

Accelerating Adoption and Use of Emerging Location Based Services by Public Safety

July 9th, 2019

National Alliance for Public Safety GIS (NAPSG) Foundation

napsfoundation.org | [@napsfoundation](https://twitter.com/napsfoundation)

DISCLAIMER

This presentation was produced by guest speaker(s) and presented at the National Institute of Standards and Technology's 2019 Public Safety Broadband Stakeholder Meeting. The contents of this presentation do not necessarily reflect the views or policies of the National Institute of Standards and Technology or the U.S. Government.

Posted with permission

Agenda

Accelerating Adoption and Use
of Emerging Location Based
Services by Public Safety

Great Lakes AB from 3:15
to 4:00 PM

3:15 Introduction & Who is the
NAPSG Foundation?

3:20 **Project Overview** – Mapping,
Tracking, and Navigation

3:30 **Pre-plan Demonstration**

3:35 **Hands-on Exercise** – Put
Yourself on the Map!

3:50 Discussion

4:00 Adjourned

About NAPSG Foundation

Our Vision

A Nation of emergency responders and leaders equipped with the knowledge and skills in applying technology and data to change the outcome for survivors.

- 501(c)(3) Non-profit organization established in 2005
- +20,000 member network: Public Safety leaders, first responders, and GIS practitioners
- Board of Directors comprised of public safety & emergency management industry leaders



ICMA



NACCHO
National Association of County & City Health Officials
The National Connection for Local Public Health

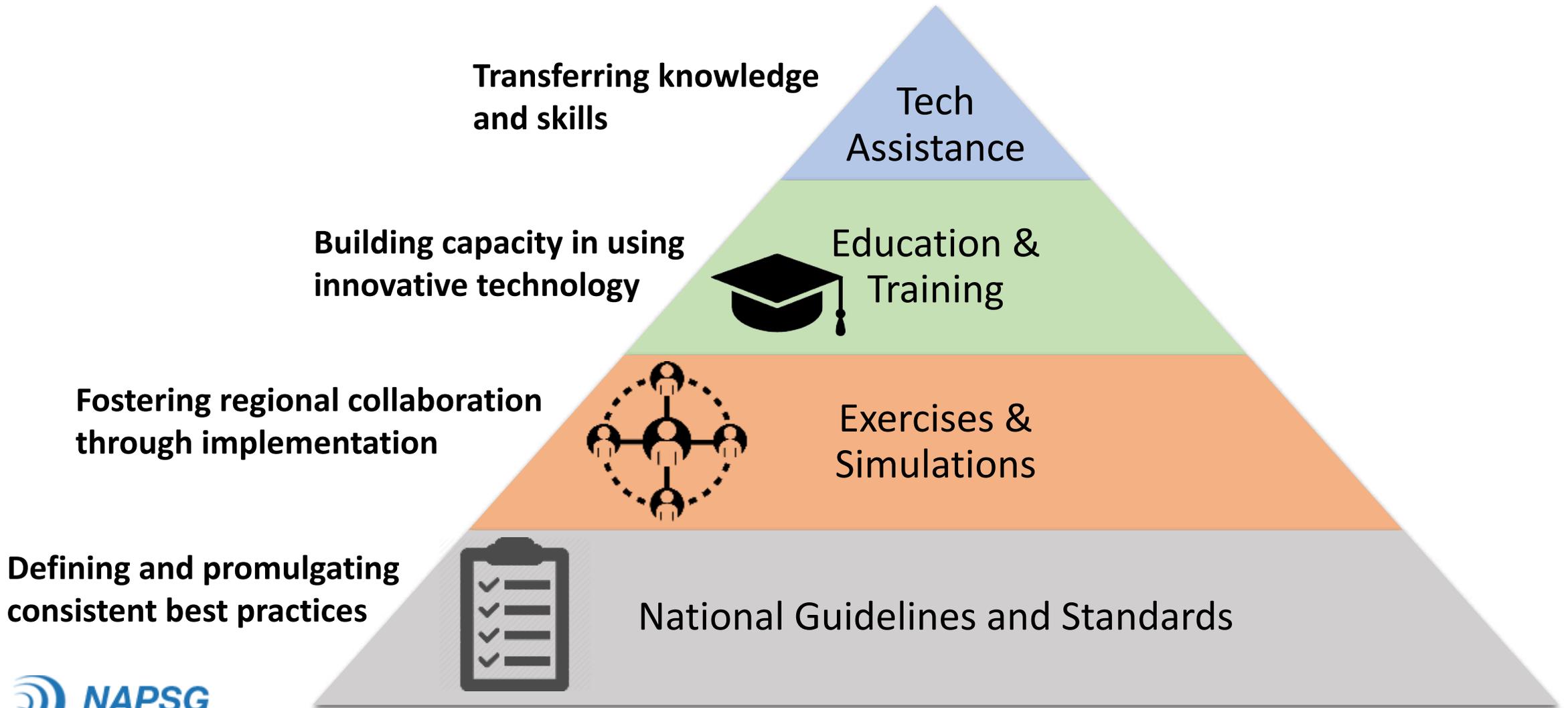


From Preparedness through Response and into Recovery

First Responders, Operators, and Decision Makers have access to and know how to use the right **actionable information** at the right time.



