

Written Testimony of Edward Parkinson, Executive Director,
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Before the
United States House of Representatives
Committee on Homeland Security
Subcommittee on Emergency Preparedness, Response, and Recovery

A hearing entitled:
“20 years after 9/11: Examining Emergency Communications Progress and Challenges”
November 2, 2021

Chairwoman Demings, Ranking Member Cammack, and all Subcommittee Members, I would like to thank you for the opportunity to appear here today to provide an update on the First Responder Network Authority (FirstNet Authority) and the deployment of the nationwide, interoperable public safety broadband network (NPSBN, Network, or FirstNet). My name is Edward Parkinson, and I am the Executive Director of the FirstNet Authority. I am also a proud alumnus of the House Homeland Security Committee. Having worked for five years as a Professional Staff Member for the Committee, I have a great appreciation for the important work the Committee does every day.

I'd also like to recognize my colleagues on the panel, Executive Assistant Director Billy Bob Brown, Jr. with the Cybersecurity and Infrastructure Security Agency (CISA), Emergency Communications Division, and (Acting) Deputy Assistant Administrator, Antwane Johnson, with the Department of Homeland Security's Integrated Public Alert and Warning System (IPAWS). I appreciate the work that CISA and IPAWS have done to improve emergency communications in the United States, and personally appreciate Executive Assistant Director Brown for his work as the Department of Homeland Security's designee to the FirstNet Authority Board.¹

Today's hearing aims to examine emergency communications 20 years after September 11, 2001. While many challenges certainly remain, I believe that the FirstNet Authority has enhanced the Nation's emergency communications, and thus has made Americans safer and more secure.

9/11 Commission Report and Public Safety's Need for Dedicated Spectrum

FirstNet was derived from the tragedy of 9/11 – the initial idea for a nationwide public safety “communications” network is rooted in the recommendations of the 9/11 Commission Report.² In their July 2004 report, the 9/11 Commission recommended that Congress support the allocation of dedicated radio spectrum for public safety:

¹ See FirstNet Authority, FirstNet Authority Board: <https://firstnet.gov/about/leadership/billy-bob-brown-jr>.

² The 9/11 Commission Report: Final Report of the National Commission on Terrorist Attacks Upon the United States (“9/11 Commission Report”), available at <https://www.govinfo.gov/app/details/GPO-911REPORT/>.

*Recommendation: Congress should support pending legislation which provides for the expedited and increased assignment of radio spectrum for public safety purposes. . .*³

With this recommendation and the support from first responders and the public safety community across the country, the FirstNet Authority was eventually established by Congress, with this very Committee taking a lead in the development of the Middle Class Tax Relief and Job Creation Act of 2012 (P.L. 112-96) (Spectrum Act).⁴ Public safety is forever indebted to Congress for the bipartisan support that this legislation enjoyed in fulfilling the 9/11 Commission Report's recommendation and allocating 20 MHz of dedicated spectrum to public safety.

FirstNet Today and into the Future: An Operational and Expanding Network Increasingly Relied on by Public Safety

Since the passage of the Spectrum Act, the FirstNet Authority has been solely focused on our Congressionally mandated mission of deploying public safety's nationwide, interoperable broadband Network.

The initial phase of the program called on the Authority to consult with all 56 states, territories, and the District of Columbia, to ensure that public safety's voice was heard and reflected in the development of the NPSBN. Subsequently, millions of data points, encompassing multiple public safety disciplines, were included in the request for proposal. After an open and competitive process, AT&T was awarded the contract to build, operate, and maintain the Network. In 2017, every Governor—from American Samoa to Maine—chose to adopt the FirstNet model for deployment of the NPSBN.

With over 2.8 million Network connections and more than 18,500 agencies utilizing the Network, there are first responders trusting FirstNet with their lives, every day in your districts, and across the country, and that is a responsibility that we take very seriously. It has taken years of consultation, developing trust with public safety partners across various, diverse backgrounds, to reach where we are today. Unlike other communications solutions, the FirstNet Authority is in a unique position where we work solely in the interest of all of public safety—including federal, state, local, and tribal—and for the communities that strive to keep each and every person in this country safe. As the challenges that the public safety community faces evolve, we at the FirstNet Authority will strive to provide the communication tools required by public safety to protect the American public.

