network specifically built for their mission, utilizing dedicated nationwide spectrum³ — a superhighway that would give public safety communications “lights and sirens” to cut through commercial congestion by prioritizing their voice and data traffic during times of emergency.

¹ National Commission on Terrorist Attacks upon the United States., *The 9/11 Commission Report: Final report of the National Commission on Terrorist Attacks upon the United States*, Washington, D.C. (2004), available at <https://www.9-11commission.gov/report/911Report.pdf>.

² J.M. Peha, “[How America’s Fragmented Approach to Public Safety Wastes Money and Spectrum.](#)” *Telecommunications Policy*, Vol. 31, No. 10-11, 2007, pp. 605-618.

³ S. Rep No. 112-260, at 3 (2012), available at <https://www.congress.gov/112/crpt/srpt260/CRPT-112srpt260.pdf>.

Recognizing the need for a single, nationwide broadband network dedicated to America’s public safety community, Congress created the FirstNet Authority to establish and oversee the FirstNet network. FirstNet uses spectrum reserved specifically for public safety to provide a wireless communications network that is interoperable across jurisdictions and public safety disciplines, with quality of service, priority, preemption (QPP),⁴ and market scale. As the FirstNet Authority planned for the Network, we consulted public safety in all 50 States, 5 U.S. territories, and the District of Columbia, and across Indian Country. Public safety told us the Network needed to be affordable, reliable, interoperable, and custom-built for the customer. The network solution needed to be designed to work in the most urban areas, where network challenges come in the form of urban canyons, Z-axis geolocation,⁵ and in-building coverage dead zones; and in the most rural parts of our country, where previously, the business case did not exist to build networks just for public safety use.

The 2012 Act directed the Federal Communications Commission (FCC or the Commission) to allocate 20 MHz of spectrum (plus two 1 MHz guard bands) — the D-Block (758-763 MHz / 788-793 MHz) along with existing public safety broadband spectrum (763-769 MHz / 793-799 MHz) (collectively referred to as “Band 14”) — to deploy FirstNet. The ten-year license to the spectrum shall be up for renewal with the Commission in 2022. Additionally, the FCC played a critical role in the establishment of the Technical Advisory Board for First Responder Interoperability, which delivered its recommendations for the minimum technical requirements for the Network.⁶

Public safety officials supported the use of Band 14 as the nationwide spectrum for the Network.⁷ With a nationwide license to 20 MHz of spectrum, \$7 billion in funding, and after extensive consultation with federal, state, local, and tribal public safety stakeholders, the FirstNet Authority held an open, transparent, and competitive procurement, as directed by Congress, to find a private sector partner to deploy the Network. In March 2017, after a comprehensive acquisition process, AT&T was selected to build, operate, and maintain the Network and signed a 25-year contract with the FirstNet Authority.

A Truly Nationwide Network

When the FirstNet Authority last testified before this Subcommittee,⁸ we were focused on working with AT&T, and our nation’s Governors, the State Points of Contact (SPOCs), and

⁴ QPP refers to a very large set of 3GPP features and functionality that the FirstNet Authority and AT&T will utilize to ensure that first responders have priority access to Band 14 when they need it and, if the situation requires it, prioritization among first responders. See FirstNet Authority, *Quality of Service, Priority, and Preemption*, http://www.npstc.org/download.jsp?tableId=37&column=217&id=3685&file=FirstNet_QPP_Intro.pdf.

⁵ Location based technology to solve the Z-axis (vertical) challenge would help pinpoint what floor a first responder is on in a building. This is a top priority for firefighters.

⁶ See 2012 Act § 6203(c)(3)(A) (47 U.S.C. § 1423(c)(3)(A)), Pub. L. No. 112-96, 126 Stat. 156 (2012); “Recommended Minimum Technical Requirements to Ensure Nationwide Interoperability for the Nationwide Public Safety Broadband Network” (May 2012), <https://docs.fcc.gov/public/attachments/FCC-12-68A3.pdf>.

⁷ See Testimony of Chief Harlin McEwen before the U.S. House of Representatives Committee on Energy and Commerce, Subcommittee on Communications, Technology, and the Internet (Sept. 24, 2009), available at http://www.npstc.org/documents/PSST_McEwen_Testimony_Final_090924.pdf.

⁸ See Testimony of Michael Poth, Chief Executive Officer, FirstNet Authority, before the U.S. Senate Committee on Commerce, Science, and Transportation, Subcommittee on Communications, Technology, Innovation, and the Internet (July 20, 2017), available at <https://www.commerce.senate.gov/services/files/E9B67AE8-D32F-42A2-AF42-6A5B9AFC8A13>.

public safety leadership in the states to design individualized FirstNet state plans to build out the Network and meet public safety's needs.