How Do We Do It



Resource Library

NAPSG Foundation HOME ABOUT US WORK WITH US **RESOURCES** EVENTS NEWS

RESOURCES

Welcome to NAPSG's Resource Library. Here you can access all of the key resources that NAPSG makes available to the community at no cost, to support you and your agency in advancing the use of location-enabled decision support tools.

The Resource Library is organized by resource category. Simply click on the Category of interest and begin exploring available resources. You can also search for resources by entering-in a keyword into the search box in the upper right hand side.

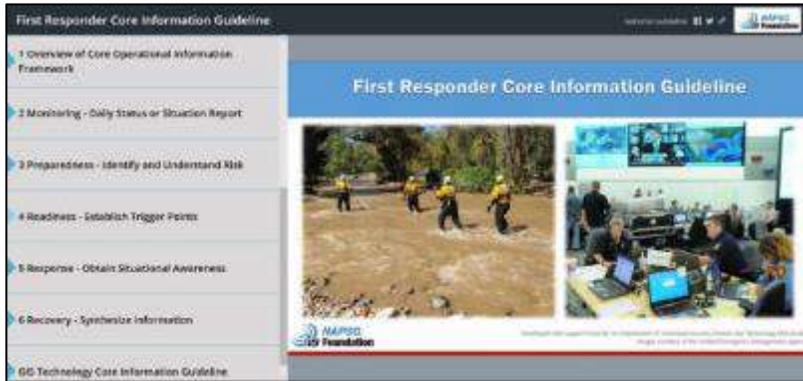
SEARCH RESOURCES

All Categories

- Best Practices and Standards
- Education and Training
- Event Proceedings and Materials
- Qualifications and Credentialing
- Guidelines and Templates
- Symbol Library
- US National Grid Resources
- Safe & Resilient Toolkit

Guidelines and Standards

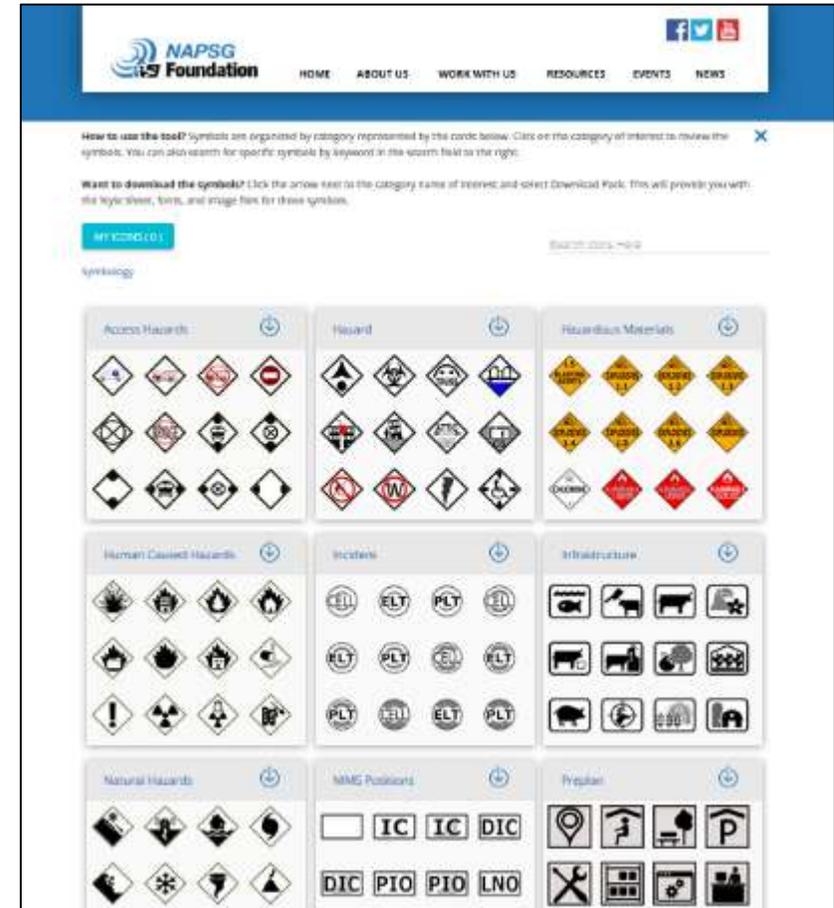
First Responder Core Information Guideline



