

# Advancing Public Safety Communications Through Innovation and Insight

FISCAL YEAR 2022 ANNUAL REPORT TO CONGRESS

FEBRUARY 2023

Submitted to the United States Senate Committee on Commerce, Science, and Transportation  
and the United States House of Representatives Committee on Energy and Commerce





*With the help of FirstNet, paramedics in Jackman, Maine, can conduct telehealth sessions and treat residents at the local health clinic or in their homes, rather than transporting patients to a hospital over an hour away.*



This Annual Report to Congress is issued pursuant to Section 6210 of Public Law 112-96 and reflects the operations, activities, financial condition, and accomplishments of the First Responder Network Authority (FirstNet Authority)<sup>1</sup> for fiscal year 2022.<sup>2</sup>

<sup>1</sup> Public Law 112-96 established the FirstNet Authority as an independent authority within the United States Department of Commerce's National Telecommunications and Information Administration (NTIA).

<sup>2</sup> Fiscal year 2022 is the period from October 1, 2021, through September 30, 2022.

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## LETTER FROM BOARD CHAIR STEPHEN BENJAMIN AND ACTING EXECUTIVE DIRECTOR LISA CASIAS

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We are proud to report that the First Responder Network Authority (FirstNet Authority) continued to make tangible progress in Fiscal Year (FY) 2022 to ensure Congress' vision of a nationwide broadband network for our first responders.

We remain focused on the mission that Congress gave the FirstNet Authority to ensure the building, deployment, operation, maintenance, and continued evolution of the nationwide public safety broadband network (NPSBN), so that our nation's first responders have cutting-edge communications solutions and capabilities.

Seeking public safety's feedback on the program remains a cornerstone of our work, and in FY 2022, this mission drove 1,850 FirstNet Authority engagements with local, state, tribal, and federal public safety stakeholders. We are honored that thousands of public safety agencies across the country have chosen to subscribe to the FirstNet service. Network connection growth continued by over 30 percent this fiscal year, from 2.8 million connections in FY 2021 to 3.7 million in FY 2022, with more than 4,000 new agencies onboarding resulting in nearly 22,000 public safety agencies and organizations using the network nationwide.

The FirstNet network service, applications, and device offerings for first responders continued to grow this year, including:

- One hundred additional devices approved and certified for use on the FirstNet network during FY 2022, resulting in more than 450 FirstNet Ready devices available for first responder use.
- Over 200 applications available in the FirstNet App Catalog, a 10 percent increase from FY 2021.
- Increasing the FirstNet deployable fleet from 100 to 150 assets, which includes Flying Cell on Wings (COWs), Communication Vehicles, Satellite Cell on Light Trucks (SatCOLTs), Compact Rapid Deployables (CRDs), and an aerostat. These assets, along with other FirstNet solutions, were used to support public safety communications in over 950 events during FY 2022.

The FirstNet Authority pressed forward with impactful innovations and investments in the network throughout FY 2022. In May 2022, the FirstNet Authority Board approved an investment to address one of public safety's top critical communication priorities—in-building coverage. The investment aims to leverage small cell technology to support the expansion of FirstNet network coverage where public safety operates in-building, such as police headquarters, fire stations, emergency communications centers, or emergency operations centers.





The FirstNet Authority expanded our focus on innovation and collaboration with the public safety community by partnering with the National Institute of Standards and Technology (NIST) Public Safety Communications Research (PSCR) Division. Together, we launched the Public Safety Immersive Test Center (PSITC) in Boulder, Colorado, in May 2022 to spur the development and deployment of technologies critical to effective public safety response. The facility is designed to help answer key research questions around the future of user interfaces and location services for public safety training and operations.

Consistent with our enabling statute and critical to the continuance of the program, on August 22, 2022, the FirstNet Authority submitted our application and public interest statement to the Federal Communications Commission (FCC, the Commission) for the renewal of our Band 14 spectrum license. The filing of this application ensures the continuing operation of the NPSBN during pendency of the Commission's review.

Sincerely,



**STEPHEN BENJAMIN**  
Board Chair



**LISA CASIAS**  
Acting Executive Director

Just as we look forward to continuing our work with the FCC, we plan to continue working with Congress to ensure FirstNet's future operations. In February 2022, the Government Accountability Office (GAO) issued a report on the program's progress and its value to our nation's first responders.

The report highlighted that Congressional action is required to ensure network continuity prior to the FirstNet Authority's 2027 sunset date. Our goal is to work with Congress to address the FirstNet Authority's reauthorization as soon as possible, so that first responders will have the assurance that their network will be available for years to come.

The work of our first responders does not end, and neither does our commitment to them. We will continue to work closely with public safety to extend and enhance the NPSBN. Through our public-private partnership with AT&T and collaboration with the public safety community at the local, state, tribal, and federal levels, the FirstNet Authority is prepared to continue leading the transformation of public safety communications.





*FirstNet improved public safety communications in St. Augustine, Florida, especially since first responders experienced dropped calls and spotty service before switching. FirstNet allows all city officials—from first responders to city management to public works—to work together.*



# EXECUTIVE SUMMARY

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The FirstNet Authority is an independent entity within the Department of Commerce's National Telecommunications and Information Administration (NTIA) tasked by Congress through the Middle Class Tax Relief and Job Creation Act of 2012 (2012 Act, Spectrum Act) to ensure the establishment and continuing operation, maintenance, and evolution of a nationwide, interoperable public safety broadband network. In 2017, following an open, transparent, and competitive procurement process, the FirstNet Authority awarded a 25-year contract to AT&T to build, operate, and maintain the nationwide public safety broadband network (NPSBN)—also referred to as “the FirstNet network,” “FirstNet,” or “the network.”

AT&T commenced a 5-year initial deployment of Band 14 spectrum and the radio access network (RAN) for FirstNet in March 2018. The FirstNet Authority continues to make significant progress toward deploying Congress' vision for the NPSBN. Through its public-private partnership with AT&T, the FirstNet Authority continues to strengthen the network's capabilities to meet the needs of the nation's first responders.

In FY 2022, the FirstNet Authority continued its leadership in public safety communications through strategic investments and innovative partnerships with other federal entities and the first responder community. The FirstNet Authority can report to Congress that the NPSBN is on schedule to complete its initial buildout in March 2023 and is currently meeting deployment targets in both rural and non-rural areas. The rapid deployment of the network and extensive engagement programs have resulted in current use by more than 21,800 public safety agencies and organizations across all 50 states, 5 territories, and the District of Columbia, for a total of over 3.7 million connections on the network.<sup>1</sup>

FY 2018: 2,500 agencies and 150,000 connections

FY 2019: 9,000 agencies and 750,000 connections

FY 2020: 13,000 agencies and 1.5 million connections

FY 2021: 18,500 agencies and 2.8 million connections

FY 2022: 21,800 agencies and 3.7 million connections<sup>2</sup>

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<sup>1</sup> Press Release, *FirstNet Expands 5G and In-Building Connectivity for First Responders*, released September 7, 2022, available at [www.firstnet.gov/newsroom/press-releases/firstnet-expands-5g-and-building-connectivity-first-responders](https://www.firstnet.gov/newsroom/press-releases/firstnet-expands-5g-and-building-connectivity-first-responders).

<sup>2</sup> Id.

<sup>3</sup> The FirstNet Authority Roadmap is designed to guide the growth, evolution, and advancement of FirstNet. Developed with input from public safety, industry, government, and the network contractor, AT&T, the Roadmap provides a view of public safety's operational needs and technology trends for mobile broadband communications over the next five years. The Roadmap is available at [firstnet.gov/network/roadmap](https://firstnet.gov/network/roadmap).

To best serve public safety personnel, the FirstNet Authority places emphasis on outreach and engagement with first responders around the nation. In FY 2022, the FirstNet Authority conducted 1,850 engagements with public safety stakeholders in all 50 states, 5 territories, and the District of Columbia, reaching more than 49,000 stakeholders. The FirstNet Authority uses these engagements and the feedback gained from first responders to update its Roadmap,<sup>3</sup> originally released in FY 2019, which guides the evolution of the NPSBN.

The FirstNet Authority's outreach directly to first responders serves as an opportunity to understand their needs and priorities for the network. It also provides the opportunity to learn about their user experiences to supplement technical analysis of the network as part of program oversight. These engagements also provide users the opportunity to work with the FirstNet Authority to help resolve any issues with the network and to continue to improve the public safety user experience.

## Notable Successes

Several notable successes were achieved by the end of FY 2022, including:

**FirstNet Response Operations:** FirstNet made a significant impact by extending service in rural and underserved areas around the country and in emergency situations, triaging nearly 1,200 requests for assistance and providing over 950 FirstNet solutions during emergency situations.

**On-time deployment:** The network remains on schedule for the initial five-year buildout, which is scheduled for completion in March 2023.

**Engagement:** To best serve public safety, the FirstNet Authority conducted 1,850 engagements with over 49,000 public safety stakeholders to learn about their experiences using the network, their needs, and recommendations.

