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This Month's Feature Article

Public Safety Grade GIS

by [Tom Maureau](#)



The Need for a Public Safety GIS Master Plan

9-1-1/Emergency Communication Centers, Law Enforcement, Fire/Rescue, EMS, and Emergency Management are *mission dependent* on accurate and robust GIS/mapping data to achieve maximum operational effectiveness and time efficiency. In addition, Public Safety technology systems and functionality such as ESInet/NG9-1-1, CAD/AVL Closest-Fastest Unit Dispatch, and location alerts/warnings depend entirely on accurate GIS data.

For ECC/Public Safety operations, the GIS/mapping system should be considered as crucial as the 9-1-1, Computer Aided Dispatch (CAD), and Radio systems. The standard of care is the same - reliable, resilient, accurate, secure, redundant, and diverse for 24/7/365 ECC/Public Safety operations.

Most jurisdictions have competing interests, roles, responsibilities, and standards regarding City-wide or County-wide GIS data. The Property Appraiser, Tax Collector, Public Works, Transportation, and other government entities have different GIS standards and requirements than Public Safety. For example, the Property Appraiser may only need a situs point in the center of a property parcel. In contrast, Public Safety requires the exact point of the house and even another point for the driveway leading to the house. In addition, Public Safety needs accurate, routable street network data (e.g., road type, one-way/two-way, speed limit, cutouts, restrictions, etc.) for a CAD/AVL system to calculate Closest-Fastest Unit Dispatch. At the same time, other City/County departments do not require that type of GIS data to complete their assignment. To be clear - Public Safety grade data is an absolute requirement. Hence the reason a Public Safety GIS Master Plan is required.

Public Safety GIS data does not have to be a one-off from other City/County GIS data. All City/County departments can benefit from the improved quality of Public Safety GIS data.

To fully leverage GIS/mapping data, a Public Safety GIS Master Plan is required. While multiple methodologies exist to develop a Public Safety GIS Master Plan, we recommend a phased process. Click the link below for the Phases and the rest of the article.

Read more here: [Public Safety Grade GIS: The Need for a Public Safety GIS Master Plan – Winbourne Consulting, Inc \(w-llc.com\)](#)

Winbourne Consulting has extensive experience and expertise in developing Public Safety GIS Master Plans. **Contact us** to assist your agency.

Current Status of 911 GIS Technologies

NHTSA GIS PROJECT

The National 911 Program



Final Report, May 2022

This is a lengthy [report](#) - we are highlighting the following sections. Please refer to the [report](#) for more.

4.2.2 NG911 GIS Data

Beyond the road centerlines and site structure address points base layers, NG911 also requires several service boundary datasets to perform the location validation and call routing functions. Descriptions of and standards for these data are available in the [NENA Standard for NG9-1-1 GIS Data Model](#). Service boundary data in NG911 must be coordinated with neighboring entities to mitigate 911 call delivery delays caused by gaps and overlaps within these datasets and to ensure that response agency service boundaries that are not coincident with jurisdiction or PSAP boundaries are properly drawn and attributed.

Five Required Layers

1. Address Points
2. Road Centerlines
3. PSAP Boundary
4. Provisioning Boundary
5. Emergency Services Boundary

The NG911 service boundary polygon datasets do not need to adhere to a jurisdictional boundary; in many cases, these boundaries are not coincident. Although the level of coordination between jurisdictions, especially those without advanced GIS capabilities, was the most common hurdle for managing NG911-specific GIS data, the stakeholders highlighted several other challenges to developing and maintaining a seamless network of 911 service boundaries:

- Coordination of GIS and response leaders from all affected jurisdictions
- Natural divisions such as waterways or natural peaks change over time
- Managing frequent/multiple response boundary changes
- The public safety industry has not defined parameters to identifiable geographic boundaries
- Response agency written agreements do not match actual field response
- GIS professionals are placed in a role of mediator rather than a recorder of boundaries

- No single source for response service boundaries
- Lack of local and national governance documentation

4.2.3 GIS Data Standardization

The wide-ranging array of GIS capabilities, or lack thereof, across the country creates an ineffective environment for cooperative GIS data development and hinders the creation of a national fabric of next generation GIS data. This issue is highlighted by the complex nature of service boundary topology, which can only be maintained when adjoining entities collaborate and maintain boundaries in tandem.

Local, regional, statewide, and national standards govern the development and maintenance of road centerline and site structure address point GIS data for NG911. However, these GIS data are used for much more than NG911 and need to retain that usefulness, especially since these data have been in use outside of NG911 for decades. The stakeholders identified many challenges to GIS data standardization during the facilitated session.

