The three pillars of public safety
How the right network solutions can mitigate risks for first-responders
How connectivity keeps your first responders safe

First Responders face risks unlike any other occupation. How many other environments see accidents, natural disasters, or adverse weather conditions on a near-daily basis? And in how many other jobs do you spend your life training for everything from routine 9-1-1 check-ins to once-in-a-lifetime emergencies like a hurricane or a violent threat — and still find yourself in situations that are nothing like what you trained for?

Unpredictability is the nature of emergencies. With an estimated 240 million calls made to 9-1-1 in the U.S. each year, First Responders must be equipped to communicate at all times.

When you’re on the frontline of a disaster, you need to know:

- That you can communicate with your team safely and securely, whether you’re in a concrete skyscraper or a remote rural area.
- That you’ll be able to coordinate efforts when network infrastructure is disrupted or damaged.
- That if anything goes wrong, there’s a back-up plan.
- That your emergency communications are using the latest technological developments to support you.

Looking further afield, to make sure First Responders have these four assurances, the people behind them need three things to mitigate the risks:

1. A network prepared for an emergency response.
2. The tools and support team to recover from network damage fast.
3. A network that is constantly evolving to remain interoperable with new devices and always give you the visibility you need.

These are the three pillars of public safety.

In this guide, we’ll dig in to the details of each so you’re equipped to give your team precisely what they need to respond effectively and confidently.
A network ready for emergencies

Public safety tools — like radios and connected devices — do a great job of connecting everyone, but they’re only as good as the network they run on. If the network goes down, so does the whole operation. That makes connectivity increasingly vital in an emergency.

The first and most important requirement is to ensure the network is available when First Responders need it. If the network becomes overloaded, as often happens in emergencies, First Responders need priority access so they can react. That requires network failsafes, redundancy and diversity.

What this about FirstNet?
You may have heard about FirstNet, a government-led initiative established after the 9/11 attacks exposed serious network limitations. The network aims to connect all 50 states and U.S. territories in one seamless system.

But relying solely on FirstNet for emergency connectivity puts all of your eggs in one basket and when you’re dealing with human lives, that may not be worth the risk.

Sprint Priority Connect
Sprint’s Priority Connect will give First Responders and authorized Public Safety users priority over commercial traffic as well as assured quality when the network is overwhelmed. And, if necessary, non-priority traffic can be dropped to make way for priority communications. The solution is slated for release in the second half of 2019.

To keep things simple, you can specify which responders are authorized to use priority access. That means if a large building has collapsed, your priority communications aren’t overloaded by a smaller emergency across town.

And to ensure that you have connectivity, you can anticipate commercial data traffic and offer priority during congested times using indicators based on 3GPP LTE standards.

Crucially, with Sprint Priority Connect, your First Responders are empowered to stay informed and connected, keep safe and save lives in a crisis event.
Questions need to be asked:

- What is your plan when FirstNet goes down?
- How long will it take to come back online?
- What are states meant to do while FirstNet is being developed?
- How many people will be at risk in the meantime?
- What’s the back-up plan?

Communication is the backbone of emergency response. You can’t afford to lose connectivity when your team is tackling an active shooter in a steel-and-concrete building or handling wildfires in remote rural areas. This starts with fail over communications and the redundancy and diversity you need to ensure mission-critical communications don’t stop in a crisis.

Equally, connectivity shouldn’t stop at the frontline. Support services — like hospitals, utilities and public works — need to be kept in the loop too, so they know what’s coming and can prepare.
Measures to recover from a disaster faster

No two disasters are alike. A once-in-a-decade storm demands a different set of skills and tools than a wildfire in the mountains. They put different demands on networks and create different connectivity problems for First Responders.

For instance, if wildfires in California burn the overhead fiber on the communications towers that go from valleys to communities on the ridges, the cell sites go down, even land-level radios won’t work. Now First Responders are fighting fires with extremely limited communications. During situations like this, First Responders need emergency response deployable solutions with a wide coverage that can be set up anywhere.