**Connections:** There has been significant adoption of the FirstNet service by public safety. There were approximately 21,800 public safety agencies and organizations subscribed with over 3.7 million device connections.

**Applications:** There are over 200 FirstNet apps available in the app catalog.

**Devices:** First responders can choose from over 450 devices—from regular commercial phones to specialized and extremely rugged equipment for medical or search and rescue environments.

**Deployables:** FirstNet has expanded the fleet of deployables from 100 to over 150, including more than 100 Satellite Cell on Light Trucks (SatCOLTs), vehicles with mobile cell sites, and compact rapid deployables (CRDs), which are small portable cell sites.

**Innovation:** The FirstNet Authority partnered with NIST's Public Safety Communications Research (PSCR) Division to launch the Public Safety Immersive Test Center in Boulder, Colorado, to demonstrate new technology to help first responders effectively and efficiently respond to emergencies.

**Investment:** In May 2022, the FirstNet Authority Board approved a multi-million-dollar investment to address in-building coverage, one of public safety's top critical communication priorities. The investment aims to leverage small cell technology to enhance FirstNet coverage.

**Band 14 Spectrum License:** In August 2022, the FirstNet Authority applied to renew its license for the Band 14 spectrum with the FCC.

**Reauthorization:** In February 2022, the GAO issued a report on the program's progress and recommended that Congress needs to take action to address the FirstNet Authority's 2027 sunset date.

**Financial Sustainability:** The FirstNet Authority continues to effectively manage its finances to remain self-sustaining, as envisioned by Congress.



Figure 1: Agencies 2018-2022

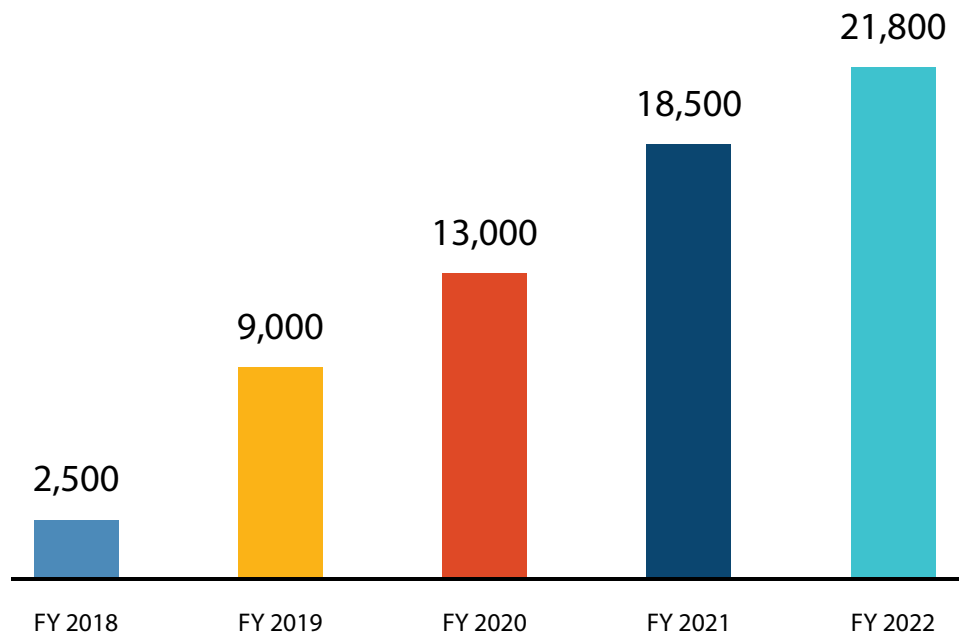
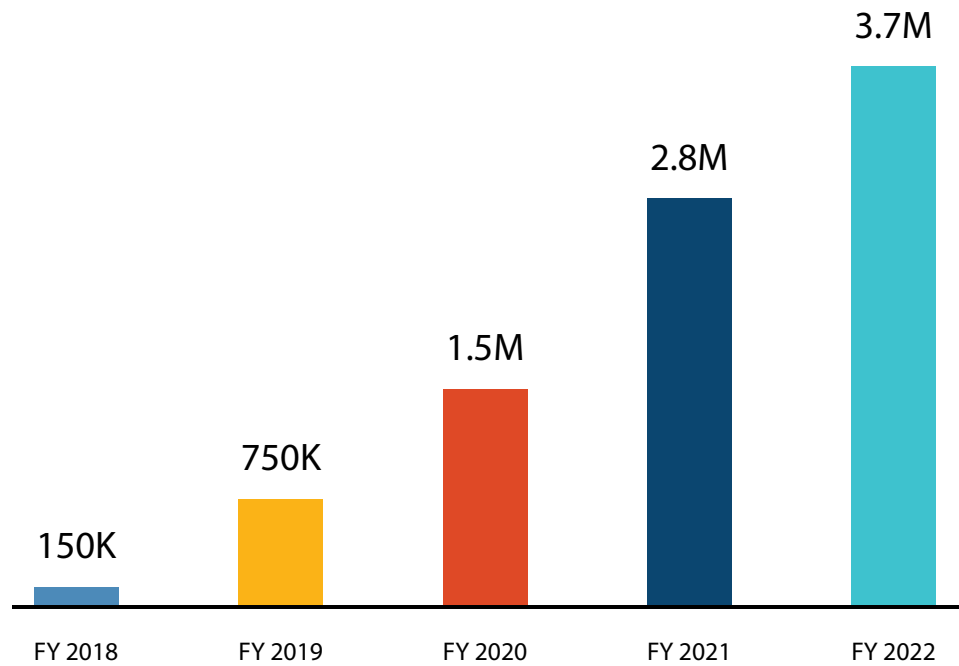


Figure 2: Connections 2018-2022







*Priority service enables first responders to access network resources during times of high network congestion. During the Marshall Fire in Colorado, some responders struggled to find a signal on commercial networks, but those on FirstNet had the connectivity needed to share critical information.*





# FIRSTNET IN ACTION: INNOVATING PUBLIC SAFETY COMMUNICATIONS

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FirstNet is the only nationwide public safety communications platform built with and for America's first responders.

Through its public-private partnership, the FirstNet Authority and AT&T continually gather feedback from public safety to develop and enhance the network. FirstNet is bringing public safety a much-needed technology upgrade to help them connect to the critical information they need—whether supporting their everyday operations or responding to an emergency.

The following are several success stories featuring the many ways first responders are using FirstNet to help them save lives and connect their communities.

## Driving Innovation for Hurricane Planning, Response, and Recovery

September 2022 brought large and destructive hurricanes to the southeastern areas of the country. Hurricanes Fiona and Ian were Category 4 storms that hit primarily Puerto Rico and Florida, respectively, each with peak sustained winds over 130 miles per hour, causing significant damage, power outages, and disruption in broadband network coverage. From support offered by the FirstNet Authority to ensuring the latest innovation in solutions from AT&T, the public-private partnership offered advanced technology to make disaster planning, response, and recovery from these hurricanes easier.

AT&T's FirstNet Response Operations Group (ROG), which operates the fleet of deployables, coordinated with local emergency personnel for both storms and provided valuable services on the ground to ensure the FirstNet network remained stable and secure for first responders. FirstNet subscribers also benefited from new public safety-centric innovations designed to keep them connected and communicating.

For Hurricane Fiona, preparation was key to ensuring the network experienced minimal outages. The hurricane caused massive power outages throughout Puerto Rico. Before the start of hurricane season, the FirstNet Authority supported Puerto Rican officials in consideration of additional safeguards to protect the island from network outages related to power. Within 48 hours of Hurricane Fiona making landfall, the network in Puerto Rico had 83 percent of its cell sites still operational, thanks to the hundreds of generators across the network. In Puerto Rico, the FirstNet ROG received

10 requests for support for Hurricane Fiona. The network in the U.S. Virgin Islands was fully operational throughout the entire storm.

Hurricane Ian hit Florida's southwest coast, bringing high winds and storm surges to the Florida Keys, southwest and central Florida, and coastal cities in North and South Carolina. Hurricane Ian was the first emergency where the FirstNet ROG received more than 100 requests for support from counties throughout the region. This demonstrates the far-reaching effects of the Category 4 storm and the ever-increasing demand of the FirstNet Response Operations program and dedicated fleet of deployables.

From preparing for landfall to innovating to meet the post-storm needs of the affected communities, FirstNet successfully helped responders navigate preparedness, response, and recovery efforts. In advance of the storm, the FirstNet ROG staged SatCOLTs, CRDs, and a response communications vehicle with additional equipment to forward operation locations. In response to the service requests, the FirstNet ROG deployed critical network solutions, including dozens of SatCOLTs, CRDs, emergency communications packages, mobile broadband kits, and indoor wireless repeaters.

