HOW ARE APPS USED IN THE FIRE SERVICE?

Results from a 2018 survey reveal how fire departments are solving problems with apps – and where your department may be missing opportunities

FireRescue**1**

MOTOROLA *SOLUTIONS*

There's an app for almost everything these days. Nearly 90 percent of firefighters who responded in a recent survey conducted by FireRescue1 and Motorola Solutions said they use apps when responding to emergency calls – but do they know the extent of apps available and are they using them to their full potential?
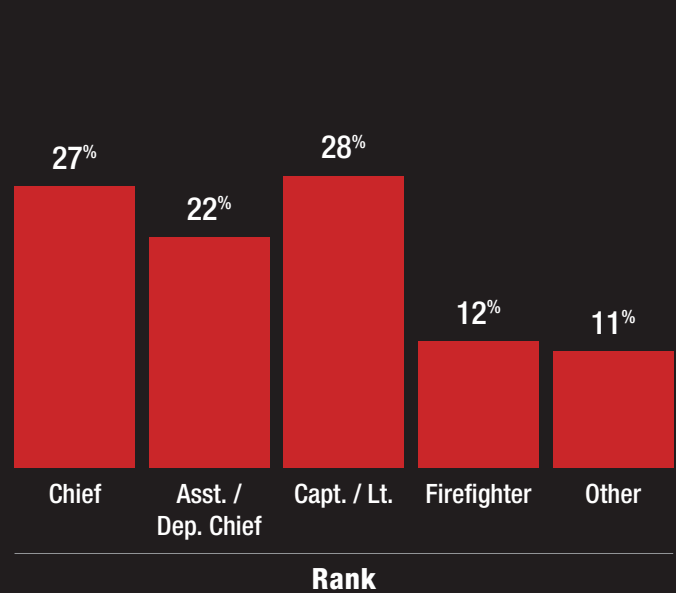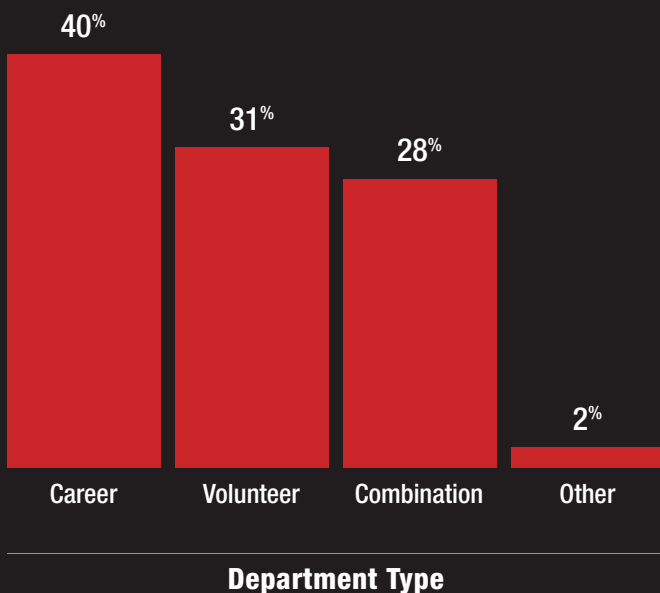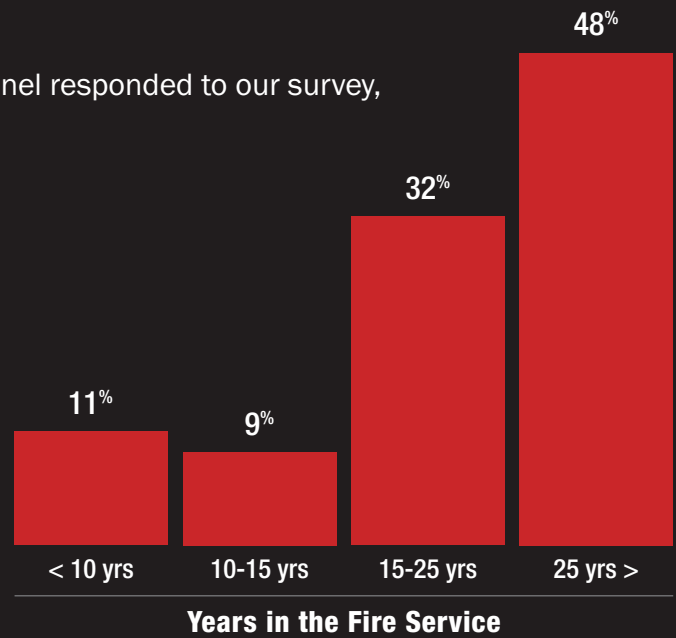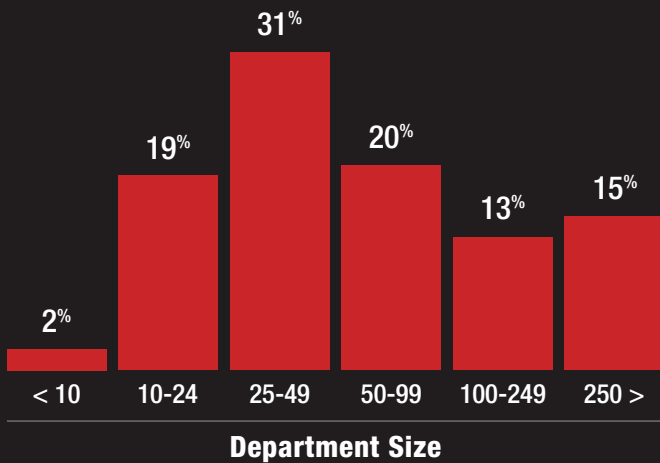
This report explores current trends in app usage in the fire service through the lens of our survey results, including what kinds of apps are available, which are the most used, potential benefits of app usage and how apps can work together and integrate with radio systems.