These state plans detailed the initial five-year deployment of the Network for each state, with expanded coverage and capacity in rural, suburban, and urban areas. While Governors had a choice to "opt-out" and build their own state networks, all Governors ultimately decided to "opt-in" and have the FirstNet Authority oversee and AT&T build the Network in their states.

By March 2018, with all states and territories having "opted-in" to the Network, the FirstNet Authority and AT&T officially began the nationwide deployment of the Network and offering public safety services, such as priority and preemption, through the dedicated FirstNet Enhanced Packet Core, to FirstNet subscribers. Today, we are just 2 years into the deployment of Band 14 on both new and existing towers, and already we have seen the Network make a major difference in the lives of first responders and the communities they serve.

AT&T recently announced there are more than 1.5 million connections – with public safety customers from over 13,000 agencies using FirstNet's interoperable public safety communications platform throughout the nation.⁹ AT&T remains ahead of schedule on the nationwide deployment, recently stating that it reached over 80 percent of the contracted Band 14 build.¹⁰ By the time the FirstNet Authority seeks renewal of its FCC license, just two years from now, we anticipate that the initially contracted for Network will be complete or nearly complete. Moreover, the Network is operational today and serving public safety users. Since the FirstNet Authority is satisfying its duties and obligations under the 2012 Act, resulting in a Network for public safety that is operational and serving users today, there is no question that it is in the public interest to renew the FirstNet Authority's FCC license so that the FirstNet Authority can fulfill its mission throughout the life of the 25-year agreement with AT&T.

Supporting COVID-19 Response, Hurricane Recovery Efforts, and Other Public Safety Operations

Upon the deployment of FirstNet and the availability of its services, public safety has relied on the Network to serve its broadband communications needs. Notably, we have seen an increase in the use of FirstNet during the pandemic – a sign that the Network is helping public safety carry out its mission in the face of COVID-19. Health-care workers and responders are using FirstNet services at COVID-19 testing centers, field hospitals, and incident command posts across the country. We are seeing an increase in the use of data to confront the pandemic at nearly two times the rate of consumer data traffic. First responders are taking advantage of FirstNet for telehealth as well as adapting the use of the Network in creative ways to fit the needs of their specific operations.

For example, hotspots and smartphones powered by FirstNet are enabling 9-1-1 dispatchers to take calls and dispatch operations from their homes and remote locations. This enables agencies

⁹ See Jackson, Donny, "FirstNet tops 1.5 million connections, 13,000 agencies, according to AT&T," *Urgent Communications* (July 24, 2020), available at <https://urgentcomm.com/2020/07/24/firstnet-tops-1-5-million-connections-13000-agencies-according-to-att/>.

¹⁰ See *id.*

to allow for social distancing among their staff, keeping these frontline essential workers safe so they can continue to serve the community. Throughout the pandemic, the City of Alexandria, Virginia's emergency communications center has relied on FirstNet to support remote operations. Using hotspots and smartphones powered by FirstNet, Alexandria dispatchers are able to take calls from their homes and remain in contact with staff on-site. The FirstNet Push-to-Talk (PTT) solution, enabling FirstNet phones to act as two-way radios, ensures that telecommunicators working from home are as connected and ready to respond as if they were still back at the call center.

FirstNet priority and preemption and access to dedicated Band 14 spectrum has provided the fast and reliable connectivity first responders and medical personnel have needed during the pandemic. Additionally, where FirstNet subscriber agencies have needed additional connectivity, they have a dedicated fleet of deployable Network assets available on request at no cost to the agency. There have been dozens of requests for FirstNet portable cell sites during the pandemic. This included boosting connectivity to the U.S. Navy hospital ship Mercy when it was docked at the Port of Los Angeles; and supporting in-building coverage for the U.S. Navy hospital ship Comfort docked in New York Harbor¹¹ as well as at COVID-19 testing sites, quarantine facilities, field hospitals, and emergency operation centers. The FirstNet Authority was able to work with its government partners to identify the right points of contact aboard the U.S. Navy ship Comfort so that AT&T FirstNet could install the best solution for the operational needs aboard the ship.