In the aftermath, assets from the dedicated FirstNet fleet supported first responders in affected areas, including Charlotte, Collier, Hardee, Hendry, Lee, Manatee, Orange, and Sarasota counties in Florida, as well as Charleston and Georgetown counties in South Carolina. Making use of new innovations, the FirstNet ROG used an amphibious vehicle to deliver a CRD to Sanibel Island when Hurricane Ian washed away several portions of the Sanibel Causeway. A National Guard helicopter also helped to deliver a CRD to Pine Island, which provided immediate connectivity when other networks were down.

## Partnering with Tribal Leaders to Enhance Coverage

The Navajo Nation spans across 27,000 square miles, extending into some of the most rugged lands throughout Arizona, Colorado, New Mexico, and Utah. Too often these remote and rural lands act as a barrier to extending reliable and affordable communication service to tribal residents and responders. Bringing broadband to tribal responders continues to be a top priority for the FirstNet Authority. Since the network launched in 2018, new FirstNet infrastructure

has been built for tribal first responders and the expanded FirstNet fleet of deployable assets has brought new coverage solutions to Indian Country.

When the FirstNet Authority Board visited the Navajo Nation in February 2022, it was an opportunity to learn more about the area's current communications challenges and how tribal responders are using FirstNet to support operations. FirstNet Authority Board members visited the community of Tohajiilee, New Mexico, for a demonstration of the FirstNet deployable asset program. FirstNet deployables have been crucial in expanding coverage and capacity for tribal responders throughout the pandemic, during wildfires, and at large-scale events.

With the FirstNet network extending its Band 14 service across almost 100 cell sites on the Navajo Nation, tribal responders are gaining access to the network's suite of advanced tools, services, and capabilities. From FirstNet MegaRange, a high-power user equipment solution that connects responders in remote or rural areas, to FirstNet Push-To-Talk (PTT) services that provide mission-critical video streaming and PTT calling over Wi-Fi, tribal responders now have even more options available to help protect their communities.

"One of the main benefits of FirstNet is Band 14 and its ability to provide direct service to public safety, especially in the event of an incident," said Christopher Becenti, former Executive Director for the Navajo Nation Telecommunications Regulatory Commission. "We are definitely looking forward to the FirstNet deployment transforming our ability to start utilizing newer technologies in public safety vehicles, such as the in-vehicle Internet solutions, which can connect dash cams. We're also looking at trying to integrate and upgrade the analog to P25 [Project 25] network."

## First Responder Communication Proves Critical During Earthquake Response Exercise

Earthquakes rarely come with much warning. In California, the state most often subjected to damaging earthquakes, that threat is always a possibility. First responders and the larger public safety community need to be prepared to face any disaster, no matter the scale. In April 2022, over 20 local and state public agencies and 700 attendees gathered in Sonoma to participate in a full-scale earthquake response exercise hosted by the California National Guard and California's Office of Emergency Services (CalOES) Fire Rescue Branch.

"The purpose of this training exercise was to simulate the circumstances that would require agencies at the local, regional, state and federal level, NGOs [non-governmental organizations] and other members of the public safety community," said Phil White, Lead Exercise Planner, Sentinel Response 2022. "A key component of creating a unity across such varied groups is communications. By providing participants with FirstNet-enabled devices, the agencies were able to experience the importance of seamless connections."

"One of our biggest issues during disasters is always coverage. California is very large and can be both rural and mountainous. Having that reliable connection can be game changing," said Chief Brian Marshall, CalOES State Fire and Rescue Branch. "With FirstNet, we are able to utilize today's technology to keep in touch with our firefighters. No matter where we are, time of day, whatever incident, we have communications, which is absolutely imperative to our team."

The exercise was supported by AT&T's FirstNet ROG, and the FirstNet Authority also attended the event to collaborate with local, state, and federal agencies. FirstNet Authority staff routinely attends exercises and other field events to better understand public safety communication requirements and provide education about how FirstNet can support operations.

## Supporting Marshall Fire Responders with Priority Service and On-Demand Coverage

Just before the start of 2022, a massive fire began in Boulder County, Colorado, covering more than 6,000 acres of densely populated land. In what would become the state's most destructive fire in history, the Marshall Fire left thousands of residents without homes. Firefighters from across Colorado and Wyoming responded in force to calm the blaze, which was being fueled by winds with Category 2 hurricane-like speeds.

To support critical communication for responders, members of the FirstNet Authority and AT&T's FirstNet team were on site supporting FirstNet network communications. Two key FirstNet features were important to the fire response and recovery efforts—priority and a versatile, mobile fleet of network assets deployed for emergency response.

Even with significant fire damage to local fiber infrastructure, responders using FirstNet were able to connect to the network thanks to the dedicated network deployables on site. The mobile satellite units, which included multiple SatCOLTs, a Communications Vehicle, and CRDs, were quickly



deployed to provide support to responding agencies. The SatCOLTs supplied temporary, on-demand broadband coverage, allowing FirstNet users to access a steady signal in the field at various response and search areas. The Communications Vehicle, one of the FirstNet Authority's first network investments, was transformed into an additional SatCOLT and operational base for incident command staff and the ROG.

Priority service enables first responders to access network resources during times of high network congestion. During the Marshall Fire, some responders struggled to find a signal on commercial networks, but those on FirstNet had the connectivity needed to share critical information. In addition, AT&T supplied a cache of FirstNet handheld devices to help state and local responders communicate and coordinate during response and recovery efforts.

## Los Angeles Police Department Takes a Critical Step in Safety Innovation

In July 2022, the Los Angeles Police Department (LAPD) expanded its use of the FirstNet network. With FirstNet, the LAPD is equipping officers with new tools, expanded capabilities, and reliable access to critical information while in the field, allowing the department to better serve those who live, work, and visit Los Angeles. Allowing first responders to communicate with one another easily and quickly during everyday situations, big events, or emergencies is integral to solving the communications challenges public safety has experienced in the past.

After choosing FirstNet during the pandemic to help modernize the department's communication technology, the LAPD is further investing in officer and community safety. Previously having used pooled devices for its officers, the LAPD has committed to providing updated FirstNet-enabled, department-issued iPhone 13 Pro Max Devices to each officer. With FirstNet in hand, the department is better equipped to coordinate communications and create more opportunities for technological innovation.

The LAPD's patrol vehicles also are outfitted with Cradlepoint routers that will provide network connectivity for officers in the field, giving the department a path to 5G and further advances in the field. "Our officers' main job will always be to service our community," said Michel Moore, Chief of Police, LAPD. "With FirstNet, we are taking the next step in fulfilling our vision of the future of policework. Taking advantage of the elegantly designed apps and reliable and secure connection, officers will be able to do their work on their phones or in the cars, instead of at the station, allowing more time to help those in the community and creating a safer environment."

## Supporting the U.S. Army

The Army uses FirstNet to support firefighters, law enforcement and security personnel at 72 Army installations across the U.S. and Puerto Rico, providing the Army public safety personnel access to an unmatched level of support as well as mission-focused tools and technology significantly enhancing critical communication needs. During FY 2022, the Department of the Army improved its FirstNet infrastructure and coverage, resulting in 43 Cloud Radio Access Network (CRAN) nodes and 15 Macro cell towers going ON-AIR on Army installations.

FirstNet's reliable, highly secure, and interoperable platform continually provides the Army's first responders critical 21st century tools ensuring rapid transmission of more information and the ability to make faster and better decisions with enhanced efficiency. During FY 2022, the Army piloted several communications technology exercises to test FirstNet's practical implications. The Fort Bragg Intrepid Response Pilot Initiative provided valuable feedback and validation of the Response for FirstNet integration with FirstNet devices, to include critical Common Operating Pictures during several real-world emergency responses. The Joint Agency Critical Incident Communications (JACIC) training exercise, conducted in North Carolina at a strategic federal port, tested FirstNet capabilities during a simulated natural disaster.

Installation Management Command, with the FirstNet Authority, coordinated the inclusion of FirstNet into the Army Automated Installation Entry (AIE) program specifications requirements. At the time of this report, AIE was utilizing FirstNet at eight different sites within the United States.

## Expanding Public Safety's Communications Options in New York

When the New York Metropolitan Transportation Authority Police Department (MTAPD) was instructed to add 500 additional officers to the subway system in November 2021, its leadership knew they would have to extend the Land Mobile Radio (LMR) system further underground. The Department's Metropolitan Regional Radio System selected radios that could leverage both the existing LMR system and LTE coverage from FirstNet. Augmenting LMR with FirstNet helped to extend the footprint of the radio system at a cost savings for the Department.

The radios have several channels that officers can switch between—one is the LMR system and others connect the officer to the adjoining LTE. Officers can communicate on the radio, and the conversation travels back to dispatchers seamlessly over LMR or LTE without actions from the user.



*Facing challenges in communicating on the water and throughout the town as the population swells and ebbs, the Hyannis Fire Department turned to FirstNet to connect personnel. FirstNet supports the department through hotspots, agency cell phones, tablets, and wireless routers on fire apparatus.*



# GROWING FIRST RESPONDER COMMUNICATIONS TECHNOLOGY

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In addition to the network successes described above, the FirstNet Authority had several notable achievements in furthering the device, application, and mission critical services ecosystem for public safety in FY 2022.