Do you use data apps to support emergency response?

14% NO   YES 86%
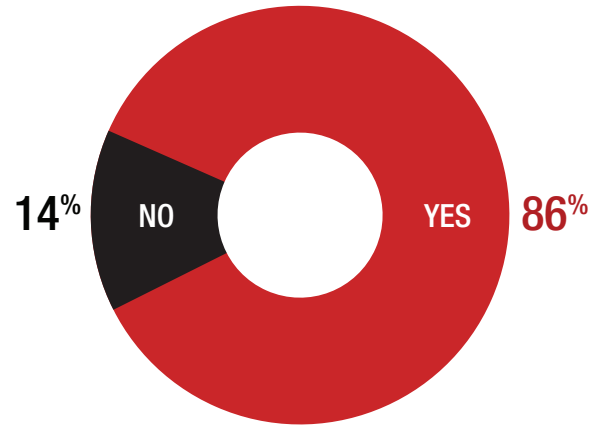
SURVEY RESPONDENTS

855 firefighters, fire officers and other fire service personnel responded to our survey, conducted in March 2018.

Department Size

< 10	10-24	25-49	50-99	100-249	250 >
2%	19%	31%	20%	13%	15%

Years in the Fire Service

< 10 yrs	10-15 yrs	15-25 yrs	25 yrs >
11%	9%	32%	48%

Department Type

Career	Volunteer	Combination	Other
40%	31%	28%	2%

Rank

| Chief	Asst. / Dep. Chief	Capt. / Lt.	Firefighter	Other
27%	22%	28%	12%	11%

RESULTS ARE IN:
THE TOP TYPES OF FIRE APPS AND WHAT YOU SHOULD BE USING

Apps can provide essential information for responders, as well as enhance communication in critical situations. They fall into two categories: third-party apps available through the iTunes Store or Google Play, or those that are available from public safety vendors and mission critical, designed specifically for use by firefighters, whether on smartphones or two-way radios.

In many cases, firefighters are using the smartphone apps they are familiar with from everyday life, such as mapping and GPS apps like Google Maps and Apple Maps, or their smartphone cameras. These familiar everyday apps open the door to a variety of mission-specific tools.

According to the survey, **the public safety-specific apps most often used by firefighters today are those that bring existing tools into the digital age**, such as the Emergency Response Guidebook, which provides first responders with a go-to resource for handling hazmat incidents. Several apps provide on-the-go access to the mission-critical information in this trusted guide, alleviating the need to keep a current hard copy in every fire vehicle.

What kinds of apps do you use during emergency response?