Following the infusion of \$7 billion from the Spectrum Act, the FirstNet Authority is a financially self-sustaining program and not reliant on appropriated funding from Congress. Through the FirstNet contract, AT&T makes annual payments for access to the FirstNet Authority's licensed Band 14 spectrum—the license for which must be renewed by the Federal Communications Commission (FCC) next year to allow the FirstNet program to continue—which funds our operating costs and additional investments in the Network for public safety.

³ See 9/11 Commission Report at 397.

⁴ See S. Rep No. 112-260, at 3 (2012), available at <https://www.congress.gov/112/crpt/srpt260/CRPT-112srpt260.pdf>.

Through our forward-looking technology Roadmap⁵ and investment program, the organization's focus continues to be consulting with public safety to prioritize Network investments for the greatest impact. Based on public safety's feedback, the FirstNet Authority's first set of Network investments expanded the fleet of deployable assets dedicated to FirstNet users and began upgrading the FirstNet Core for initial 5G capabilities.

Next February, the Government Accountability Office (GAO), as required by the Spectrum Act, will present their recommendations to Congress regarding FirstNet's 15-year sunset provision, which is slated to go into effect in 2027. I look forward to working with this Committee, and indeed all of Congress on the details of GAO's recommendations.

Looking Back: Learning from Public Safety

Looking back at that fateful day, now more than 20 years ago, there are numerous stories of public safety officials lacking the basic communication tools required to support mission success. All of us in the community know the stories of public safety officials writing notes on pieces of paper and running them around Ground Zero because all communications capabilities were down. I'm sure that many of us here today can recall instances where commercial systems were saturated due to high demand. I think back to when I was a Congressional Staffer for this very Committee back in August 2011 when the earthquake in Virginia caused the House offices to shake and for the buildings to be evacuated. Communicating with our loved ones was almost impossible on that day given that the commercial networks were overwhelmed by the demand.

While many of us on Capitol Hill lived that moment for the first time in 2011, public safety had been experiencing such scenarios since before September 11, 2001. This Committee, and indeed the whole of Congress, knew that the time had come that something needed to be done, and FirstNet was that solution.

As such, public safety asked for a network specifically built for their mission, utilizing dedicated nationwide spectrum as recommended in the 9/11 Commission's report, and Congress heard that call with the creation of FirstNet.

As the FirstNet Authority planned for the Network, we consulted public safety in all 50 states, 5 U.S. territories, the District of Columbia, and across Indian Country, as well as leveraged the expertise and experiences of our Public Safety Advisory Committee (PSAC),⁶ to ensure the Network reflected public safety's broadband communications needs. Public safety told us the Network needed to be affordable, reliable, interoperable, and custom-built for them. The Network solution needed to be designed to work in dense urban areas, where challenges come in the form of urban canyons, in-building coverage dead zones, and subway tunnels; and likewise,

⁵ See First Responder Network Authority Roadmap, https://firstnet.gov/system/tdf/FirstNet_Roadmap.pdf?file=1&type=node&id=1055.

⁶ 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 members representing 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.

the Network needed to provide coverage in rural parts of our country, where previously the business case did not exist for the commercial providers to build mobile broadband networks. That input was instrumental in creating the Network we have today and will continue to inform the Network of tomorrow.

A Truly Nationwide Network

One of the challenges in designing a nationwide network for public safety has been finding solutions that meet the many unique needs of first responders across the country. To address that challenge, in 2017, the FirstNet Authority worked with AT&T, our Nation’s Governors, the State Points of Contact, and 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 Network deployment 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 across all 56 states and territories ultimately decided to “opt-in” to the FirstNet build.

By March 2018, the FirstNet Authority and AT&T officially began the nationwide Network deployment and offering public safety services, such as priority and preemption, to FirstNet subscribers. AT&T remains ahead of schedule on the nationwide deployment and is anticipated to have almost completed the initial 5-year network buildout (originally slated for 2023) by the time the FirstNet Authority seeks renewal of its FCC license in late 2022. Since the Network is operational and serving thousands of public safety users today, we believe that it is clearly 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.