## Device Ecosystem

The FirstNet Device Ecosystem continued to evolve during the past year to provide public safety with an ever-expanding list of devices for use on FirstNet. The number of devices on the NIST list of approved devices for FirstNet grew from about 350 at the end of FY 2021 to over 450 at the end of FY 2022. The availability of FirstNet Ready (Band 14-enabled) devices from a wide range of leading manufacturers represents a significant accomplishment that benefits FirstNet users.

## Application Ecosystem

FY 2022 continued to be another year of growth for the FirstNet App Ecosystem, with the number of FirstNet Verified apps growing to more than 200 from 150 in FY 2021. The FirstNet App Catalog only lists apps that have undergone a rigorous vetting and approval process. The apps certification process continues to evolve and be updated to incorporate scanning for new threats and concerns found in apps.

The FirstNet App Ecosystem supports areas of public safety operations including critical infrastructure, dispatch, EMS, fire and rescue, wellness/safety, hazardous materials, and law enforcement. Furthermore, apps in the FirstNet App Catalog are identified by categories to address public safety needs in the areas of cloud solutions, CAD solutions, cybersecurity and fraud detection, device security, public safety community, secure connections, situational awareness and detection, video surveillance, public safety communication tools, in-building coverage, mapping, and forensic intelligence.

## Mission Ready Solutions

Throughout 2022, FirstNet users continued to benefit from access to standards-based mission-critical solutions designed specifically to meet their needs. These solutions enable first responders to reliably communicate regardless

of factors such as location, jurisdiction, discipline, or device. With AT&T's launch of FirstNet Rapid Response, public safety agencies now have two choices for their mission-critical PTT solution. FirstNet Rapid Response provides voice, video, and data connectivity to public safety, facilitating greater situational awareness and more informed emergency response; it also provides enhanced LMR interoperability capabilities to help modernize responder communications. Additionally, AT&T launched enhancements to FirstNet PTT, which was the first-ever nationwide mission-critical, standards-based PTT solution to launch in the United States. FirstNet PTT now supports mission-critical video streaming, PTT calling over Wi-Fi, and enhanced mutual aid features for easy cooperation with other agencies.

Establishing the in-building location of first responders in emergency situations is a critical tool for public safety. Using vertical-location technology, also known as z-axis, enables command centers to identify the exact in-building location of first responders in the field. The z-axis can be used to pinpoint a first responder's exact location, even in tall buildings, and this technology is rapidly becoming a key component of public safety communications. During FY 2022, AT&T enhanced Z-Axis for FirstNet to give public safety an "altimeter view" or vertical visualization that shows the relative positions of first responders and incidents, as well as the ability to mark important areas within the building.

Following these enhancements, the FirstNet Authority partnered with the Major County Sheriffs of America (MCSA) to conduct a technology trial of FirstNet's z-axis capabilities and FirstNet PTT. Five agencies from MCSA participated in the trial, with teams of up to 10 people that included deputies, supervisors, administrative staff, and court security. The trial was employed in everyday operations and specific scenarios and demonstrated that FirstNet's z-axis capability provides critical awareness of an officer's location. Managers frequently used it to track personnel out of their vehicles and in buildings. In addition, FirstNet PTT ensured real-time information exchange for trial participants. Personnel were able to report their location for better situational awareness.





*As part of the FirstNet Authority's in-building investment, agencies can install up to 50 Cell Booster Pro devices across multiple locations—at no cost to the agency—to boost FirstNet inside the buildings where they work if there's insufficient coverage.*

# FIRSTNET AUTHORITY ROADMAP AND INVESTMENTS

## The Roadmap

Originally published in August 2019 and refreshed in 2020, the Roadmap reflects stakeholder input and focus areas for the FirstNet Authority in evolving and advancing the FirstNet network. To ensure the network evolves with new technologies, the FirstNet Authority also conducted targeted industry engagements and market research to capture industry trends, drivers, and advancements. Since 2019, the FirstNet Authority has participated in over 3,000 engagements with first responders and hundreds of discussions with industry and has executed substantive engagement-driven polling and data collection to gain feedback and inform the Roadmap. The Roadmap continues to be the FirstNet Authority's guide in applying its resources—investments, programs, and activities—to the most promising and impactful priorities for advancing FirstNet, both in the short and long term.

During FY 2022, the FirstNet Authority conducted a series of in-depth analysis and targeted research to hone the Roadmap focus areas further. These efforts focused on the current and future impact of emerging communications technology on present-day challenges with public safety operations:

- Comprehensive review of public safety feedback regarding in-building coverage needs, to support the FirstNet Authority's investment decisions.
- Focus groups and field trials of technology that aim to improve public safety geo-location.
- Survey and focus group investigations regarding the optimization of mission critical services, including mission critical PTT, voice, video, and data for first responders over LTE.
- Open forum discussions with first responders to identify the features and functionalities they require for next generation public safety devices.

Through these efforts, the FirstNet Authority learned that first responders prioritize enhancements to the communication technologies they use routinely in their operations. Regarding the FirstNet network, first responders' near-term priorities include coverage improvement, mission-critical services, and an enhanced user experience that allows for the integration and sharing of key data and information. These and other fact-finding efforts allowed the FirstNet Authority to amplify the collective feedback of public

safety professionals in its strategic planning, operational engagement, and reinvestment efforts.

## Investments

The FirstNet Authority is committed to being a responsible steward of its investment resources and ensuring transparency with respect to how those resources will be used to advance the FirstNet network in a way that helps public safety perform their mission. The 2012 Act requires the FirstNet Authority to reinvest funds back into the FirstNet network. The innovative public-private partnership that the FirstNet Authority entered with AT&T in 2017 provides \$18 billion in fees from AT&T over the 25-year duration of the contract to evolve the NPSBN to meet the needs of public safety.

The FirstNet Authority has developed a structured, transparent, and rigorous investment process that drives disciplined investment of the FirstNet network's financial resources. The investments align with the FirstNet Authority's Roadmap, which outlines the key priorities and activities for advancing and evolving the network beyond current contractual commitments. Additionally, to guide the FirstNet Authority's investments, the FirstNet Authority Board adopted Resolution 98, "The FirstNet Authority's Investment Principles," which states that investments must:

- Be derived from and benefit public safety
- Maintain and advance the foundation of the FirstNet network
- Consider a balanced approach and provide value to public safety
- Be fiscally responsible and reflect strong financial management

Public safety is at the center of the FirstNet Authority's investment process, which is guided by the law, the Authority's investment principles, and the priorities that public safety outlined in the FirstNet Authority Roadmap.

In May 2022, the FirstNet Authority Board approved an investment to increase coverage where public safety agencies operate indoors, such as police headquarters, fire stations, emergency communications centers, and other critical sites. This service will enable stronger in-building access to the network, including mission critical services

and priority and preemption. Users have the capability to deploy small-cell technology where and when they need it to enhance Band 14 coverage for in-building locations where they operate, including temporary field locations.

In addition, the FirstNet Authority Board previously approved two major investments to the FirstNet network:

**Initial upgrades to enable 5G network capabilities (FY 2020, FY 2021, and FY 2022).** Evolving the network to 5G is a multi-phase effort, beginning with upgrades to the dedicated FirstNet network core. The physically separate, redundant, and highly secure network core is foundational to FirstNet. It acts as the nervous system of the network, separates all public safety traffic from non-public safety user traffic, and enables differentiated services for network users. In the future, 5G is expected to drive major increases in the quantity and types of connected devices for FirstNet users.

**Expanding the fleet of FirstNet deployables to enhance network coverage and capacity for public safety during emergencies and events (FY 2020).** Public safety turns to FirstNet deployables for additional support in hundreds of operations around the nation. These assets supported public safety communications during the COVID-19 response; at large events; during major emergencies; and throughout responses to disasters, including wildfires, tornados, and hurricanes. The FirstNet fleet currently includes 150 land-based deployables such as SatCOLTs and over 50 CRDs available to support first responders in all U.S. states and territories.

These investments represent the first strategic investments toward advancing the network beyond its contractual baseline and responding to first responders' evolving operational needs. During FY 2022, the FirstNet Authority began developing requirements to identify and develop additional potential network investments to ensure the NPSBN remains relevant and technically innovative to support public safety stakeholders.