The Network has also supported mutual-aid efforts, including situations where ambulances are called in to assist from outside a hard-hit region. Paramedics using FirstNet devices and enhanced PTT can seamlessly communicate and work together with neighboring agencies. As we do for all major emergency operations, the FirstNet Authority will continue to gather public safety use cases and best practices from the response to COVID-19 so that agencies and practitioners can learn from each other and further understand how public safety broadband can support their communications needs. Even in the midst of a pandemic, responders must address and prepare for other emergencies. FirstNet has been there to assist with its dedicated fleet of deployable assets to augment coverage and capacity, including during the tornadoes in the southeastern United States earlier this spring, recent wildfires across California, and what has already been an active hurricane season along the east coast and in the gulf.

Most recently, FirstNet was leveraged in the Gulf states in response to Hurricane Laura, a category 4 hurricane making landfall in Louisiana on August 28, 2020. Prior to the storm, AT&T's FirstNet Response Operations Group (ROG), a team of former first responders who manage FirstNet's response in these types of disasters, staged deployable units and backup generators outside the path of the storm. Immediately following the devastating storm system, the ROG team coordinated with state emergency operations centers (EOCs), local agencies, and Federal Emergency Management Agency (FEMA) Urban Search and Rescue (US&R) teams to deploy Satellite Cell on Light Trucks (SatCOLTs), in-building solutions, and generators to

¹¹ See Hill, Kelly, "FirstNet-AT&T supporting naval hospital ships in New York, Los Angeles," *RCR Wireless* (Apr. 1, 2020), available at <https://www.rcrwireless.com/20200401/carriers/firstnet-att-supporting-naval-hospital-ships-in-new-york-los-angeles>.

impacted areas to support public safety communications efforts on the ground. Additionally, FirstNet One (a one of its kind in the world, 55-foot aerostat/blimp) was launched on September 3rd to deliver sustained network coverage in Cameron Parish, Louisiana, over an expansive area, in the aftermath of such a large-scale catastrophic event.

It is clear, Congress' vision for a nationwide interoperable public safety broadband network to serve first responders is working and evolving to meet public safety's needs during crises. The pandemic has underscored how FirstNet supports communities' ability to respond as new challenges arise.

In addition to the use during the pandemic response, public safety has relied on FirstNet in a myriad of other ways since the deployment of the Network. The following are just a few examples of how FirstNet has supported public safety across the country in various situations and events:

Fire: Seattle, Washington: Last summer, more than 350,000 people attended Seattle's SeaFair festival, and for the first time the Seattle Fire Department covered the event using FirstNet. Seattle Fire Department Chief Harold Scoggins said, "With FirstNet in place, we have increased confidence in our communication methods for use during highly attended public events. During this year's SeaFair activities, we were able to communicate important safety information without worry of encountering congestion issues."

EMS: Hattiesburg, Mississippi: AAA Ambulance Service subscribed to FirstNet to help connect its 24-hour emergency and non-emergency medical transport service. FirstNet is helping the ambulance service to seamlessly communicate as they serve 1.2 million residents living across 16 counties in southern Mississippi. Andy Geske, Chief of Information Technology for AAA Ambulance Service, said, "What's important to me and my crew members is the ease of accessing FirstNet. [It] can put everybody on the same page where that response is best for the patient." In facilitating the integration of telemedicine capabilities, FirstNet has allowed the AAA Ambulance Service to swiftly and efficiently deliver care to its patients in rural Mississippi.

Integration with Emergency Communications Centers (ECCs) / 9-1-1 Dispatch: Oglala Sioux Tribe: The FirstNet Authority continues to deliver quality service to the 9-1-1 community, and recent successes have demonstrated how FirstNet can enhance and enable 9-1-1 communications. For example, the Oglala Sioux Tribe's Department of Public Safety relies on FirstNet to keep their police officers connected to ECC dispatch when they are responding to an incident. FirstNet supports applications that enable dispatchers to transmit mission critical information to responders and remain in touch with them as they respond to an incident. And in addition to supporting remote call-taking and mobile communications, FirstNet can act as a secondary network for ECCs in case of a primary network failure. These applications will only grow in their importance as ECCs transition to Next Generation 9-1-1, in which data needs to be able to travel in and out of an ECC in a quick and seamless manner.

Consultation: Red Cliff Band of Lake Superior Chippewa (Red Cliff): The FirstNet Authority has worked closely with the Red Cliff Band of Lake Superior Chippewa in Wisconsin.

FirstNet helped to boost access to broadband communications with the addition of a new, purpose-built cell site located on the Red Cliff Reservation. Public safety stakeholders, in consultation with the FirstNet Authority, identified the location as a priority area for increased Network coverage and capacity to better support emergency communications. “Breaking ground on this new cell site will not only support the public safety mission, but it will also pave the way for new technical capabilities and innovations — furthering economic opportunity and extending access to telehealth, online learning, and overall communications during emergencies,” said Theron Rutyna, Red Cliff IT Director.