Mapping/GPS	Emergency Response Guidebook	Active911 / Dispatch	Hazmat
58%	54%	47%	37%
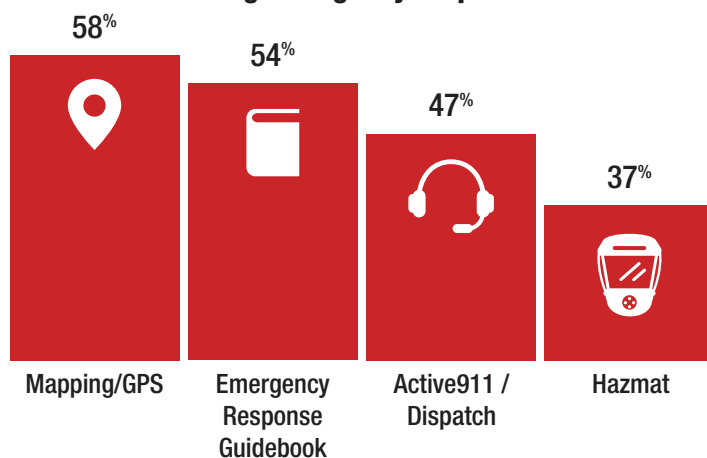
Apps that bring familiar tools like "the orange book" to your mobile device or radio can boost efficiency and the speed at which fire officers can access necessary information, from hazmat to EMS resources. FireRescue1 columnist Robert Avsec, a retired battalion chief and current fire instructor, calls this an "external brain."

"The Emergency Response Guide is a very popular app simply because it is one of the most commonly used hard-copy resources on a fire truck or an ambulance. Another is the NIOSH Pocket Guide," said Avsec. "If you get a subscription, it's always up to date – and you don't have to worry about losing it. Rather than having to carry books on a fire truck or having four or five of these things in your turnout coat pocket, it's all on one device."

Firefighters are also using EMS apps, including 29 percent who said they use apps for electronic patient care reporting and 17 percent for medical reference information. Other available apps include calculators for flow, pressure and friction loss. Similar to apps that support the Emergency Response Guide, these apps provide at-your-fingertips information in critical situations.

> **More than 4 in 10** said there are **radio applications they would like to use** for emergency response but are not currently using.

Additionally, 43 percent said there are radio applications for work that they would like to use but are not currently using. Potential apps support EMS functions, translation/communication, personnel scheduling, personnel accountability and more.
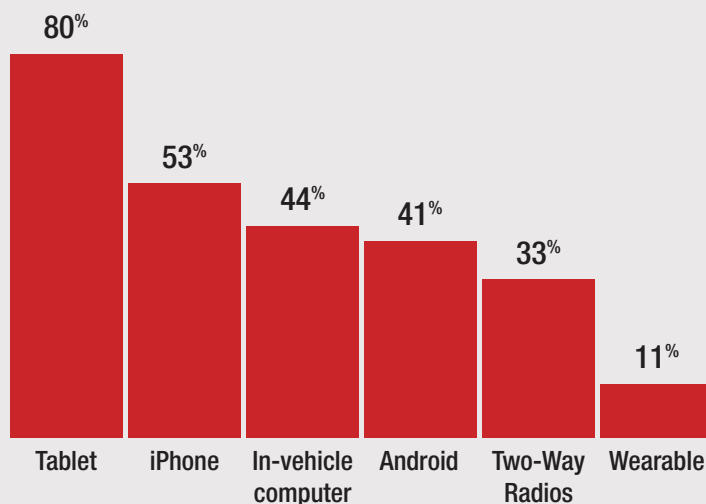
WHY AREN'T YOU USING APPS ON THE JOB?

Although it's clear that apps are widely used in the fire service, 139 respondents (16 percent) indicated that they don't use apps on the job. Of those, 47 percent said it's because they don't use a laptop or smartphone at work for emergency response purposes. But 41 percent of respondents overall said their department plans to integrate smartphones into operations.

> **Less than 10 percent** of respondents overall said they **do not use a laptop or smartphone** for emergency response purposes.

WHICH DEVICE DO YOU PREFER TO ACCESS APPS?

The survey results show a clear device preference for accessing apps via tablet, followed by iPhones. One-third (33 percent) said they prefer to access apps via two-way radio. Wearable devices are the least preferred, at 11 percent. Fully ruggedized broadband devices are available for this purpose but not yet in wide use in the fire service.

Device	Percentage
Tablet	80%
iPhone	53%
In-vehicle computer	44%
Android	41%
Two-Way Radios	33%
Wearable	11%

OTHER APP TYPES THAT CAN HELP FIREFIGHTERS ON THE JOB

POLICE SCANNER/911 ALERTS
Get current alerts on calls for emergency response.