**Figure 3:** Roadmap Domains and Priorities



## CORE

- Generational updates (e.g., 4G to 5G)
- Priority and Preemption, including uplift on 5G
- Mission Critical Services platforms and enablers on 5G
- Network security on 5G



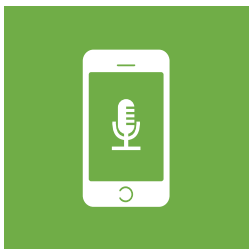
## COVERAGE

- Outdoor coverage expansion
- Indoor coverage expansion
- Unique coverage solutions advancement



## SITUATIONAL AWARENESS

- Locate and present personnel location
- Location services integration



## VOICE COMMUNICATIONS

- Operationalize FirstNet Push-to-Talk
- Active role in standards
- Critical features



## SECURE INFORMATION EXCHANGE

- Database integration
- Application integration



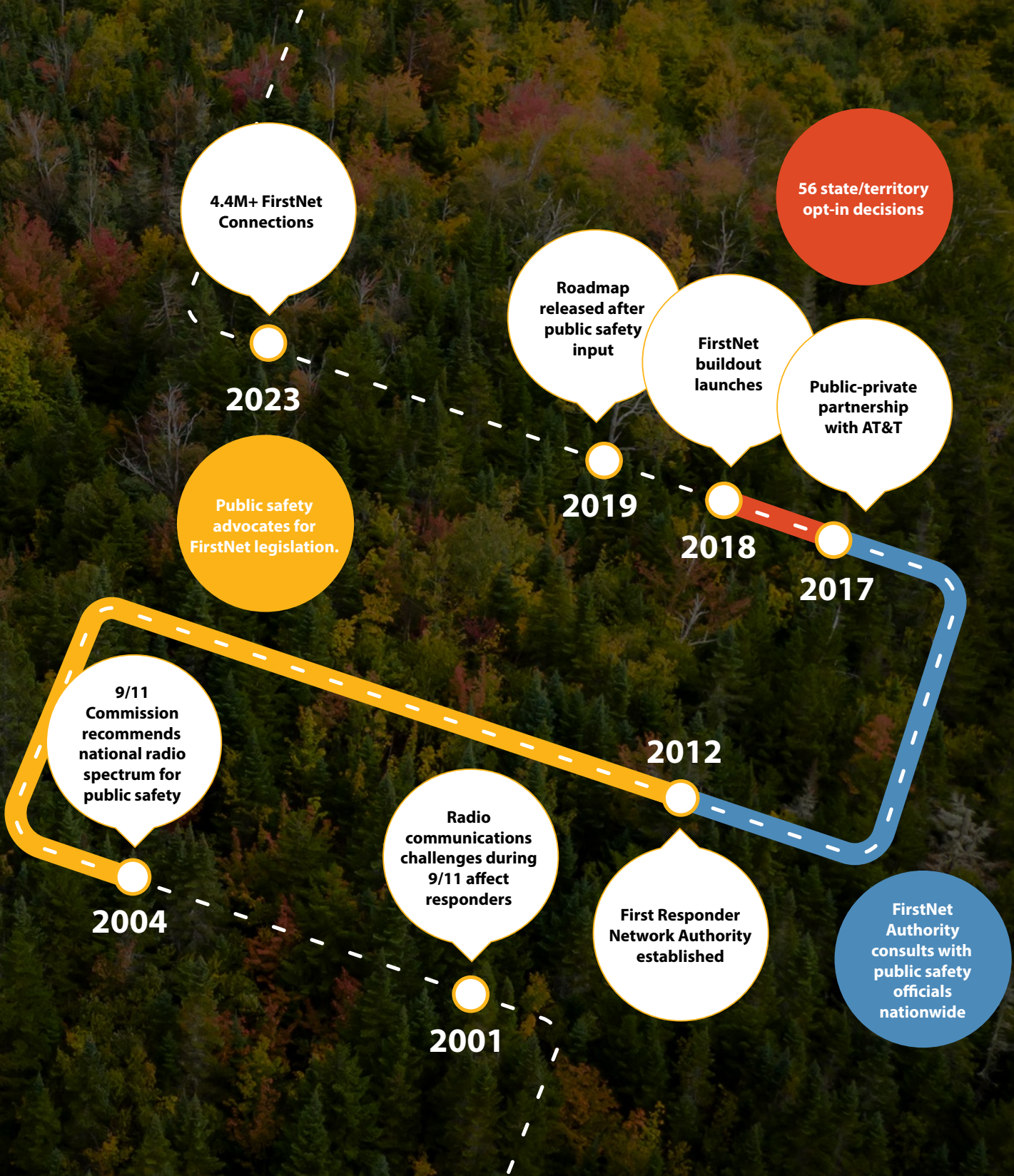
## USER EXPERIENCE

- Mission-enabling applications
- Mission-capable devices









4.4M+ FirstNet Connections

2023

Public safety advocates for FirstNet legislation.

Roadmap released after public safety input

2019

FirstNet buildout launches

2018

56 state/territory opt-in decisions

Public-private partnership with AT&T

2017

9/11 Commission recommends national radio spectrum for public safety

2004

Radio communications challenges during 9/11 affect responders

2001

First Responder Network Authority established

2012

FirstNet Authority consults with public safety officials nationwide





*The FirstNet Authority's engagement program has always been vital to the success of FirstNet. These engagements enhance public safety's FirstNet experience, gather valuable feedback, and help public safety agencies operationalize the network.*



# STAKEHOLDER ENGAGEMENT

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The FirstNet Authority continued its robust engagement with public safety stakeholders, the central responsibility for which lies within its Market Engagement Office (MEO). In FY 2022, the FirstNet Authority conducted more than 1,850 engagements, reaching more than 49,000 public safety stakeholders across all 50 states, five territories, the District of Columbia, the federal government, and tribal jurisdictions, and documented over 2,200 public safety communications-related feedback items. The engagements resulted in public safety being informed of the FirstNet solution and the latest innovations, receiving support to operationalize FirstNet within their agency, and having access to new and enhanced FirstNet services, features, and capabilities based on their input. Formal and informal engagements across the spectrum of public safety disciplines and command chains allows public safety to provide feedback and recommendations to influence network updates and investments in the future.

Through a broad stakeholder survey conducted early in FY 2022 and feedback obtained from stakeholders engaged, the FirstNet Authority learned public safety is primed for the next phase of the FirstNet network and sees value in their relationships with the FirstNet Authority. Network coverage and deployable solutions were the most discussed topics during stakeholder engagements in FY 2022. Nearly 40 percent of all public safety engagements mentioned network coverage and 30 percent of all engagements focused on deployables. The inputs provided during stakeholder engagements continuously inform the FirstNet Authority's investments, programs, and activities. The recent investment into in-building coverage demonstrates public safety and FirstNet end user feedback in action.

## Public Safety Advisory Committee

In FY 2022, the Public Safety Advisory Committee (PSAC) conducted more than 35 engagements, including business meetings, bi-monthly webinars addressing network developments with FirstNet Authority staff experts, user working group sessions, focus groups targeted at gathering feedback on potential investment topics and priorities, and monthly Tribal Working Group meetings.

These regular meetings enabled strong working relationships among PSAC members and the FirstNet Authority to discuss and address topics such as disaster response and deployable assets; location services; mobile applications and the FirstNet App Catalog; next generation public safety devices; and technologies related to voice communications and secure information exchange. Throughout the year, the PSAC carried

out its statutory responsibility to assist the FirstNet Authority as it examined the FirstNet services related to Quality of Service, Priority and Preemption, activity regarding mission critical applications and next generation public safety devices, and the FirstNet Authority's investment overview.

## Collaborate with Public Safety to Operationalize FirstNet

As adoption increases across the country, public safety agencies increasingly ask the FirstNet Authority to help them consider their network coverage and capacity needs for large scale events. In FY 2022, the FirstNet Authority formalized the Network Experience Engagement Program based on these collaborations. The program is designed to help public safety agencies operationalize FirstNet through pre-incident/event planning, post-incident/event reviews (PIER), and training exercise planning support.

Through the pre-incident/event planning, the FirstNet Authority's goal is to help elevate public safety's user experience with the FirstNet network before, during, and after the event and support agencies to receive the maximum benefit public safety broadband can offer to their respective operations. Participating agencies have indicated the pre-incident/event planning meetings prompt key discussions on topics not previously considered, such as planned application use or specific coverage needs, and played a pivotal role in resolving broadband-related issues before the event started. In FY 2022, the FirstNet Authority supported agencies through pre-planning and on-site support, including Super Bowl LVI, the 2022 World Games, Grundy County (Ill.) Corn Festival, and the Albuquerque Balloon Fiesta.

PIER engagements offer an opportunity for public safety agencies to analyze and inform the FirstNet Authority of successes, challenges, and concerns related to an incident or event where the FirstNet network was used. These engagements are set up much like after action reviews that agencies are accustomed to conducting, but with a broadband-specific focus. During FY 2022, the FirstNet Authority conducted PIER engagements following Hurricane Ida and the Marshall Fire in Boulder County, Colorado, as well as many other incidents across the country. The PIER engagement findings not only help agencies continue to enhance their own future planning, but also inform FirstNet Authority activities. When appropriate and with an agency's prior consent, the FirstNet Authority will share information with its network contractor, AT&T, to enhance planning and response for future incidents.