GIS data governance is severely lacking for all uses of GIS data. Standards bodies have created conflicting recommendations for GIS data that require the maintenance of two attribute tables for the same GIS dataset. The development of road centerlines to support vehicle routing, for example, has long expected that one-way road segments are drawn in the direction of travel. This can be in direct conflict with the NG911 requirement that road segments are drawn from lowest to highest address.

Errors generated by the NG911 systems can be flagged with an exception code to allow the GIS data to be provisioned into the NGCS without changing the data. However, the lack of universal exception codes, rules for allowing exception codes, and even standardized criteria for identifying errors makes it virtually impossible to construct a national aggregate GIS dataset for NG911.

This section continues in the report.

Use this link to read this report in its entirety :

[NHTSA_GIS_Project_Current_Status_of_911_GIS_Technologies_31MAY2022_Final.pdf](#)

FIRST RESPONDER CELEBRATION MONTH

Thank you for your service.



INTERNATIONAL FIREFIGHTERS' DAY 2023 May 4, 2023

This is a day of remembrance, celebration, and support of the fire services profession. As firefighters risk their own lives, whether in immediate danger or health risks over the year of their careers, they save lives and property every day.

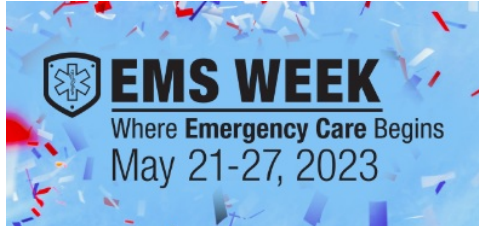
This week honors the sacrifices made as they work in our communities. We thank you for your service and dedication.

NATIONAL POLICE WEEK 2023

May 14 - 20, 2023

This week is designated to honor and support law enforcement, and Police Officer Memorial Day honors those that gave the ultimate sacrifice in the line of duty.

We thank all members of law enforcement and their families for every selfless minute of service and beyond.



NATIONAL EMS WEEK 2023 49th Anniversary

President Gerald Ford authorized Emergency Medical Services (EMS) week in 1974. It is now celebrated the third week of May each year.

This year marks the 49th anniversary to honor, thank and raise awareness of their critical role in our communities.

We extend our thanks to these front-line responders who work fast and furiously every shift to save the lives of the sick and injured.

Articles of Interest



6G promises immersive communications for public safety

By Kaitlyn Levinson, Assistant Editor, GCN

MAY 12, 2023

The next-generation cellular network is poised to massively upgrade situational awareness for public safety agencies, experts say.

For decades, public safety workers have depended on land mobile radio communications and push-to-talk capabilities to share mission-critical information, but these systems are giving way to wireless data networks as broadband capabilities have expanded.

For instance, data networks can help fire departments use 3D location services to track personnel inside buildings for increased situational awareness and safety, and emergency medical services can transmit real-time data and images to hospitals ahead of arrival so they can be more prepared, according to a recent **report** from Next G Alliance, an initiative under the Alliance for Telecommunications Industry Solutions dedicated to advancing wireless technologies across the country.

These evolving wireless networks have supported first responders' growing use and dependence on data, video and image transmission, enhanced location tracking, data analytics and other elements crucial to an effective emergency response, the report

stated.

But there is always room to improve. Enter 6G: the next-generation cellular network that will operate in higher frequencies, such as millimeter and terahertz communications. It will build upon previous systems by offering users enhanced data rates and bandwidth availability, according to Eirini Tsiropoulou, an assistant professor at the University of New Mexico's Department of Electrical and Computer Engineering.

6G provides "substantially lower latency compared to its predecessor 5G cellular technology," she said in an email to GCN. When latency is less than 1 millisecond, connected users can take advantage of haptic cyber-physical applications, she said.

Read the full article: [6G promises immersive communications for public safety - GCN](#)



Under the Headset 911 Insights

[Louisiana]

14 languages are available in the 911 Center



New Orleans 911 center launches live audio language translation for non-English speaking callers

By **Andrés Fuentes**

Published: May. 16, 2023 at 8:23 AM EDT

NEW ORLEANS (WVUE) - Emergency communication specialists at the Orleans Parish Communication District now have access to live translations on their screens when a non-English speaking person needs help in New Orleans.