Resource Management Dashboard Guidance



Standardized Incident Symbology



i-Axis Project Overview

Paul Doherty, PhD - NAPSG Foundation

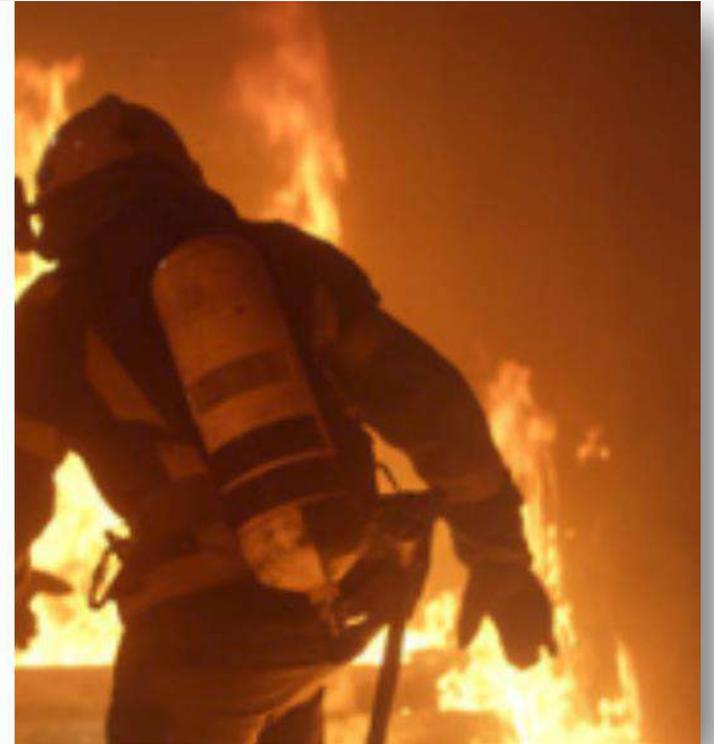
Problem

- 1) First responders are not rapidly adopting and using the existing Location-based solutions and capabilities available today.
- 2) Therefore, the research and development teams do not have actionable input from first responders to develop the practical solutions of tomorrow.

In Search of the Holy Grail: Indoor Tracking for First Responders

The ability to locate and track first responders operating indoors under difficult conditions remains a 'Holy Grail' sought by the public safety community. Every year, firefighters die or are seriously injured because they become lost, separated, or difficult to locate inside buildings or houses. Every day, law enforcement officers enter buildings, often alone, with their precise whereabouts unknown.

At the National Institute of Standards and Technology, the [Public Safety Communications Research](#) program is on the hunt for a solution to this extremely difficult problem. Follow the rest of this story to learn more about this complex issue, how PSCR is driving research and innovation in this area, and providing opportunities to get involved.



Question

What are location-based services (LBS)?

“provisioning of customized information, features, or services based on a user’s current or projected location”

Poll

When you think of Location-Based Services in public safety, what capabilities come to mind?

Describe in 3 words or less.