*The University of Maryland, Baltimore Police Department and Office of Emergency Management uses FirstNet to establish “Wi-Fi bubbles” around police vehicles so officers can upload data and stream video in real time. In addition to their officers and command staff, they provide key UMB administrators with FirstNet devices to ensure they can communicate during a crisis, which proved important when COVID-19 pandemic upended campus life.*



# CONTRACT AND DEPLOYMENT OVERSIGHT

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## Contract Overview

One of the FirstNet Authority's primary responsibilities is to manage and ensure the successful execution of the contract with AT&T to build, deploy, and operate the FirstNet network. Signed in March 2017, this 25-year indefinite-delivery/indefinite-quantity (IDIQ) services contract was designed to ensure the FirstNet network meets the rigorous communication needs of the nation's first responders and continues to improve and evolve to meet their changing requirements over time.

Under the contract, AT&T must build, operate, maintain, and enhance the network for 25 years while achieving public safety user adoption targets and maintaining a minimum number of devices connected to the network. The contract also guarantees the FirstNet Authority's continued financial sustainability over the life of the contract through annual payments from AT&T to the FirstNet Authority, fulfilling Congress' vision that the FirstNet Authority be self-sustaining.

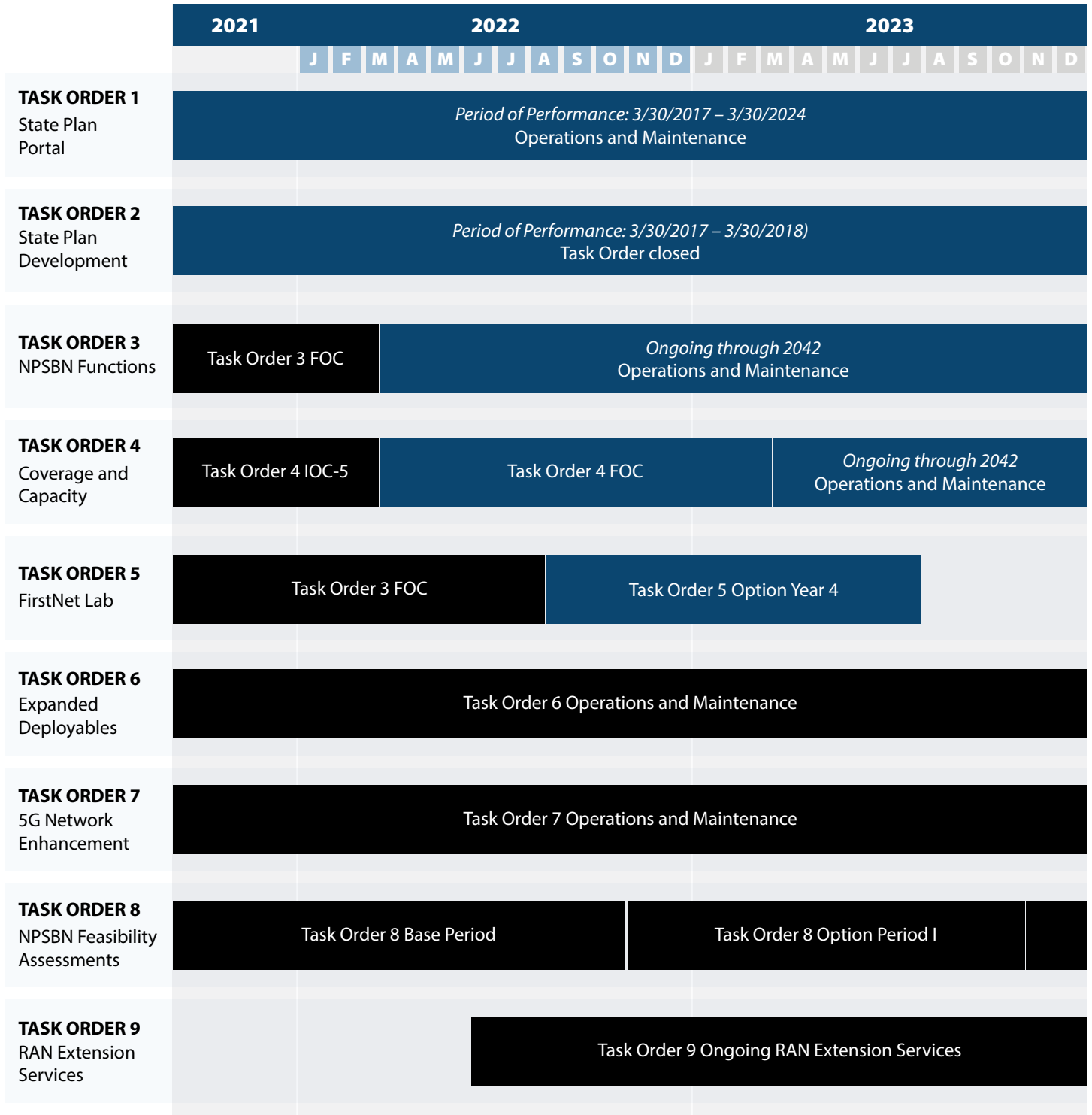
The FirstNet Authority has issued nine task orders under the IDIQ contract:

- Task Order 1 (TO1) required the development of a secure platform (the state plan portal) that delivered individual state plans to the states, territories, and District of Columbia (referred to herein as "states").
- Task Order 2 (TO2) required development of the individual state plans. These plans detail the Radio Access Network (RAN) deployment and operations for each of the states. While the state plans were delivered by AT&T and TO2 closed out (March 2018), the state plan portal (TO1) is still available (through the initial five-year buildout, plus one additional year, to March 2024) to allow governors and designated state stakeholders to access their respective plans. The state plans were developed in consultation with state officials and approved by the state's governor, a key aspect of the FirstNet Authority's focus on fostering a partnership with public safety and local authorities.
- Task Order 3 (TO3) requires AT&T to deploy, operate, and maintain the network's core and all its functions, and provide for the development of device and application ecosystems for the network. The FirstNet network has its own core, which processes and secures FirstNet users' traffic separate from the AT&T commercial network. The core is a critical piece of physical infrastructure

that serves a telecommunications network in a way like a server or router for an office or home, respectively. AT&T deployed the FirstNet core in March 2018 and continues to operate and maintain it under the terms and conditions of the IDIQ contract and TO3.

- Task Order 4 (TO4) requires AT&T to deploy the network's Band 14 coverage nationwide (including the territories), while fulfilling the specific commitments made in the individual state plans. TO4 contains the requirements associated with constructing the RAN, which consists of cell towers, sites with RAN infrastructure, and other elements that connect public safety's devices to the core. At the end of FY 2022, the initial network buildout of Band 14 was over 95 percent complete. AT&T has met all contractual milestones to date—including rural and non-rural coverage requirements and adoption targets—and continues to deliver key services to the public safety community. The task order also requires AT&T to provide 72 transportable cellular assets dedicated solely to FirstNet (also known as deployables), in addition to access to at least 300 other transportable cellular assets in AT&T's commercial fleet that can provide supplementary network coverage when needed. AT&T delivered the initial 72 deployables in September 2018.
- Task Order 5 (TO5) requires equipment and connectivity for the FirstNet Boulder Lab, located in the FirstNet Authority's Boulder, Colorado, office.
- Task Order 6 (TO6) requires AT&T to expand the FirstNet deployable solution acquired through TO4. TO6 includes adding more SatCOLTs to the FirstNet dedicated deployable fleet, as well as adding new deployable form factors to provide additional flexibility and variety to the services offered. TO6 further requires AT&T to examine their deployable storage and response plans to ensure the deployable fleet is optimized to meet the response requirements per the terms and conditions of the IDIQ contract and TO4. TO6 also created a new quality assurance performance metric to ensure that deployables are meeting the contractually defined response times. TO6 is one of two reinvestment task orders awarded in June 2020.
- Task Order 7 (TO7) requires AT&T to upgrade the FirstNet network so public safety begins to experience the throughput benefits of 5G while maintaining the overall FirstNet user experience. TO7 enables a smooth transition from 4G to 5G by leveraging some of the

Figure 4: Task Orders 2021-23





existing 4G network systems. Future task orders are required to complete a full migration from 4G to 5G. TO7 is the second of two reinvestment task orders awarded in June 2020.

- Task Order 8 (TO8) requires AT&T to provide feasibility assessments as requested through specific work orders. These feasibility studies and resulting assessments will help the FirstNet Authority understand how new and evolving technologies, features, and functionality might be used to improve the ability of first responders to better support incident response and if implementation warrants potential network reinvestment.
- Task Order 9 (TO9), which was awarded in May 2022, requires AT&T to extend NPSBN Band 14 coverage to public safety facilities. TO9 enables agency-deployed RAN extension services to include Band 14 support, mission-critical service capabilities support, monitoring and reporting, forward and reverse logistics, and customer care. These RAN extension services will provide enhancements for FirstNet subscribers who experience coverage gaps, macro network outages, or require faster upload and download speeds than those provided by the NPSBN's fixed terrestrial network. TO9 is the third reinvestment task order awarded by the FirstNet Authority.
- Task Orders 1, 3, 4, 5, 6, 7, 8, and 9 are ongoing. TO2 was completed in March 2018 after all 56 governors (or appropriate territorial counterparts) opted into their respective customized state plans.