On May 15, Executive Director Tyrell Morris announced that the district's technology partner Carbyne now offers live audio language translation in its emergency call-taking platform, APEX.

In a press release, OPCD says the new tech will instantly identify the caller's spoken languages from 14 available languages. Emergency communication specialists will then see real-time, on-screen translations of the caller's audio.

Officials say OPCD call takers will still conference in a certified interpreter to ask additional questions and provide emergency instructions but officials say the new translation technology would cut down on human error, enhance dispatch times and further break language barriers.

The press release says OPCD staff is fully trained on the new feature and started using it on May 12, 2023 without any challenges.

The translation services come after a **FOX8 report** highlighted a 911 call between an OPCD call taker, a third-party translator and a Spanish-speaking gunshot victim.

CyraCom International says the translator violated protocols when she tried to convince the OPCD call taker that the gunshot victim was faking his emergency. CyraCom International says the translator has not been employed with the company since November 2022.

Article found here: [New Orleans 911 center launches live audio language translation for non-English speaking callers \(fox8live.com\)](https://www.fox8live.com)

[Wisconsin]

Brown County officials give tips on how to avoid unnecessary 911 calls



Inundation of false alarms blocks responses to true emergencies

More than 2,000 calls were made to 911 in Brown County last week. Half were made by mistake.

By WBAY news staff and **Emily Reilly**

Published: May. 14, 2023 at 3:39 PM EDT | Updated: May. 15, 2023 at 6:24 PM EDT

GREEN BAY, Wis. (WBAY) - In the week from May 7, 2023, to May 13, 2023, nearly 1,000 accidental 911 calls were processed by various law enforcement agencies in Brown County, according to the Brown County Public Safety Communications Department. Each and every one of them needs to be followed up, reads a statement issued by authorities - and emergency resources need to be send [sic] to many, only to find out and confirm there was no emergency situation.

As a result, truly emergent 911 calls will ring for longer, and take more time to respond to because officers have to deal with the flood of accidental dials and false alarms. Officials are urging the public to stay on the line in case of an accidental 911 call and verify all information. If a text has been received by law enforcement, recipients should reply with all the requested details.

Brown County advises that most smartphones and watches have emergency SOS features that may be activated by pressing the volume or power buttons multiple times. To deactivate those features, authorities give the **following tips**:

Android:

1. Open your phone's setting app.
2. Tap safety & emergency SOS
3. Turn off the feature "use emergency SOS"

Go to the article for instructions for iPhone and iWatch. [Brown County officials give tips on how to avoid unnecessary 911 calls \(wbay.com\)](https://www.wbay.com)

[New Mexico]

'HEART' program offers alternative 911

call response

Brittany Costello | KOB

Updated: May 15, 2023 - 8:33 PM

Published: May 15, 2023 - 5:54 PM



ALBUQUERQUE, N.M. – Emergency calls for help in Albuquerque are through the roof, and that’s why Albuquerque Fire Rescue is expanding a program that offers an alternative response.

It’s a way to cut down on seeing the same people over and over again, by getting them meaningful help, services, and support that helps address chronic issues.

“The H.E.A.R.T. actually stands for ‘Home Engagement Alternative Response,’” said AFR Paramedic Capt. Melvin Martinez.

Martinez is in charge of the HEART Division of Albuquerque Fire Rescue. It’s an alternative response team that gives people more comprehensive care and follow up, before or after an emergency.

“Call volume is through the roof. As a department we have to figure out how we’re going to mitigate this, how we’re going to make it better, and I think HEART allows us to affect call volume, and try to help people before they even call 911,” said Martinez.

Oftentimes, first responders see the same people over and over again, for falls, substance use, or strokes.

The HEART Division takes a deeper look at what’s going on, and tries to come up with more long-term solutions.

“We try to find solutions to their problems. I think a lot of times EMS is not going to fix their ailments or things they are chronically suffering from. So we go in there and try to help them navigate the healthcare system, help them find a primary care physician,” Martinez said.

Martinez says they are always looking at new ways to expand those services to get help to people who want it. It’s why they’ve added substance use help resources, and fentanyl test strips to their leave behind kits.

Article found here: [‘HEART’ program offers alternative 911 call response - KOB.com](#)

Industry Events



**CONFERENCE
& EXPO**

**Conference & Expo | June 19-21
Technical Meeting | June 22-23
Mandalay Bay Convention Center**

Interact with all the professionals that make up the fire and life safety community. We're looking forward to networking, creating needed solutions, and continuing to provide the most comprehensive education and certification programs available.