On the other hand, in rural emergency situations, you need cellular network coverage in hard-to-reach locations. For instance, when First Responders are walking up and down through mountains and valleys searching for somebody, they can’t wait for connectivity. Emergency responders need connected devices in their hands when they turn up.

The network requirements for these two situations differ greatly. Your experts need to know which tools are right for the job at hand and how to deploy them fast. Because the faster you can get the right connectivity tools to the right place, the faster your First Responders can save citizen lives — and keep themselves safe, as well.
Measures to recover from a disaster faster

On the ground

First responders can’t wait for mobile networks to get things up and running. They need to be able to self-deploy and stay self-reliant when it comes to their equipment. Two solutions you may want to think about:

Our Go-Kits are always ready for emergencies. Built for first-on-the-scene response, these kits give First Responders Sprint phones, mobile broadband cards, satellite connectivity, hotspots and critical accessories.

Our in-building solution keeps your team connected indoors — delivering faster speeds and greater LTE data connectivity. More importantly, it doesn’t require a broadband connection, making deployment simple.

And our Push-to-Talk solution is unbounded by coverage area, network technology or device type, so First Responders can communicate with each other regardless of device. And it expands coverage and capacity of Land Mobile Radio networks so First Responders can remain in contact for longer.

Large-scale solutions

When an entire network infrastructure goes down like in a hurricane — our large-scale deployable solutions can restore connectivity rapidly. These range from secure, deployed local and wide area networks to support EOC / Command Post and Base Operations to large vehicles with mounted satellite dishes that deliver three-to-five miles of coverage. We also offer satellite, interoperable PTT, cellular, mobile data, and Wi-Fi solutions.

Instead of managing technical and expensive equipment yourself, our Emergency Response Teams can take it off your hands — and be on call when you need them.

Beyond this, our Emergency Response Teams will work alongside your teams to establish the best plan in an emergency situation — before a disaster strikes. They can also provide your First Responders with field-training exercises, drill scenarios, continuity of operations planning and options for operational support.
Case study: Hurricane Michael

In preparation for Hurricane Michael, the third-most intense Atlantic hurricane to reach land, we activated our Incident Management, Network and Emergency Response Teams.

These teams worked around the clock to ensure connectivity and support for essential services on the ground, such as keeping state and local government agencies connected with handsets and hotspots.¹

With more than 1.2 million electricity customers without power in east coast and southern states at one point, connectivity was vital to the recovery efforts.

To maintain wider connectivity over this time, the Sprint teams deployed, COWS (Cells on Wheels), COLTS (Cells on Light Trucks), SatCOLTS (Satellite Cell Sites on Light Trucks) along with other mobile cellular infrastructure to areas where coverage was limited.

Michael’s rapid increase in strength and speed, rurality of landfall, and impacts to overhead power and telecom infrastructure produced unique challenges in supporting life safety, response and recovery efforts.

The ecosystem of Emergency Management requires connectivity across all different platforms and technologies. To name a few: dispatching services across a county wide area network, bridging LMR to LTE technologies, connecting Emergency Operations and Joint Operations Centers for Situational Awareness, access for hospitals to patient information and patient care delivery systems, and incident-wide LTE coverage for Ambulatory, Fire Rescue, Law Enforcement, 911 and EMA services.

There are few organizations prepared to effectively and efficiently respond to such a complex event. Sprint’s Emergency Response, Network Disaster Recovery, and Enterprise Incident Command Teams have translated 17 years of experience into unique capabilities that ensure First Responders stay connected no matter the event, no matter the time, no matter the location.

Technology is continuously evolving to help you respond to emergencies in a faster and safer way. But new devices also bring significant connectivity challenges.

Going forward, you need your network to be continuously evolving in two specific ways:

1. It needs to give you better and better visibility into situations over time.
2. It needs to be working towards interoperability with all devices (old and new), available to different communities of interest (Fire, Police, EMT, Hospitals) and across carriers.