## Measures for Success

In addition to key contractual deliverables, the FirstNet Authority uses standardized program management tools and contractual processes to track and evaluate all activities associated with the FirstNet network contract and program. The FirstNet Authority has developed and continuously strives to improve its rigorous contract management and administrative processes and tools used since the execution of the IDIQ contract to track network-related contractual activities. As a result, the FirstNet Authority can minimize and mitigate risk while continuing to improve the network. The FirstNet Authority continued to utilize and improve upon these processes and measures in FY 2022, to include the enhancement and automation of key contract oversight processes and workflows, to become more efficient and streamlined, allowing oversight personnel to have further insight into the progress of the NPSBN.



*The FirstNet Authority and National Institute of Standards and Technology partnered to build the Public Safety Immersive Test Center in Boulder, Colorado, to spur the development and deployment of technologies critical to effective public safety response.*



# TECHNOLOGY AND INNOVATION

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As part of the mission to deploy the FirstNet network, the FirstNet Authority serves as a conduit between public safety users and the industries that develop innovative communications tools to advance public safety operations. To help industry recognize the value and potential of the public safety communications market, the FirstNet Authority continues to:

- Ensure device and application ecosystems evolve to meet the needs of public safety.
- Establish innovative partnerships across government to stimulate the public safety ecosystem.
- Engage with telecommunications standards development organizations, such as the 3rd Generation Partnership Project (3GPP), the Alliance for Telecommunications Industry Solutions (ATIS), and Telecommunications Industry Association (TIA).
- Manage spectrum to ensure the efficient utilization of the 700 MHz Band 14 Public Safety Broadband Spectrum in support of the NPSBN.
- Ensure the long-term viability of the FirstNet network by exploring enhancements and generational upgrades.

## Boulder Lab and Public Safety Immersive Test Center

The FirstNet Authority's facility in Boulder, Colorado, has a state-of-the-art laboratory in which the FirstNet Authority tests public safety communications functionality and features unique to the FirstNet network. These tests include quality of service; priority and preemption; enhanced situational awareness technologies and applications; and future public safety functions, services, and applications. It has all the electrical power and network connectivity needed for the FirstNet Authority to stage equipment and complete its own network validation and testing.

In March 2022, the FirstNet Authority and NIST launched the Public Safety Immersive Test Center (PSITC), co-located at the FirstNet Lab. The PSITC's purpose is to spur the development and deployment of emerging technologies critical to effective public safety response. Through this partnership, NIST's PSCR Division and the FirstNet Authority can now bring together public safety agencies and organizations with private sector companies and academic institutions to facilitate research and development, pilot testing, education, and training.

The PSITC has customized space equipped with motion-capture systems, high-speed optical tracking cameras, a variety of augmented and virtual reality headsets, and gear and fixtures that add a tactile component to simulations. This equipment enables responders to simulate public safety operations and activities, such as a search and rescue response or seeing critical information laid out over a 3D map through augmented reality goggles. The facility is designed to help answer key research questions around the future of user interfaces and location services for public safety training and operations. In FY 2022, an array of groups participated in the pilot program, including public safety stakeholders from local, state, and federal governments, as well as international public safety and technology industry professionals.

## Standardization

As required by Congress, the FirstNet network uses technology based on commercially available, open standards to achieve interoperability, speed to market, economies of scale, and cost efficiency. Using available commercial standards makes it easier for device manufacturers to participate in the public safety device market, thereby increasing competition and lowering device costs for public safety users.

The FirstNet Authority continues to prioritize the inclusion of public safety requirements in standards development, with efforts mainly focused on 3GPP, a partnership that unites seven global telecommunications standards development organizations to produce reports and specifications for evolving 4G LTE technology and defining 5G specifications. In coordination with AT&T, the FirstNet Authority has successfully ensured that 3GPP specifications address the needs of first responders. The FirstNet Authority is also active in representing public safety's requirements in the Next G Alliance work that seeks to outline the capabilities that will be needed in 6G.

The FirstNet Authority has employed a two-pronged focus in this work: 1) developing and evolving global specifications for mission-critical services (MCS) such as mission-critical PTT, video, and data; and 2) developing specifications for interworking broadband MCS with legacy public safety technology, such as LMR. The current specifications for MCS were originally targeted for 4G LTE technology. The FirstNet Authority continues active involvement to evolve these standards to support 5G technology.

During FY 2022, the FirstNet Authority worked together with suppliers and global public safety partners to progress 3GPP



*FirstNet supplied deployable assets during an earthquake response exercise hosted by the California National Guard and CalOES Fire Rescue Branch.*

standards for mission-critical communications. Of particular interest to public safety were enhancements to mission-critical location services, including support for improved location services over both 4G and 5G. Another important effort for public safety is the update of the MCS standards to operate over 5G. This is critical for the continued evolution of MCS by allowing use of improvements only available in 5G, such as improved support for Quality of Service, Priority, and Preemption in the 5G core network. In FY 2022, the second phase 3GPP standards for MCS over 5G were completed, which add support for broadcast-multicast and off-network operations.

The FirstNet Authority participated in standards development in FY 2022 for other features essential to public safety, including new 5G Direct Mode capabilities to support public safety needs including user equipment-to-network relay to extend the network coverage to enable a remote mobile device to access the network. Progress on other important enablers for public safety include enhanced Multicast Broadcast Services for 5G (5MBS) with multicast service reliability in poorer radio coverage conditions, and 5G running over non-terrestrial networks (i.e., satellites) to support both Low-Earth Orbit and Geosynchronous Equatorial Orbit operation. As a result of the FirstNet Authority's efforts, these critical public safety features are now planned for completion in 3GPP standards.

An important feature that the FirstNet Authority has paid special attention to is Integrated Access and Backhaul

that supports the ability to use 5G spectrum for backhaul to another 5G base station in place of a wired backhaul. Advancements in 2022 have added the ability to allow the Integrated Access and Backhaul-attached cell to be mobile. These advancements led to the Vehicle Mounted Relay that can support a mobile 5G cell within a public safety vehicle.

The 5G Direct Mode feature will allow first responders to communicate when they are beyond network wireless coverage, and 5MBS is critical to avoid network congestion. Vehicle Mounted Relay will support a 5G cell mounted on a fire truck that provides 5G service to first responders in its vicinity, thus extending coverage. Additionally, running 5G over satellite systems could offer coverage extension for first responders in areas that do not have terrestrial wireless coverage. In disasters and major incidents, first responders can utilize PTT technology to communicate in groups of various sizes, even in a small area covered by only one cell. When utilizing LTE Multimedia Broadcast Multicast Service or the 5MBS capability, each communication group will utilize the radio resources of about two people communicating with one another, regardless of the number of users in the group. As technology advances for video group communications, which consume significantly more radio bandwidth than voice, this feature will be even more important for conserving radio resources.

In FY 2022, the FirstNet Authority also continued working with 3GPP, ATIS, and TIA to support standards work involving the interworking between 3GPP-based mission-critical PTT





systems and legacy LMR-based systems, such as Project 25 trunked and conventional systems. Through this effort, a wider adoption of mission-critical PTT will be possible as these interworking standards will permit an LMR user to talk to a FirstNet PTT user and vice versa. Work continues in ATIS and TIA, but most of the important interworking features have now been standardized end-to-end.

## Spectrum Management

The FirstNet Authority continued to actively manage and maximize the utilization of the 700 MHz Band 14 Public Safety Broadband Spectrum in support of the NPSBN deployment and operations. During FY 2022, the FirstNet Authority and AT&T conducted the technical assessment of 15 commercial experimental license applications and 10 federal entity spectrum use requests. These applications and requests sought access to FirstNet Authority-licensed Band 14 spectrum on a secondary, not-to-interfere basis in support of public safety wireless technology research, experimentation, and national defense training and readiness programs. Additionally, the FirstNet Authority filed and coordinated the investigation of 11 public safety spectrum interference (PSIX) reports with the FCC Enforcement Bureau. These PSIX reports were filed to seek FCC assistance in resolving cases of radio frequency interference to the FirstNet Authority licensed Band 14 spectrum.

The FirstNet Authority's spectrum stewardship was also evident in the international arena. The FirstNet Authority continued to work closely with the FCC and U.S. Department of State to resolve chronic radio frequency interference issues to FirstNet Authority-licensed Band 14 spectrum along the U.S.–Mexico border. The FirstNet Authority also supported the development of mutually beneficial long-term diplomatic and technical solutions for 700 MHz broadband spectrum sharing and utilization along the borders with both Mexico and Canada.

## License Renewal

In August 2022, the FirstNet Authority formally filed its application for license renewal, including a renewal justification and public interest statement that comprehensively demonstrated the FirstNet Authority's compliance with its statutory obligations. Renewal of the Band 14 license is fundamental and essential to the continued operation of the NPSBN. The FirstNet Authority's enabling legislation does not provide for an automatic renewal; as a result, the FirstNet Authority was required to re-apply for the license to the Band 14 spectrum through the FCC to continue providing this dedicated spectrum to public safety. The FirstNet Authority's spectrum license renewal application is still pending with the FCC.