PERSONNEL/SHIFT SCHEDULING
Take the mystery out of overtime with automatic crew scheduling.

PERSONNEL ACCOUNTABILITY
Keep track of crew members on the fireground while issuing alerts and communications without occupying radio traffic.

INCIDENT DOCUMENTATION
Log new calls, record response status, incident location, incident status and more.

HAZMAT INFORMATION
Various apps provide mobile access to the NIOSH Pocket Guide and other key hazmat resources.

CALCULATORS: FIRE FLOW, PUMP PRESSURE, FRICTION LOSS
Calculate estimated needed fire flow required to extinguish a structure fire and pump discharge pressures, as well as friction loss based on coefficient according to hose diameter, length, gallons per minute and number of appliances.

STRUCTURAL/VEHICLE SCHEMATICS
Some apps provide building plans for incident planning, and several automakers offer apps that show first responders where it is safe to make cuts into the vehicle. By looking at these diagrams, responders can avoid hitting fuel lines, battery cables or any other potentially hazardous components.

GEOGRAPHIC INFORMATION SYSTEMS
Responders can use GIS apps to share maps and search for information about the location of incidents and other responding units.

DRUG INFORMATION
Drugs.com offers a free Medication Guide app with a searchable database of drug information, including a feature that identifies medications based on imprint, shape or color.

AED LOCATOR
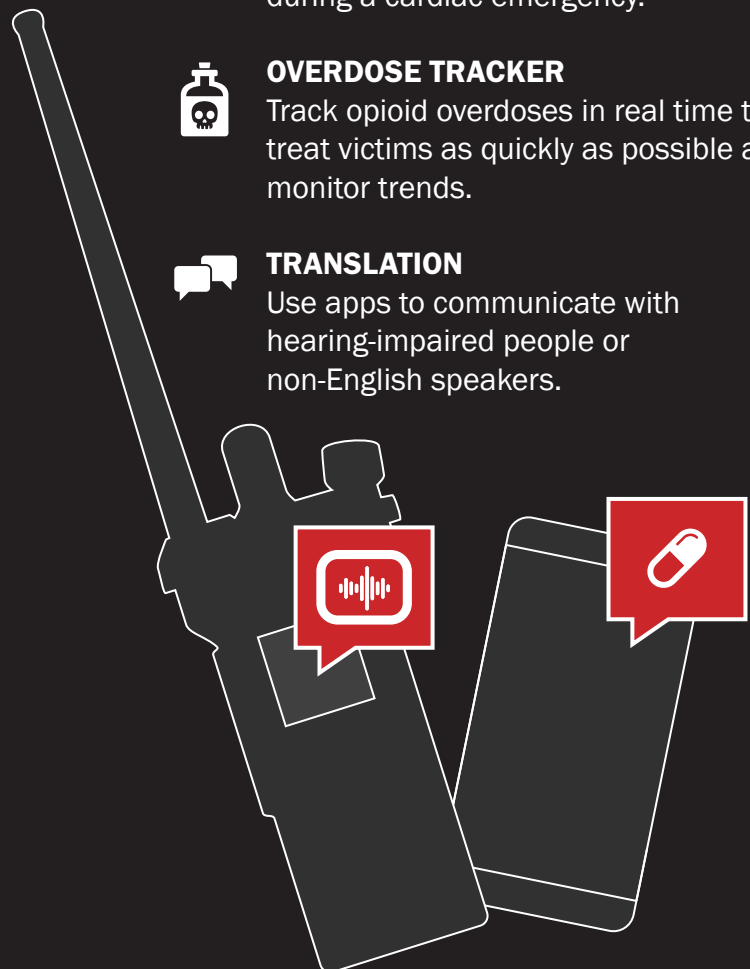Several apps provide access to registries of AEDs to help you find one during a cardiac emergency.

OVERDOSE TRACKER
Track opioid overdoses in real time to treat victims as quickly as possible and monitor trends.

TRANSLATION
Use apps to communicate with hearing-impaired people or non-English speakers.

How Are Apps Used in the Fire Service?

HOW APPS CAN HELP SAVE TIME AND MONEY

Mobile tools can help fire departments save time, money and even lives by streamlining certain operational tasks and promoting a faster and safer response. Using apps to replace hard-copy references like the Emergency Response Guide means lower replacement costs for updates. An auto manufacturer's structural app can guide responders needing to extract a person from a crash to the safest places to cut and spread the vehicle without triggering an airbag or other hazardous component.