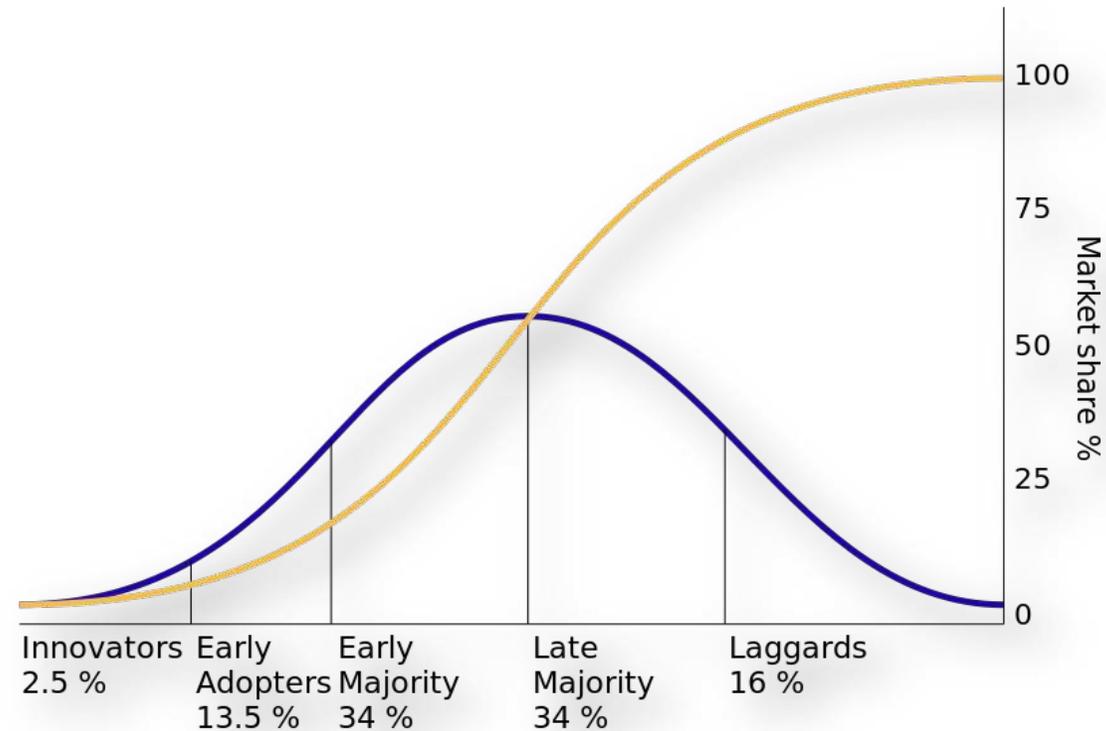
Go to www.menti.com

Enter code 14 58 43

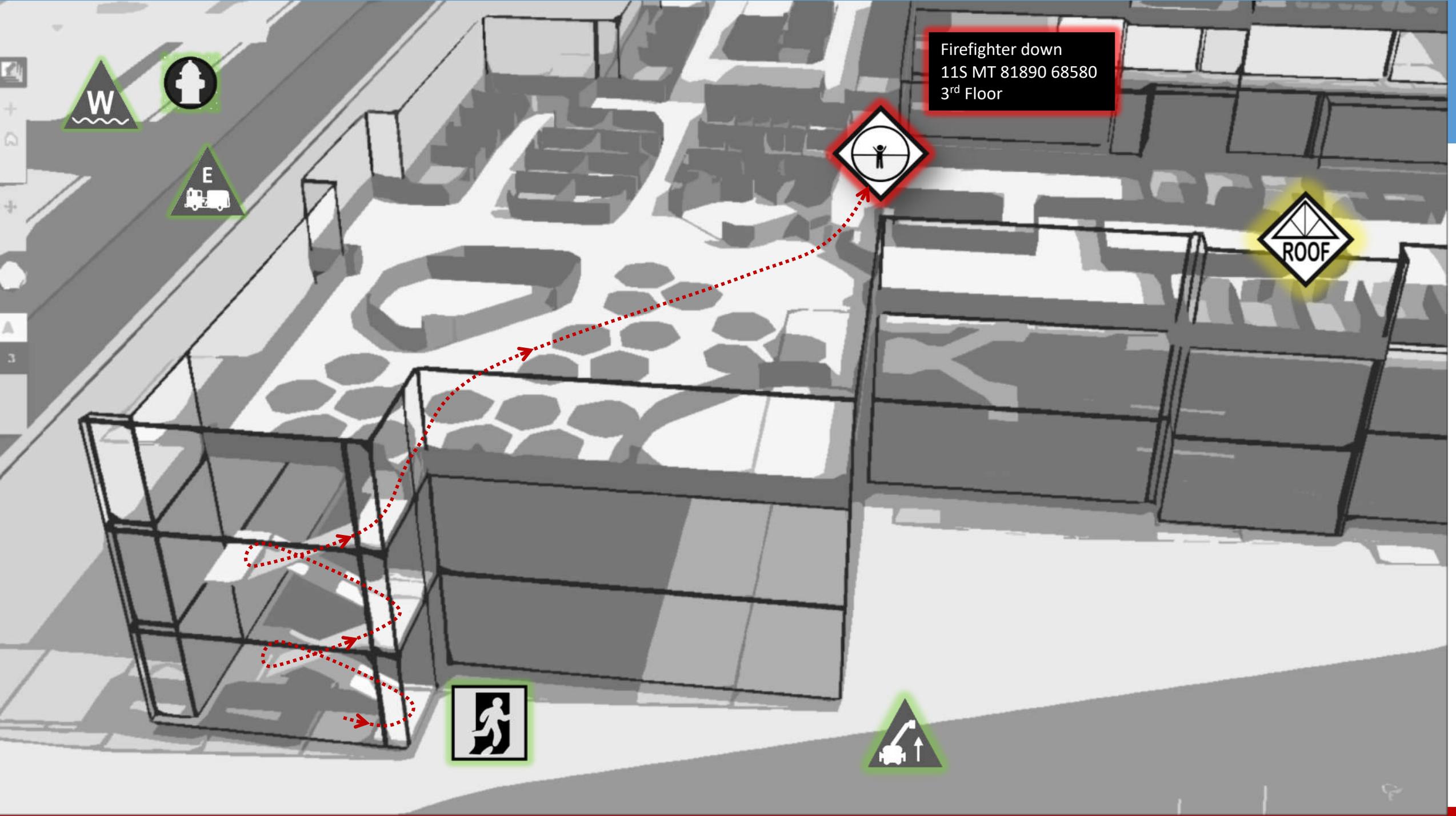
i-Axis Project Overview

Focus on Indoor:

- Mapping
- Tracking
- Navigation



This figure references the well-known “diffusion of innovation”, which represents market share / adoption over time.



Firefighter down
11S MT 81890 68580
3rd Floor



Identify best practices

Daily Problem	Significant Event	Audience	Best Practice
Finding a single patient in an indoor mall	Mass Casualty Incident in a sports stadium	EMS	Utilize common 2D and 3D Incident Symbology.
Welfare check in an apartment building	Active shooter in an educational complex	Law Enforcement	Standardized approach to the frequency of tracking location updates to optimize situational awareness.
Building and smoke alarm inspections	“Mayday” response in a burning skyscraper	Structural Firefighters	Consistent approach to visual cues provided by heads up displays.