Large Planned Events: Lake Race at the Lake of the Ozarks: In a typical summer, over 10,000 racing enthusiasts gather in Missouri as boaters test the limits at one of the most popular powerboat racing events in the nation. The two-day event takes months of planning and preparation to ensure that competitors and spectators stay safe on and around the lake. During the 2019 event, the Lake Ozark Fire Protection, Osage Beach Fire Protection, Missouri State Highway Patrol, Rocky Mountain Fire District, Camden County Sheriff’s Office, Lake Regional Hospital, Lake West Ambulance, and Eldon Fire and Rescue Department relied on a FirstNet SatCOLT to ensure robust capacity to support communication and data needs. The FirstNet Authority facilitated a pre-planned event planning meeting with the responder agencies. This planning meeting provided AT&T FirstNet ROG with additional information regarding the locations where public safety needed coverage, and allowed them to deploy the right solution. “The event went very well. Communication with the enhanced PTT devices was seamless, and to have the [SatCOLT] on site made our communications between command and patrol boat work flawlessly,” said Matthew Birdsley, Assistant Fire Chief, Lake Ozark Fire Protection District.

These use cases are just a sample of public safety agencies across the country making use of FirstNet.

Consultation with Public Safety

The FirstNet Authority would like to thank all public safety stakeholders throughout the country who have engaged with us – they have had and will continue to make a direct impact on FirstNet. Since the FirstNet Authority was established in 2012, we have built our programs and activities around direct consultation and engagement with and feedback from the public safety community in every state and territory. It is the cornerstone of everything we do at the FirstNet Authority. We have focused on maintaining a close working relationship with a diverse group of public safety stakeholders — states, territories, tribes, local governments, federal agencies, Non-Governmental Organizations (NGOs), and the members of the FirstNet Authority’s Public Safety Advisory Committee (PSAC).¹²

¹² Under the 2012 Act, the FirstNet Authority was required to “establish a standing public safety advisory committee.” 2012 Act § 6205(a)(1) (47 U.S.C. § 1425(a)(1)), Pub. L. No. 112-96, 126 Stat. 156 (2012). The FirstNet Authority established the PSAC in February 2013 consisting of member representation across all disciplines of public safety as well as state, territorial, tribal, and local governments. The PSAC also has at-large members and federal members. The mission of the PSAC is to assist the FirstNet Authority in carrying out its statutory duties and responsibilities.

Just last year, our public safety advocacy team participated in more than 1,100 public safety engagements representing all states, tribal nations, and across all public safety disciplines. Through these engagements, the FirstNet Authority had discussions with more than 25,000 stakeholders and collected their feedback on: the Network; broadband successes, challenges, and needs; and suggestions for product development. These interactions with public safety continue to be critical as we lay the groundwork for our future strategy and long-term planning for the organization, and as we reinvest back into the Network and help drive innovation in the public safety marketplace. We have continued our engagement with public safety during the pandemic through webinars, virtual briefings, and virtual conferences across the country.

The FirstNet Roadmap

In 2019, the FirstNet Authority worked with our public safety, industry, and government stakeholders across the country to develop a Roadmap¹³ to guide the growth, evolution, and advancement of the Network. Released a year ago, the Roadmap provides a view of public safety's operational needs and technology trends for mobile broadband communications over the next several years.

The Roadmap is organized around six domains representing technologies and capabilities that are vital to public safety operations now and in the future, including:

1. Network Core: provides the essential intelligence for the functioning of the Network and is foundational to the Network
2. Coverage and Capacity: enables robust and ubiquitous access to the Network
3. Situational Awareness: envisions real-time access, collection, and distribution of critical information
4. Voice Communications: envisions high-quality, reliable voice communications nationwide working seamlessly across analog and digital platforms
5. Secure Information Exchange: provides the ability to access, exchange, and manage data securely and conveniently within and across public safety agencies and jurisdictions
6. User Experience: seeks to ensure interfaces are designed for specific public safety users' operational challenges

The Roadmap guides the FirstNet Authority's engagement with stakeholders across public safety, the industry ecosystem, government, and with AT&T. We identify and pursue opportunities that promote technology innovation, policies, procedures, and programs that benefit public safety users. The FirstNet Authority uses the Roadmap to help prioritize our programs, activities, and investments in Network improvements to ensure first responders continue to have the communications tools they need to help save lives and protect communities. As we gather input through continuing stakeholder engagements, we will update the Roadmap so that it remains current with public safety's needs and technology developments.