Many apps help unite dispatch systems with firefighters' personal broadband devices, delivering alerts, call-out tones and other key messages. **These tools expand the reach of dispatch and help reduce response times**, as responders (particularly volunteers) get their calls sooner.

Apps like Active911 broadcast call information from the dispatch center so that everyone gets the location, description and more as soon as a call goes out. Some of these apps are taking it to the next step and creating two-way communication so that firefighters can check in and let the dispatch center and fire officers know whether they are

responding to a call. This enables a better-informed response because officers can prepare and, if needed, call for mutual aid before arriving at the scene short-handed.

Scheduling apps offer another opportunity to streamline operations. Fire chiefs must ensure that they have the right number of people, with the necessary qualifications, in the proper locations, every day – and to manage PTO and overtime to stay within the budget.

Mobile apps can be especially beneficial when it comes to scheduling. Automating that process and enabling individual crew members to report their own sick leave, vacation and shift swaps represents tremendous potential for saving time and money.

"Managing all of that for 100 people on a shift is an all-day job," said Avsec, now a fire instructor. "I cannot fathom how much time and energy an automated system would have saved me back in the day."

HIDDEN POTENTIAL IN YOUR RADIO SYSTEM

Apps can help your department supplement voice communications, reduce costs and provide new ways to access and share information so you can make better decisions and improve outcomes. Several apps are available for two-way radio systems to support interoperability and shared communications between police, fire and EMS.

"The real value that apps are bringing to managing the emergency scene is the ability to share information so that everybody is seeing the same information," said Avsec. **"And the ability for GPS and other radio data to integrate into LTE applications such as mapping is hugely important."**

Survey respondents are strongly aware of the potential benefits of being able to instantly communicate on their two-way radios with command or police officers who are using a broadband device running interoperability applications. More than three-quarters, however, said their department does not currently run applications over its two-way radio system.

Of those who do run apps over their two-way radios, noted benefits included interoperability and making

the most of their existing radio systems. Two of the most-used app types are fire station alerting and personnel accountability.

Using a radio app can enhance the speed and accuracy of your on-scene personnel and safety management by automatically providing accountability information to incident commanders for all personnel on the fireground. An app can also free up voice traffic by sending alerts, such as evacuate, roll call and mayday notifications, without tying up radio channels.

Are there benefits to being able to communicate on your two-way radio with command or police officers using a broadband device?

- 27% NOT SURE
- 3% NO
- 70% YES
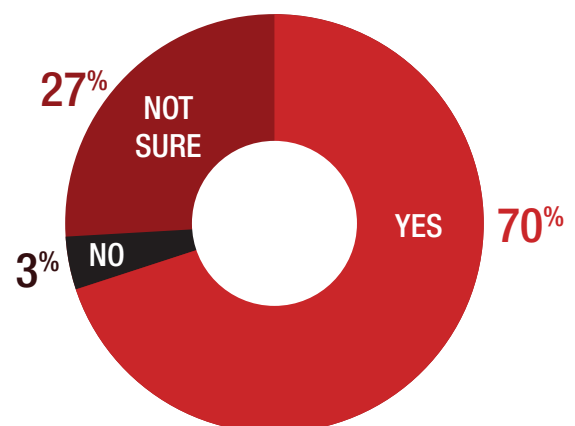
Apps that enable interoperable communications allow fire departments to operate more efficiently and collaborate more effectively over wider areas. **Running apps via two-way radio also enables responders to tap into public safety networks, such as FirstNet**, that are designed to support the traffic generated by multiple responders during an incident. This provides a distinct advantage over commercial networks, which can quickly be overloaded.

Sharing data via apps over the radio also frees up the voice channel for critical messages while still sharing vital information among responders, making the most of the radio system. According to the survey, most respondents are not taking advantage

of apps that extend radio communication to broadband and expand collaboration over larger areas.

Does your department currently run applications over your two-way radio system?