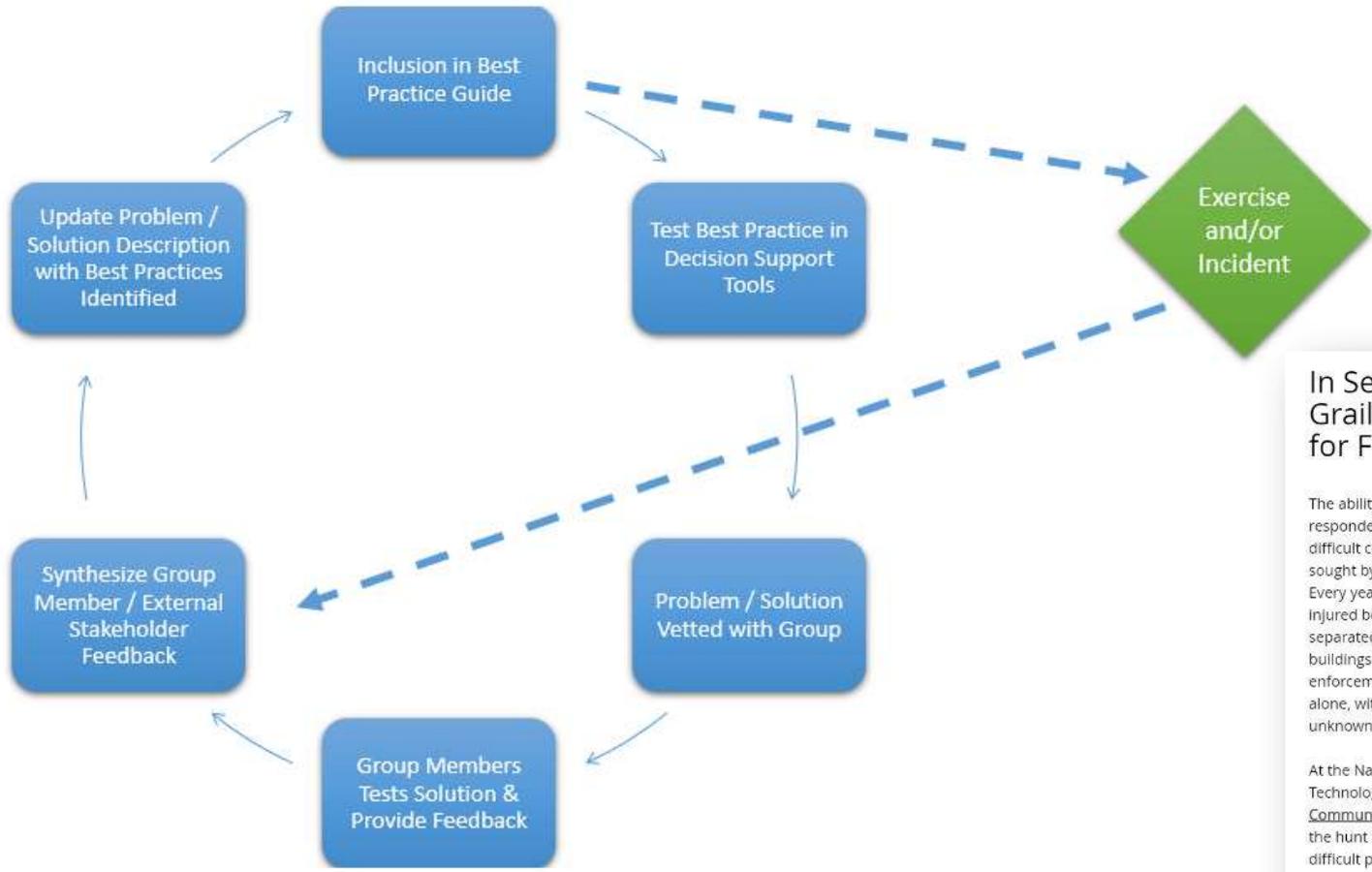
Identify and test potential solutions

Daily Problem	Significant Event	Audience	Best Practice	Solution
Finding a single patient in an indoor mall	Mass Casualty Incident in a sports stadium	EMS	Utilize common 2D and 3D Incident Symbolology.	Location from e911 phone call(s) plotted on an indoor navigation map for EMS personnel.
Welfare check in an apartment building	Active shooter in an educational complex	Law Enforcement	Standardized approach to the frequency of tracking location updates to optimize situational awareness.	Live tracking of law enforcement officer(s) on a 3D viewer.
Building and smoke alarm inspections	“Mayday” response in a burning skyscraper	Structural Firefighters	Consistent approach to visual cues provided by heads up displays.	Detailed turn by turn instructions (audio / visual) for firefighters to a known location in a building.

Goals

- Create a community of Innovators and Early Adopters using existing solutions (indoor and/or outdoor).
- Identify existing and proposed best practices.
- Accelerate the adoption of new and emerging LBS into public safety daily operations.

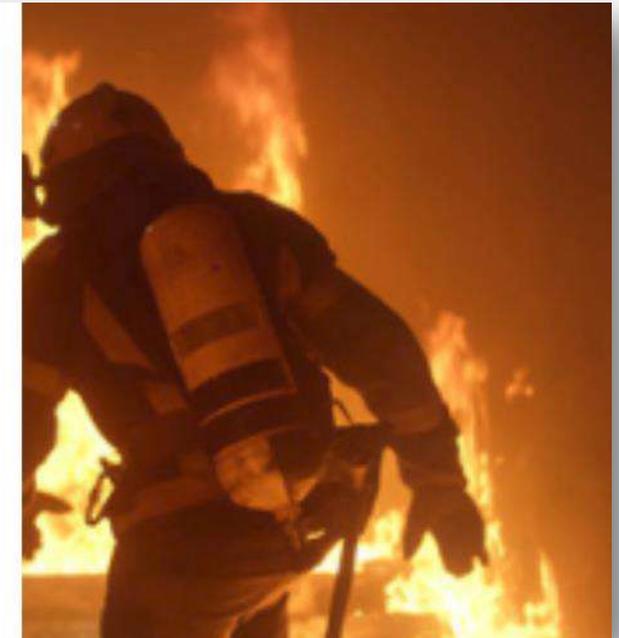
Want to join the quest?