Today, we are over 3 years into the deployment of FirstNet’s dedicated 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.

Network Performance during January, 6, 2021: Why Dedicated Spectrum Matters

Earlier this year, the FirstNet Network was stress-tested by an event where priority and preemption and a dedicated Network proved critical to local first responders right here in the District. As Dr. Chris Rodriguez—Director of Washington, D.C.’s Homeland Security and Emergency Management Agency—testified before this Subcommittee last month, Washington’s local first responders utilized the FirstNet service and dedicated FirstNet deployable units in response to the January 6, 2021, attack on the U.S. Capitol building.⁷

During the response, multiple public safety agencies used FirstNet service so that first responders could communicate. Where commercial network calls failed and texts and videos could not be sent or received due to congestion caused by a surge in traffic, FirstNet worked. As reported by *PC Magazine*:

⁷ See: <https://homeland.house.gov/imo/media/doc/2021-10-7-EPRR-HRG-Testimony-Rodriguez.pdf>.

*As mobs stormed the US Capitol, plenty of people nearby reported their phones having no signal or non-functional connections. . . The cops' phones all keep working because they're on a special part of the AT&T network called FirstNet, which gives priority to first responders.*⁸

Supporting Public Safety During the Pandemic

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. Healthcare workers and responders are using FirstNet services at COVID-19 testing centers, field hospitals, and vaccination distribution sites across the country. We are seeing an increase in the use of data to confront the pandemic at nearly double 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 telecommunicators to take calls and dispatch operations from their homes and remote locations. This enables agencies 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 (ECC) 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. Palm Beach County, Florida, 9-1-1 call centers also have depended on FirstNet to enable remote dispatching and call-taking. Similarly, 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.

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.

FirstNet also has improved interoperability on the Network through supporting 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 capabilities 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

⁸ See: <https://www.pcmag.com/opinions/why-cell-networks-cut-out-at-the-us-capitol-riot>.

practices from the response to COVID-19 so that agencies and practitioners can learn from each other and further understand how the Network can support their communications needs.

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, wildfires across California and the west, and during hurricane season along the east coast and in the gulf. Prior to major storms, 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 storm systems, the ROG team coordinated with state emergency operations centers, local agencies, and Federal Emergency Management Agency Urban Search and Rescue teams to deploy Satellite Cell on Light Trucks (SatCOLTs), and generators to impacted areas to support public safety communications efforts on the ground.

FirstNet Investment and Innovation

The FirstNet Authority will continue to deliver for public safety and drive innovation. Since the signing of the 25-year contract with AT&T in March 2017, we have made substantial progress in buildout, innovation, and investments back into the Network for public safety.

Here are recent innovations and investments to support our Nation's first responders:

- **Z-Axis:** One of the key capabilities that public safety requested during the planning phase of FirstNet was the ability to determine the vertical location of personnel within a building, also known as Z-axis. Knowing what floor of a building a firefighter is on is critical information to have during an emergency. This technological challenge that public safety identified for FirstNet, and that we worked with AT&T on to deliver a solution, is now a reality. The FirstNet Authority is proud to say that this service is now available and being rolled out on the Network in markets across the country.
- **FirstNet PTT:** The FirstNet Authority has been working with global standards bodies for years to ensure public safety achieves a PTT solution that supports mission-critical services capabilities. FirstNet was the first to market with a nationwide, mission-critical, standards-based PTT solution. Earlier this year, the Network began launching solutions for LTE interoperability with Land-Mobile Radio (LMR) systems. FirstNet now gives public safety agencies using traditional two-way radios access to communicate seamlessly with smartphone users on FirstNet PTT. These gateways act as a technological bridge between LMR technology and 4G LTE smart phones.
- **5G Investments for Public Safety:** The FirstNet Authority recently took the first step to begin evolving the FirstNet Core to prepare for 5G technology—ensuring that FirstNet continues to evolve with industry technology enhancements. AT&T has been upgrading FirstNet's Core infrastructure to enable the higher speeds and greater capabilities of 5G technology for FirstNet subscribers so that first responders have access to the latest in technology innovations. This initial investment to support 5G technology is already in the hands of first responders today, with deployments across the country occurring as I speak.

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 full 5G will help improve public safety operations.