- 10% YES
- 11% NOT SURE
- 79% NO
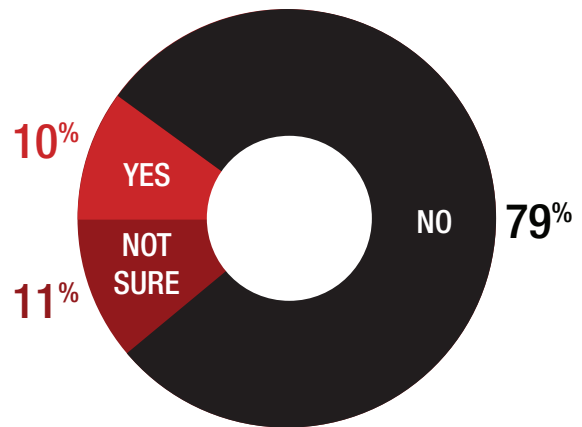
THE MOST-USED APPS

Two of the most-used app types in the fire service, as revealed in our survey, are fire station alerting and personnel accountability. Here are two example apps available for use with two-way radio systems:

FIRE STATION AUTOMATION AND ALERTING

USED BY

77%

Using these types of apps can improve response times and firehouse safety. Manage tones and announcements, select areas of the firehouse where tones are sounded, automatically open and close apparatus bay doors and more.

For example, the Motorola Solutions MACH Alert™ Fire Station Alerting and Automation solution allows you to set custom alert tones by type of alert. It also activates lights and tones in designated areas to reduce disruption in bunkrooms or other quiet areas. The system notifies dispatch that the station was alerted and enables monitoring and control of the fire station from the dispatch center while the station is empty.

PERSONNEL ACCOUNTABILITY

USED BY

38%

Fireground accountability apps help incident commanders track who's on the fireground and issue notices or accountability requests as needed. Individual firefighters can respond to these checks by pushing the PTT button or issue a mayday. This helps fire officers monitor the scene and improves firefighter safety. Automating this process provides better accountability, reduces the time it takes to conduct these checks and cuts down on radio traffic.

For example, with the APX™ Personnel Accountability radio app from Motorola Solutions, an incident commander can initiate a Personnel Accountability Report, or PAR check. Each responder acknowledges the request by pressing the PTT button on his or her radio, and the system provides instant confirmation of who has checked in and a count of those yet to respond.

WHAT YOU CAN DO WITH A PERSONNEL ACCOUNTABILITY APP

INCIDENT COMMAND

Monitor personnel on the fireground

Issue check-in calls

Send a tactical alert or evacuation order

FIREFIGHTERS

Respond to check-in calls

Transmit individual's identity

Issue mayday

WHAT YOU CAN DO WITH A FIRE STATION ALERTING AND AUTOMATION APP

Text-to-speech CAD announcements

Automatically open apparatus bay doors, turn off kitchen appliances, activate exhaust systems

Designate no-tone quiet areas (bunkrooms, etc.)

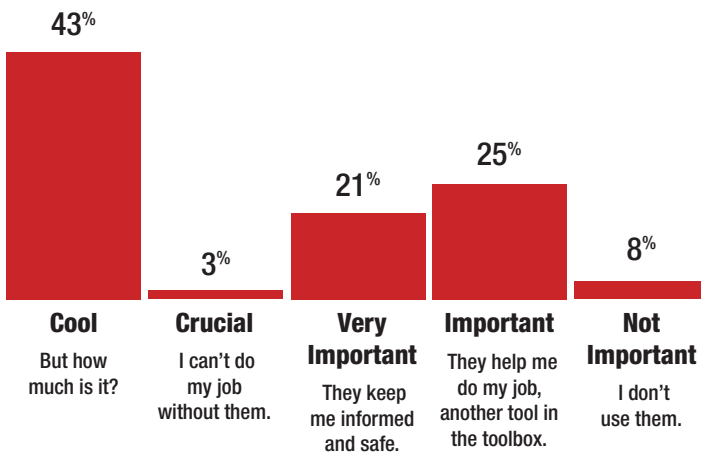Monitor and control the fire station remotely while the station is empty

Notify dispatch the station received the alert

Log all system events, alarms and dispatch actions

How Are Apps Used in the Fire Service?

WHY RADIO-APP INTEGRATION IS VITAL

Almost half the firefighters who responded to our survey (46 percent) said having interoperable apps that let you share information across different networks, devices, applications and users is important. Almost as many respondents expressed strong interest in these tools, but with cost concerns (43 percent).

What do you think about being able to use interoperable apps that let you share information across different networks, devices, applications and users?