The Public Safety Marketplace

¹³See FirstNet Authority, *First Responder Network Authority Roadmap* (rel. Aug. 2019), https://firstnet.gov/system/tdf/FirstNet_Roadmap.pdf?file=1&type=node&id=1055.

As we implement the FirstNet Roadmap, we continue to strengthen the public safety marketplace. We've seen commercial carriers competing fiercely to gain public safety's business. And we've seen industry rising to the occasion with new devices, apps, and solutions for use on FirstNet. FirstNet has worked with the National Institute of Standards and Technology (NIST) to certify devices that meet appropriate protocols and standards for access, use of, and compatibility with the Network, and offerings now include more than 100 apps¹⁴ and over 200 devices¹⁵ as part of the FirstNet ecosystem.

FirstNet has raised the bar and brought real competition to public safety. Now the marketplace is delivering for public safety, and we are seeing public safety respond to and adopt these services.

FirstNet also is delivering new solutions that were never previously available to public safety. These include our dedicated fleet of SatCOLTs and Cell on Wings (COWs). The network-boosting devices are available 24/7 on request and at no cost for FirstNet-subscribed agencies. This is an important aspect of a public safety network because emergencies can happen anywhere. AT&T has since begun to provide three COWs and, most recently, FirstNet One — deployed in Louisiana earlier this month, as previously mentioned — for use by FirstNet subscribers in the aftermath of major disasters. FirstNet One can fly up to 1,000 feet, potentially providing over double the coverage area as compared to other deployable solutions such as SatCOLTs.

FirstNet Investment and Innovation

The FirstNet Authority will continue to deliver for public safety and drive innovation. We are only in the third year of a 25-year contract with AT&T and have made substantial progress in Network buildout and enhancement, such as the successful recent roll-out of FirstNet PTT.

Going forward, we look to reach other important milestones for FirstNet and public safety:

- We will continue to engage with global standards bodies to work towards mission-critical video and data standards, as well as location-based services based on the needs of our users.
- The FirstNet Authority recently took the first step to begin evolving the FirstNet core to prepare for 5G — ensuring that FirstNet will be 5G ready.
- Following the recent investment approval, the FirstNet Authority will expand the fleet of FirstNet deployables to enhance network coverage and capacity for public safety during emergencies and events.¹⁶

¹⁴ See FirstNet App Catalog, <https://apps.firstnet.att.com/?auth=false>.

¹⁵ 47 U.S.C. § 1426(c)(6) requires NIST, in consultation with the FirstNet Authority, to ensure the development of a list of certified devices that meet appropriate protocols and standards for access to, use of, or compatibility with the Network. See FirstNet list of approved devices, also known as the “NIST List” at: <https://www.nist.gov/ctl/pscr/process-document-nist-list-certified-devices>.

¹⁶ See FirstNet Authority, *FirstNet Authority Board Approves Network Investments for 5G, On-Demand Coverage* (June 17, 2020), <https://firstnet.gov/newsroom/press-releases/firstnet-authority-board-approves-network-investments-5g-demand-coverage#:~:text=The%20Board%20approved%20%24218%20million%20for%20the%20FirstNet,safety%20turned%20to%20the%20FirstNet%20deployables%20for%20additional>.

All of this is in concert with our statutory responsibility to consider new and evolving technologies — preparing us for a future where the Internet of Things and 5G will help improve public safety operations.

The FirstNet Authority Roadmap drives these efforts and sets a path forward for advancing FirstNet. The Roadmap incorporates public safety’s feedback and accounts for technology trends.

Conclusion

Thank you to the Subcommittee for the opportunity to update you on the FirstNet Authority’s progress and our plans for the future of the Network. First responders are experiencing the benefits of FirstNet in their daily operations. Our primary goals at the FirstNet Authority this year and beyond are to continue to responsibly oversee the Network, ensure it evolves to meet the needs of public safety by engaging and gathering their feedback, and promote competition in the public safety marketplace.

The FirstNet Authority will continue to meet our statutory obligations, partner with those who will use and benefit from the Network, engage with and seek input from our public safety and governmental stakeholders, and work to ensure the successful deployment, operation, and improvement of FirstNet.

I ask that this Subcommittee continue to support the FirstNet Authority — particularly with our spectrum license renewal approaching— as we enter the next phase of this program, to innovate and invest in public safety’s Network. The support of Congress is critical to FirstNet’s and, in turn, public safety’s success. It is always important to remember — this is not the FirstNet Authority’s network; it is public safety’s network. The public safety community fought long and hard for the creation of the Network, and it is up to us to continue to strive to achieve their vision.

Thank you, and I look forward to your questions.