- **FirstNet Deployable Program:** The FirstNet Authority recently also took steps to expand the fleet of dedicated FirstNet deployables to enhance Network coverage and capacity for public safety during emergencies and events.⁹ As of June 2021, the FirstNet fleet has 100+ deployables located at sites around the country and U.S. territories that can be sent to emergencies in a matter of hours. The FirstNet-dedicated fleet includes:
 - More than 90 ground-based SatCOLTs and Compact Rapid Deployables (CRDs) – SatCOLTs are vehicles with mobile cell sites that connect via satellite and do not rely on commercial power supply, while CRDs are smaller trailer hitch mounted portable cell sites that can be brought into an area to provide emergency or enhanced coverage.
 - Three Command and Communications Vehicles for emergency deployments, planned events, and training exercises with a space for two communications personnel with multiple monitors, televisions, and charging stations, as well as a large exterior screen and speakers for briefings. These vehicles provide connectivity via LTE (Band 14) and/or Wi-Fi and are able to leverage a variety of backhaul options to connect to the NPSBN. These are also equipped with a generator that can run for multiple days before refueling and includes a lavatory, microwave, mini refrigerator, and sleeping bunk.
 - Three airborne Flying Cell on Wings—tethered drones with larger propellers, increased payload capacity, and specialized LTE radios and power systems. Flying Cell on Wings can withstand light rain and wind speeds up to 25 miles per hour and reach heights of up to 400 feet, making them ideal for wildfires, mountain rescues, and other missions where terrain previously made it difficult to maintain connectivity.
 - One aerostat—a 55-foot blimp that gives wide-scale portable connectivity over an extended period of time. The aerostat can stay in air for up to 2 weeks and reach heights up to 1,000 feet, making it ideal for large disaster areas like a hurricane’s aftermath when sustained connectivity over a broad geographic area is required for response and recovery.
- **High-Powered User Equipment (HPUE):** FCC rules allow for higher-powered devices to access FirstNet on our dedicated Band 14 spectrum. To leverage this, AT&T recently launched a solution called MegaRange technology.¹⁰ Providing first responders with HPUE can extend the range of coverage where Band 14 spectrum has been deployed significantly. This can be particularly beneficial for public safety users in rural or maritime areas to extend the capabilities of the Network.

⁹ See FirstNet Authority *FirstNet Authority Board Approves Network Investments for 5G, On-Demand Coverage* (rel. June 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>.

¹⁰ See: https://about.att.com/newsroom/2021/fn_megarange.html.

The FirstNet Authority's Roadmap drives all of these efforts, by ensuring that the voice of public safety is heard and sets a path forward for advancing the capabilities of their Network to meet the evolving needs of first responders. The Authority looks forward to continuing to brief the Committee on our most recent Network advancements and our future plans.

Conclusion

In Chairwoman Demings' opening statement in the Subcommittee's October 7, 2021, hearing with emergency managers and first responders on this very topic, she—along with other Members—cited the many challenges that still face the emergency communications space. In particular, she noted her first-hand experience as a law enforcement practitioner in the field, serving as Orlando Police Department's Captain of the division stationed at the Orlando International Airport during 9/11. The FirstNet Authority will continue to work with you, Madam Chair, and other leaders in Congress to identify challenges in emergency communications that persist and address them head on.

The FirstNet Authority will continue to work with public safety stakeholders, AT&T, and our federal, state, local, and tribal government partners to build the best Network for public safety, and we are proud of the progress we have made to date. Feedback from our public safety stakeholders, on successes and areas for improvement, is critical to our program. Indeed, FirstNet's robust consultation and feedback from public safety has helped us get to where we are today.

We are proud to serve America's first responders in all 50 states, 5 territories, and the District of Columbia. It is amazing to see public safety in rural, suburban, and urban communities across the country—including tribal lands—integrating FirstNet into their daily and emergency operations. FirstNet's dedicated connection is making a difference and helping them keep safe and protect the citizens they serve. I ask that this Subcommittee continue to support the FirstNet Authority—particularly with our spectrum license renewal and reauthorization 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. 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 NPSBN, and it is up to us to continue to strive to achieve their vision.

Thank you, and I look forward to your questions.