In Search of the Holy Grail: Indoor Tracking for First Responders

The ability to locate and track first responders operating indoors under difficult conditions remains a 'Holy Grail' sought by the public safety community. Every year, firefighters die or are seriously injured because they become lost, separated, or difficult to locate inside buildings or houses. Every day, law enforcement officers enter buildings, often alone, with their precise whereabouts unknown.

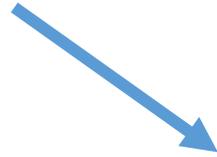
At the National Institute of Standards and Technology, the [Public Safety Communications Research](#) program is on the hunt for a solution to this extremely difficult problem. Follow the rest of this story to learn more about this complex issue, how PSCR is driving research and innovation in this area, and providing opportunities to get involved.



External Considerations

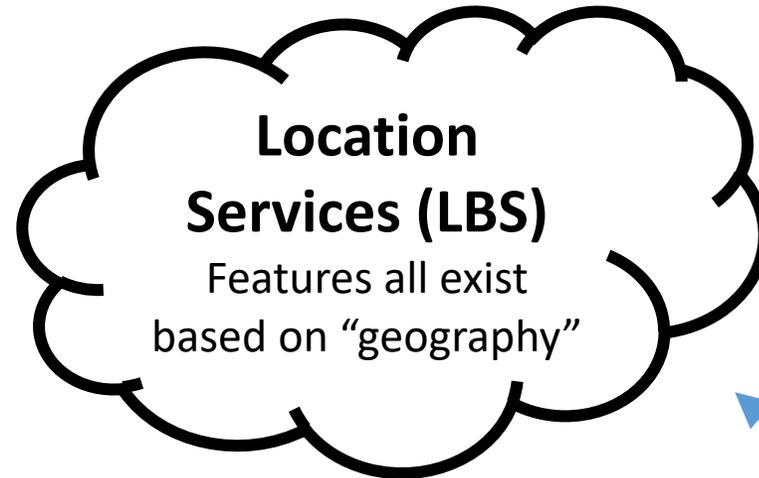
External Sources

Open source, commercial data, etc.