Learn more: [2023 NFPA Conference & Expo | NFPA](#)



June 17 - 22, 2023
Gaylord Texan
Grapevine, TX

At **NENA 2023**, you will not only hear about the public-safety issues of today and tomorrow but also gain practical, real-world know-how that you can take home with you and put into action immediately. Featuring inspiring keynote speakers, more than one hundred hours of breakout sessions that inform and empower, career-building courses and workshops with real-world applications, nightly networking events to help you make the right connections, and an Expo Hall showcasing cutting-edge products and services.

Learn more: [NENA 2023 | June 17-22](#)
[| Gaylord Texan | Grapevine, TX](#)



June 26 - 29, 2023
Devos Place Convention Center
Grand Rapids, MI

The NSA Annual Conference is one of the largest of its kind and displays products and equipment relevant to every facet of police work, jails, prisoner transport, and courtroom security. Exhibitors, therefore, contribute in large measure to the overall success of the conference. There are also numerous seminars and workshops covering all aspects of the duties and responsibilities for sheriffs' offices, including, but not limited to, law enforcement, jail operations, service of process, transportation of prisoners, and court & judicial security.

Learn more: [NSA Annual Conference](#)
[| National Sheriffs' Association](#)
[Annual Conference](#)
[\(nsaconference.org\)](#)



August 6-9, 2023
Music City Center
Nashville, TN

APCO 2023, APCO International's Annual Conference & Expo, is the premier event for public safety communications officials, from frontline telecommunicators to comm center managers to public safety communications equipment and services vendors. Starting August 6, APCO 2023 offers four days of educational sessions, committee meetings and special events, paired with two full days of exhibits.

Learn more: [APCO 2023 | 89th](#)



August 16 - 18, 2023
Kansas City Convention Center
Kansas City, MO

Celebrate IAFC's 150th Anniversary
at FRI2023

Each summer, thousands of the most prominent fire and emergency service leaders from across North America and around the globe come to FRI to learn, network and collaborate together. FRI education covers all areas of the emergency service:

- Navigating the political environment
- Managing change
- Ethical leadership
- EMS issues
- Career development

Annual Conference & Expo

- And more

FRI attracts hundreds of exhibitors to showcase the newest fire service innovations in apparatus, technology, equipment, gear and more. If you're a fire/EMS chief, chief officer or company officer - this is YOUR conference for leadership education.

Learn more: [Fire-Rescue International \(eventscribe.net\)](https://eventscribe.net)



October 14 - 17, 2023
San Diego Convention Center
San Diego, CA

The International Association of Chiefs of Police (IACP) Annual Conference and Exposition is the largest and most impactful law enforcement event of the year – more than 16,000 public safety professionals come to learn new techniques, advance their knowledge and careers, and equip their department for ongoing success.

The three tenets of the conference are training, networking, and exhibit hall education. IACP 2023 will span four days of education and networking. The exposition hall will be open Sunday – Tuesday of the conference to meet with more than 600 vendors showcasing products and services to assist the law enforcement profession.

Learn more: [Welcome to IACP 2023 - IACP Conference 2023 \(theiacpconference.org\)](https://theiacpconference.org)



December 5 - 7, 2023
Irving Convention Center
Irving, TX

As technology advances, new practical applications are imagined to keep communities safer.

Innovation in the fire services with technology isn't only new tools to physically fight fires but it includes programs such as augmented reality that can scan a collapsed building or landslide to see cell phone pings of missing persons, data that can help predict wildfire behavior or improve the quality of life of station employees, artificial intelligence that can predict disasters...These are just some technologies currently being developed.

Technology Summit International aims to bring the tech of the future to today's fire and emergency service professionals — helping them reduce risks to their communities, improve their ability to respond to emergencies, and save lives.

Learn More: [Technology Summit International \(eventscribe.net\)](https://eventscribe.net)

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- [Assessments](#)
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- [Operational Best Practices](#)
- [Governance](#)
- [Implementation Services](#)



Areas of focus include:

- [911 Emergency Communications](#)
- [Public Safety Systems](#)
- [Digital Evidence and Body Worn Cameras](#)
- [Smart Cities](#)
- [Mission Critical Facilities](#)
- [Big Data](#)

International Services

[International Clients](#)

Some areas of focus include:

- Emergency Communications
- Emergency Operations Centers
- Emergency Services
- NG9-1-1
- Wireless Communications
- LTE 5G Network
- 911 Implementation
- 112 Implementation
- Transportation Management
- Smart Cities



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