*More than 150 Federal, state and local first responders attended a joint-agency, critical-incident-communications training at Military Ocean Terminal Sunny Point, North Carolina to learn about the nationwide public safety broadband network.*



# GOVERNMENT ACCOUNTABILITY OFFICE (GAO) RECOMMENDATIONS ON FIRSTNET AUTHORITY REAUTHORIZATION

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Under the 2012 Act, the authority of the FirstNet Authority is scheduled to terminate in 2027, which would create a risk for continued network operations and result in a loss of service for public safety users. The 2012 Act directed the GAO to submit a report to Congress on what action Congress should take regarding this sunset of authority. The GAO published that report in February 2022, recognizing the need for Congress to act regarding the FirstNet Authority's reauthorization to ensure network continuity and prevent significant disruption to first responders.

Specifically, the GAO stated: "The 2012 Act provided FirstNet with many powers, duties, and responsibilities to develop a nationwide public-safety broadband network ... without congressional action on FirstNet's key statutory responsibilities described in this report, it is unclear how the federal government will continue to oversee network

operations and the network's required enhancements when FirstNet's authority sunsets. As Congress considers the various options for managing the network ... it will be important to take some legislative actions, at the minimum, to ensure network continuity."

The GAO further stated: "Without any legislative action, the continued operation of the [FirstNet] network would be jeopardized and could result in significant disruption for first responders who rely on the network for emergency response."<sup>4</sup>

The FirstNet Authority welcomes the opportunity to work with Congress to reauthorize the agency and ensure it has the tools required to continue to enhance the network to meet public safety's evolving broadband communications needs across the country.

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<sup>4</sup> Andrew Von Ah, "PUBLIC-SAFETY BROADBAND NETWORK, Congressional Action Required to Ensure Network Continuity," Government Accountability Office, February 2022, at 22, 23.



*The First Responder Network Authority Board is a team of highly-skilled, highly motivated individuals with a cross-section of expertise who are committed to making the nationwide public safety broadband network a success.*



# FINANCIAL CONDITION

In FY 2022, the FirstNet Authority continued its strong financial stewardship by achieving a clean financial statement audit opinion for the tenth consecutive year. Throughout FY 2022, funds were used to support ongoing operations and execution of the strategic vision, which yielded network expansion and enhancements of the NPSBN. Operating expenses incurred during FY 2022 related to personnel compensation, contractual services for strategic and operational support, extensive stakeholder engagement, and update of the FirstNet Authority Roadmap. As of September 30, 2022, the Authority's cash balance was \$916 million. The FirstNet Authority's audited FY 2022 Financial Report, including Independent Auditors' Report, is posted on the FirstNet Authority website at [FirstNet.gov/reports](https://www.firstnet.gov/reports).

## Collections Data

The FirstNet Authority receives annual payments from AT&T for access to 20 MHz of spectrum and associated capacity for the 25-year term of the NPSBN contract. These annual payments from AT&T are the FirstNet Authority's source of revenue. As payments are received from AT&T, they are recognized as a contract liability and amortized on a straight-line basis over the applicable fiscal year. On September 15, 2022, the FirstNet Authority received \$227 million from AT&T as the FY 2022 payment due under the contract, to fund FY 2023 operations.

## Changes in Assets, Liabilities, and Net Position

The FirstNet Authority had \$6.4 billion in total assets as of September 30, 2022, compared to \$7.4 billion for FY 2021, a 14 percent reduction in Assets offset by an \$822 million, or 80 percent, decrease in total liabilities. As a result, its net position decreased \$228 million.

*(\$ in Thousands)*

As of September 30:	FY 2022 (Audited)	FY 2021 (Audited)
<b>Changes in Net Position</b>		
Total Assets	\$6,361,274	\$7,410,148
Total Liabilities	\$ 208,082	\$1,030,450
Net Position	\$6,153,192	\$6,379,698

## Limitation on Administrative Expenses

Under 47 U.S.C. § 1427(b), the FirstNet Authority's administrative expenses are limited to \$100.0 million in the 10-year period beginning February 22, 2012. Since its inception through September 30, 2022, the FirstNet Authority has expended \$74.8 million of the initially authorized \$100.0 million for administrative expenses. The agency spent \$9.3 million on administrative expenses in FY 2022, which reflects a \$300,000 increase compared to FY 2021. The administrative expense total for the 10-year period ended September 30, 2022, was \$74.8 million.



*Every year, the city of St. Augustine, Florida is transformed during Nights of Lights. As visitors marvel, St. Augustine's officials are hard at work to ensure the event runs safely for everyone involved. Neighboring public safety agencies pitch in to help, including the state highway patrol, the county sheriff's office, county motor units, and the beach bike patrol. FirstNet provides coverage and capability for reliable communications with these partners.*



## CONCLUSION

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The FirstNet Authority is focused on meeting Congress' directive to ensure the ongoing development and improvement of the FirstNet network as its initial infrastructure deployment nears completion and then beyond. The FirstNet Authority redoubled its efforts to give first responders a reliable communications experience in FY 2022. The network is modernizing the communication devices that first responders use daily, enhancing their interactions with other public safety professionals, and improving how they serve their communities. The expansion of capacity, technology, and device connections in FY 2022 will have a positive impact on rural, suburban, and urban locations nationwide.

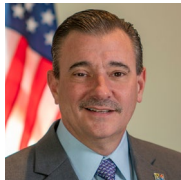
The public safety community now has easier access to technology that enables them to be successful, efficient, and, most importantly, safer in emergency circumstances. This is partly because of the FirstNet Authority's unwavering dedication to listening to and working closely with the public safety community. In the coming fiscal year, the FirstNet Authority will continue to convene stakeholder meetings; oversee AT&T's network construction, operation, and maintenance; make investments in network improvements; and represent the needs of public safety in the evolution of technology and innovation. As public safety fight to save lives and keep us safe, these measures will ensure that the FirstNet network continues to advance to meet their critical communications needs.

# APPENDIX A: FY22 FIRSTNET AUTHORITY BOARD

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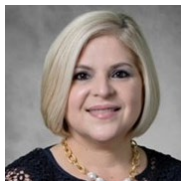
**STEPHEN BENJAMIN (CHAIR)**  
Former Mayor, Columbia, South Carolina



**CHIEF RICHARD CARRIZZO (VICE CHAIR)**  
Fire Chief, Southern Platte Fire Protection District, Missouri



**BRIAN CRAWFORD**  
Senior Vice President, Willis-Knighton Health System



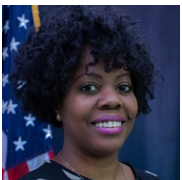
**ALEXANDRA FERNANDEZ-NAVARRO**  
Former Associate Member, Puerto Rico Public Service Regulatory Board



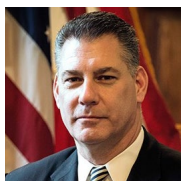
**KRISTIN GRAZIANO**  
Sheriff, Charleston County Sheriff's Office, South Carolina



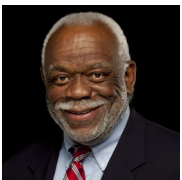
**BILLY HEWES**  
Mayor, Gulfport, Mississippi



**KARIMA HOLMES**  
Acting Director, Office of Unified Communications, Washington, D.C.



**PETER KOUTOUJIAN**  
Sheriff, Middlesex Sheriff's Office, Massachusetts



**WARREN MICKENS**  
Former Vice President of Wholesale Operations, Centurylink/Quest





**SYLVIA MOIR**  
Undersheriff, Marin County Sheriff's Office, California



**JOCELYN MOORE**  
Independent Director, DraftKings



**PAUL PATRICK**  
Director, Family Health and Preparedness, Utah Department of Health



**SHALANDA YOUNG**  
Director of the Office of Management and Budget



**TIA BOATMAN PATTERSON (DESIGNEE)**  
Associate Director for Housing, Treasury, and Commerce



**ALEJANDRO MAYORKAS**  
Secretary of the Department of Homeland Security



**BILLY BOB BROWN, JR. (DESIGNEE)**  
Executive Assistant Director, Emergency Communications, Cybersecurity and Infrastructure Security Agency



**MERRICK B. GARLAND**  
U.S. Attorney General, Department of Justice



**ROBERT BROWN (DESIGNEE)**  
Executive Assistant Director, Science and Technology Branch, Federal Bureau of Investigations



The FirstNet Authority was established in light of 9/11 to lead the creation of a dedicated nationwide broadband network using spectrum set aside for the public safety community (Band 14). Through a combination of government, commercial, and public safety partnerships, we are committed to delivering a network and supporting ecosystem of apps, devices, and capabilities that are innovative, reliable, accessible and secure. By modernizing public safety communications with our partners, we can help responders keep America safe—every day and in every emergency.

To learn more, visit [FirstNet.gov](https://www.firstnet.gov).





MOOSE RIVER  
AMBULANCE

Jeep





## First Responder Network Authority

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