### Connected devices

**We already provide several connected devices and services to keep your team safe.**

One of these is our Automatic Injury Detection vest, which sends immediate updates on the well-being of First Responders. If an officer is shot or stabbed, within seconds it notifies your entire team with situational information, including officer ID, GPS coordinates, area of injury on the body and medical information.

Other solutions include body-worn and in-vehicle cameras, which provide real-time video in emergency situations. This gives you visibility and accountability over your team, so you can see what’s happening even if your agents can’t communicate.

As these devices prove more valuable and become widespread, the demand on emergency networks to transfer more data will grow. That’s why we continue to invest in improving coverage and data speeds—从VoLTE and advanced VoLTE to an aggressive buildout of the network of the future, 5G.
Visibility

To ensure the safety of your First Responders, they need more than one path of communication.

For instance, say one of your firefighters is responding to a large fire and loses communication. In the past, you’d assume one of two things. Either the firefighter’s communications are down because the environment is limiting connectivity. Or the firefighter is unable to communicate because she is injured.

Traditionally, the response would be to send additional First Responders in to help out — putting them at risk too. But that’s not always the safest solution.

Today, through connected devices that transmit continuous real-time intelligence, your team can act with greater visibility. Body sensors, for example, can detect the body position of your First Responder — and tell you if they’re upright or on the ground, an indication they might be injured. And GPS locators can tell you exactly where your firefighter is in the building. With this information you have a better picture of the situation and can respond appropriately.

More than just keeping your team in the loop, they extend communications to other mission-critical areas — like hospitals, utilities and public works — so when an emergency does happen, everyone is in the loop and ready to help.

Hospitals know how many were wounded, what kinds of wounds they suffered and how many people are coming in.

Utilities are kept in the loop to inform First Responders of potential dangers, such as the location of transformers, propane, natural gas, power lines, water, and more.

Public works companies are kept in the loop so they can re-route traffic, indicate the best route to the emergency and warn of any infrastructure collapses (like bridges, highways or dams).

This is just one example of visibility, but the principle is that as this technology becomes more prevalent, the infrastructure surrounding it must be reliable, up-to-date and accessible. That way, your First Responders know you have their back.
Interoperability

Everyone should be able to communicate with each other while in the field.

But a patchwork of different systems makes it hard for First Responders to communicate across agencies, networks or jurisdictions during emergencies. This is especially crucial in complex emergencies that require different agencies or jurisdictions to coordinate their efforts.

Imagine an emergency situation where law enforcement, fire services and emergency medical personnel are all on the scene — but each service doesn’t know what the others are up to. Their efforts are that much more likely to be wasted, duplicated or missed entirely.

Sprint’s commitment to interoperability

Public safety is paramount. To ensure that emergency response teams do their jobs safely, we are committed to inter-carrier cooperation through our partnership with the Public Safety Technology Alliance (PSTA). Together, we’re working to create standardized interoperable public safety solutions so everyone can communicate when they need to.

“As public safety applications mature, the PSTA is committed to developing an open repository of APIs, interface specifications and best practices to guide application development initiatives. These open frameworks will include encryption standards and requirements for public safety apps, as well as a common platform for single sign-on standards-compliant technologies.”
Helping First Responders help others

You can never truly know what you’re up against in any given emergency situation. That’s just part of the job. But you can prepare to face the unknown and mitigate the risks. Especially those risks that come down to connectivity issues.

To keep your First Responders safe and help them do their jobs more effectively, you need a network that’s ready for any kind of emergency, the ability to get connected in diverse situations, and cutting-edge technologies to increase visibility and interoperability over time.

The brave men and women fighting on the frontline of a disaster need to be able to connect to each other — and members of other teams — to deal with the dynamic and unpredictable scenarios that unfold in front of them.

No matter where they are, no matter what devices they’re using and no matter who they’re working with.

The risks are too great for anything less.
Let’s talk

We’re Sprint Government. And we’ve been protecting First Responders with public safety solutions for more than 30 years. So if you’re looking for reliable emergency response communications in an emergency, get in touch.

Talk to us about our emergency response solutions. Call 1-855-283-4163 or see more details on government.sprint.com

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