NG 911

GIS Oriented Next Generation 911



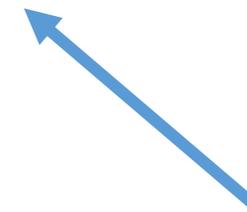
Building Information Systems

Modern building systems to monitor systems

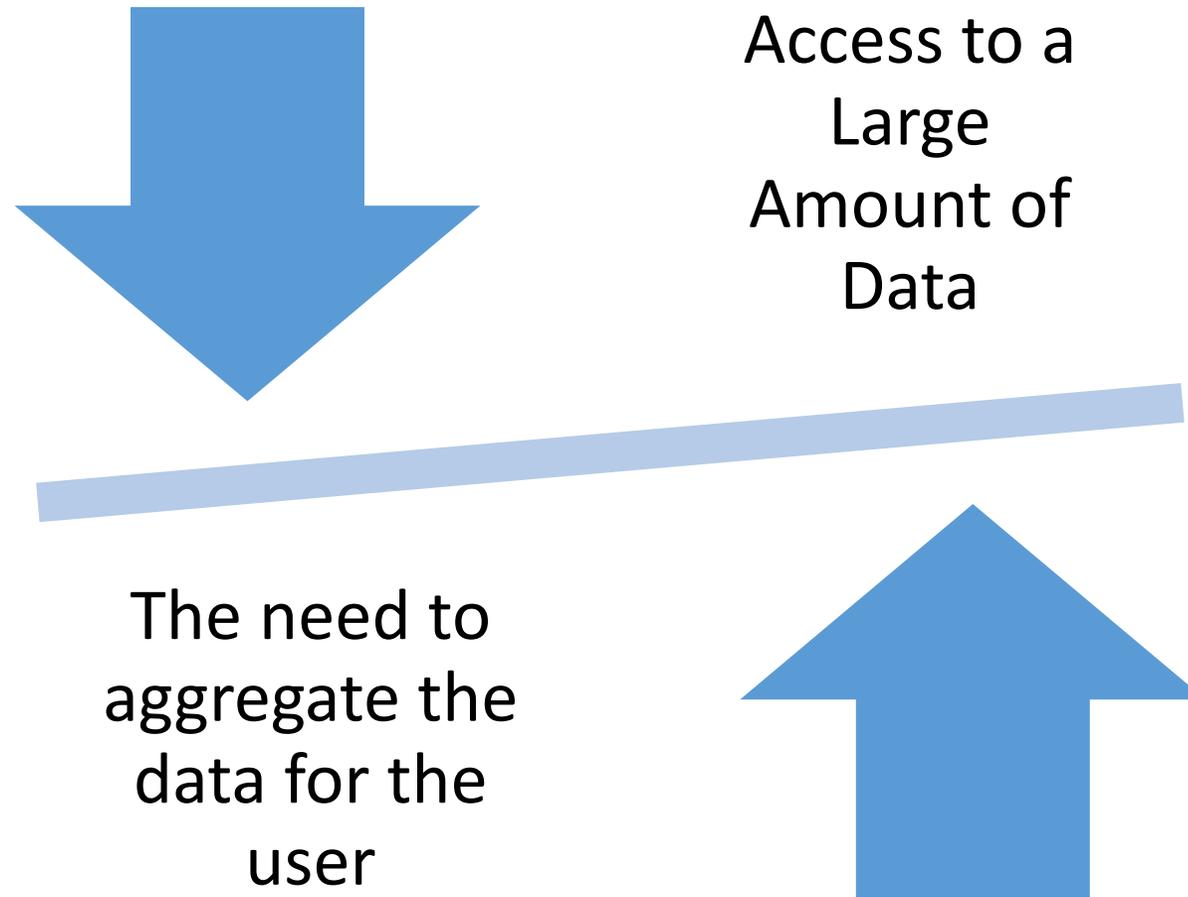


Existing GIS

GIS systems that exist within a jurisdiction



Balancing Act



Demonstration

Geospatial Pre-plans

Chris Rogers

Map of Location-Based Services Innovation

Hands-On Exercise

Accelerating Adoption and Use of Emerging Location Based Services by Public Safety

Department/agency currently track the location of personnel?

Add your department to the map and share how you are using:

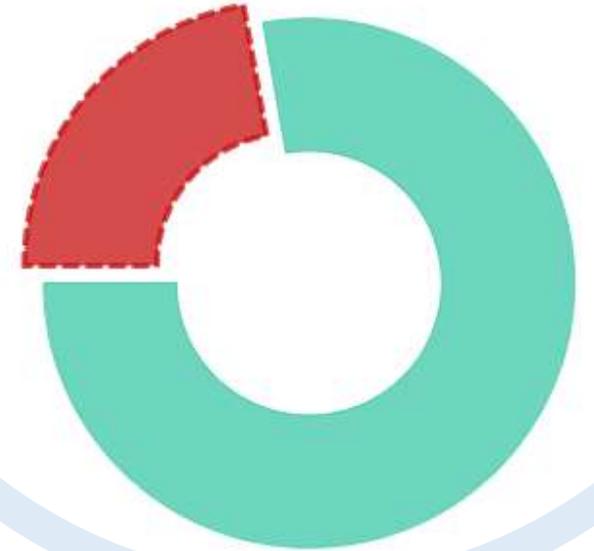
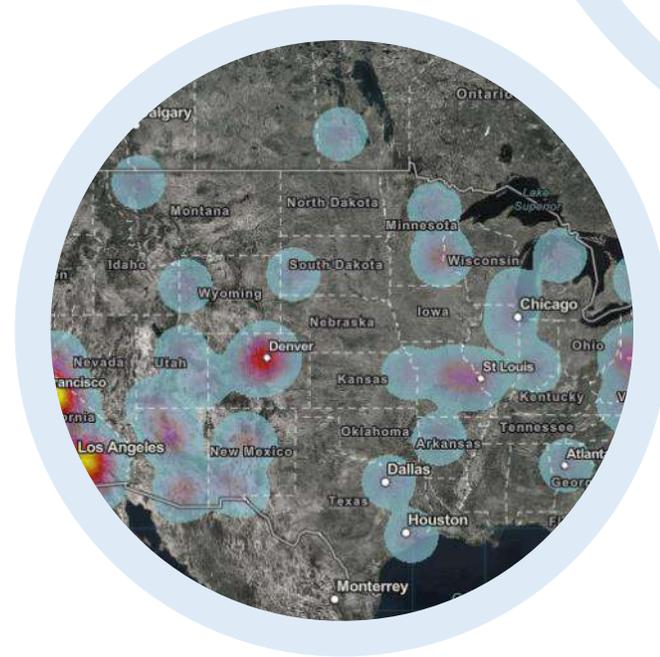
- Mapping
- Tracking
- Navigation