Cool	Crucial	Very Important	Important	Not Important
43%	3%	21%	25%	8%
But how much is it?	I can't do my job without them.	They keep me informed and safe.	They help me do my job, another tool in the toolbox.	I don't use them.

The most common reason given for not running applications over two-way radio systems was, "We don't have the budget for that technology," cited by 3 in 10 respondents. But apps can save valuable time and money by providing an efficient way to boost communication and safety for the fire service. **When seconds count, apps can be an integral part of fireground safety and critical communications**, especially when it comes to personnel accountability and hazard identification.

"These new apps are making it so that we can more effectively and more efficiently share all types of information across the board," said Avsec. "That also helps you make better use of your land-mobile radio system, because it doesn't have to be voice communication that's taking up air time on the radio."

SURVEY SHOWS FUNDING WOES: HOW TO CLOSE THE FUNDING GAP WITH GRANTS

So you want to boost the capabilities of your land-mobile radios, but you don't have the funding? Grants are a great way to supplement a tight departmental budget. Start by checking GrantFinder.com and FireGrantsHelp for available opportunities. One key funding program that supports firefighting is the federal Assistance to Firefighters Grant Program (AFG), administered by FEMA.

Radio communication equipment purchases fall under the equipment category of the Operations and Safety section of the AFG program. A first-time purchase, whether to support an existing mission or to replace obsolete or damaged equipment, is the highest priority for this category.

The second priority is for equipment that increases the capabilities within a department's existing mission or to address a new risk. Additional consideration is given to equipment that has a direct effect on the health and safety of firefighters, such as the handheld radios and communications equipment that supports them. Purchasing radios to run apps that support personnel accountability and hazard identification on the fireground may help make your case.

It's important to be creative when looking for grant funding. In addition to federal, state and local government grants, consider approaching private and community organizations. Many companies make grants through foundations as well, and they may be particularly open to initiatives that promote public safety.

GET GRANT READY

Grant applications take time, and the application period can be quite brief, so it's important to start early and keep your information up to date. Here are the steps you need to prepare:

1. Identify the Legal Applicant (individual).

2. Apply for, update or verify the Legal Applicant's DUNS number.

3. Apply for, update or verify the Legal Applicant's Employee Identification Number (EIN).

4. Register, update or verify the Legal Applicant's System for Award Management (SAM) account and entity registration.

5. Create or update your login to the grantor's application portal as needed.

DO YOUR GRANT HOMEWORK

Start gathering data now to demonstrate your need for equipment. This will help you prepare a compelling grant application. Here are the basics you will need:

1. Compile a demographic profile of your service area, including income and population statistics.

2. Review your department's budget, identify all sources of income and detail expenses.

3. Determine what your department needs are. This will help you identify the grants for which your department may be eligible.

4. Secure a cost estimate and make sure your department has sufficient funds to cover any required match.

5. Save and back up this information, and update it as needed.

SURVEY REVEALS HOW APPS BRING VALUE TO DEPARTMENTS

Apps are bringing tried-and-true firefighting tools into the digital age, as well as creating opportunities for enhanced communication and interoperability. At-your-fingertips access to critical information improves safety for firefighters and others on scene, and firefighters are already testing the waters with maps, hazmat guides and EMS apps.

Less widely adopted apps, such as those that support personnel accountability and interoperable communications with other responders, represent an even greater potential benefit in terms of quicker response times, improved outcomes and reduced expenses.

These tools can provide a significant boost in safety and communication. Consider how your department can integrate apps into your operations and your radio system. Decide what your goals are and find out which apps are available to support those goals (and what hardware you'll need) to discern what would work best for your department.

MOTOROLA *SOLUTIONS*

SMART FIRE AND FIRST RESPONSE FOR THE MOMENTS THAT MATTER

When every second counts, you need to be able to share information seamlessly across multiple response teams regardless of the device or network. Motorola Solutions empowers fire services to better serve and protect lives through reliable communications and by turning data into actionable intelligence.

MotorolaSolutions.com/Fire

RESILIENCE RESOURCES

VISIT FIREGRANTSHELP.COM ›

VISIT GRANTFINDER.COM ›

VISIT ASSISTANCE TO FIREFIGHTERS GRANT PROGRAM ›

VISIT U.S. FIRE ADMINISTRATION ›

VISIT MOTOROLASOLUTIONS.COM/SMARTFIRE ›

VISIT MOTOROLASOLUTIONS.COM/FIRE ›