bit.ly/20190709_iAxis

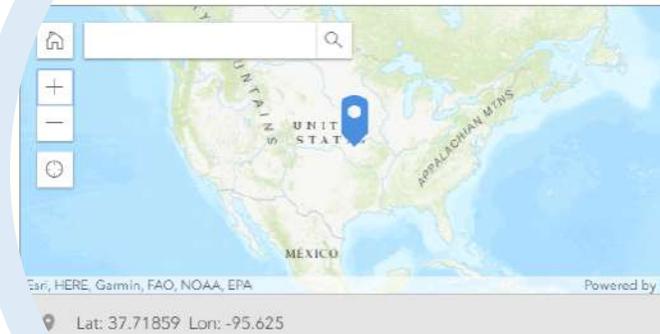


1. Open Camera
2. Point at QR Code*
3. Open the link

*Some phones require that you hold the "home" button



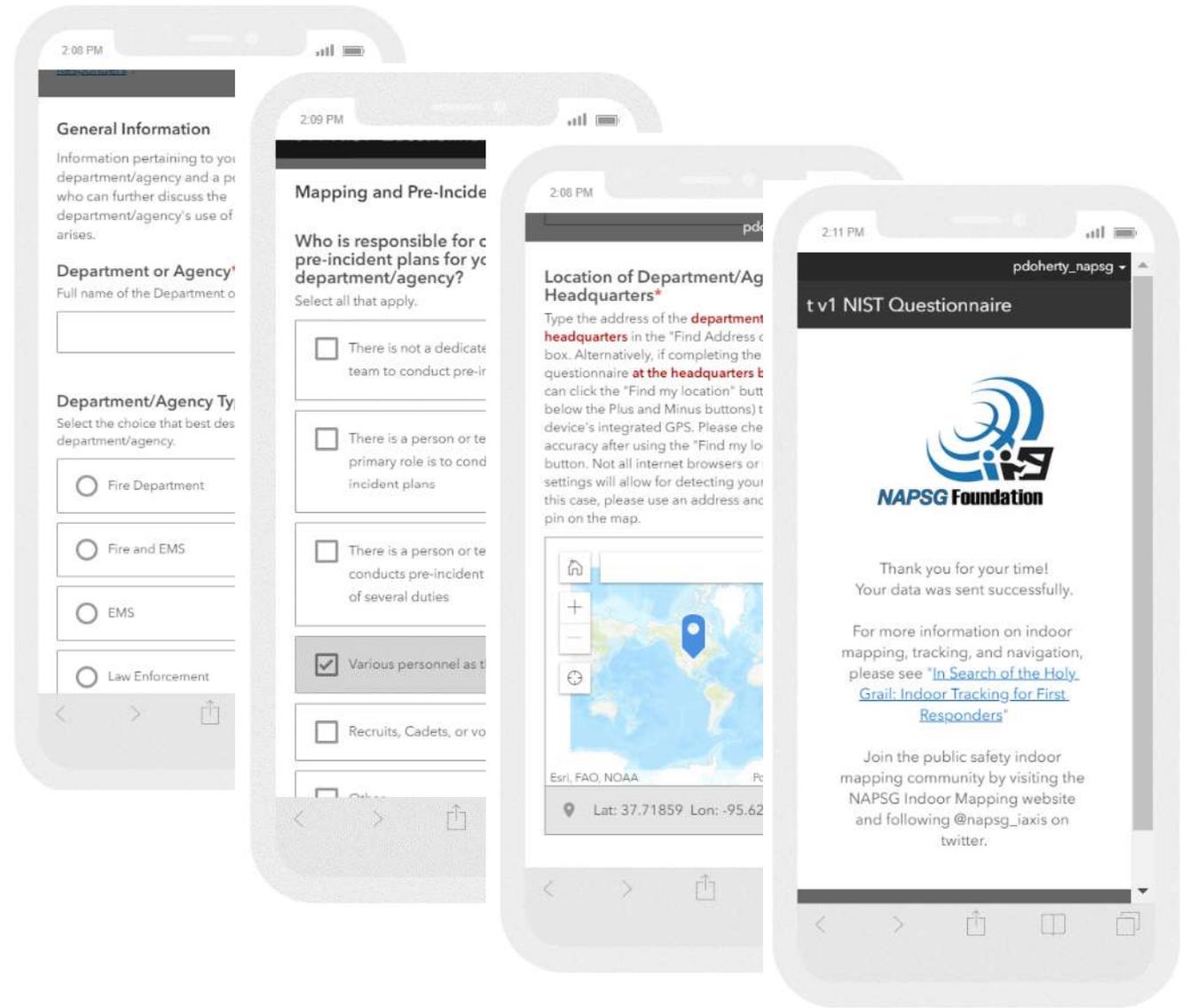
.../Agency Headquarters*
... department/agency headquarters in the "Find Address...
... completing the questionnaire **at the headquarters building**, you can...
... "Location" button (right below the Plus and Minus buttons) to use your device...
... GPS. Please check the accuracy after using the "Find my location" button. No...
... browsers or security settings will allow for detecting your location. In this case, please...
... address and/or drag the pin on the map.



How does it work?

1. Fill-out the form.
2. Add yourself to the map.
3. Submit the form.
4. See your department on the map.

You can also open this on your PC <https://bit.ly/20190709> iAxis



Next Steps

2019

InSPIRE

LBS Innovation Outreach Toolkit

LBS First Responders Working Group

2020

Regional Workshops

Best Practice Guide

2021

Virtual Trainings

LBS Public Safety Technology Gap Priority List



Questions and Discussion

Thank you!

Paul Doherty * pdoherty@publicsafetygis.org

Jared Doke* jdoke@publicsafetygis.org

#PSCR2019

Get your hands on the tech!

Demos

BACK TOMORROW

Open
8:00 AM