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# Strategic Scan

Use of and Attitudes towards  
Artificial Intelligence in the Fire  
and Emergency Service

In partnership with



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# Overview

## Artificial Intelligence in the Fire and Emergency Service

Artificial intelligence (AI) use is growing across many sectors, and the fire and emergency service is no different. Use cases of AI use in the fire and emergency service abound, and have been discussed across industry publications and websites. However, a broader understanding of AI use in the fire and emergency service is absent. The purpose of this strategic scan is not to present an all-encompassing perspective of AI use, but instead to gain a better understanding of AI use via snapshot of current use. This information is important in considering the evolution of AI and thinking about technology adoption and diffusion.

This report will detail the extent of current AI use by fire chiefs and key personnel, specific types of AI use in operations, administration, and training, a discussion of chief officer concerns with AI use, and plans for future adoption of AI. Data for this report were gathered in July of 2025 from fire chiefs representing agencies accredited by the Center for Public Safety Excellence® (CPSE®) Commission on Fire Accreditation International® (CFAI®) and those holding the Chief Fire Officer® (CFO) credential from the CPSE Commission on Professional Credentialing® (CPC®).

The results found here, when considered in the context of the recent White House AI Action Plan, paint a varied yet compelling picture of AI adoption in the fire and emergency service. Approximately 79% of fire chiefs indicated their departments use AI; responses indicate that fire chiefs and key personnel are embracing new technology, but are potentially cautious in adoption. Chiefs provided mixed responses on effectiveness of AI in operations and training. Nearly all respondents indicated concerns with AI use, though the extent of concerns varied significantly. Similarly, intentions to adopt AI tools in the future was mixed across operations, training, and administration.

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### Survey Respondents

**Total distributed:** 799  
**Responses:** 156 (19.5% resp. rate)  
**Total Designated CFOs:** 115  
**From Accredited Department:** 72

### Service Area Characteristics

**Population:** 1,500 – 2.2 million  
*Median:* 50,000  
**Square Miles:** 1.2 – 22,000  
*Median:* 40  
**Density** (pop. / sq. mi.): 0.67 – 14,403.3  
*Median:* 1666.7

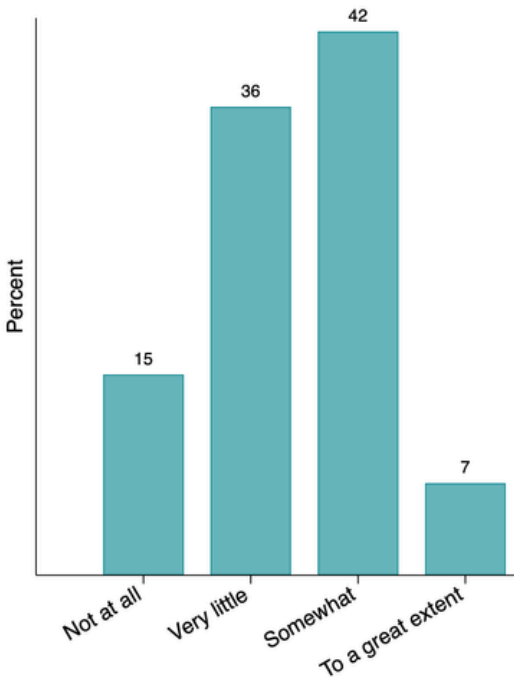
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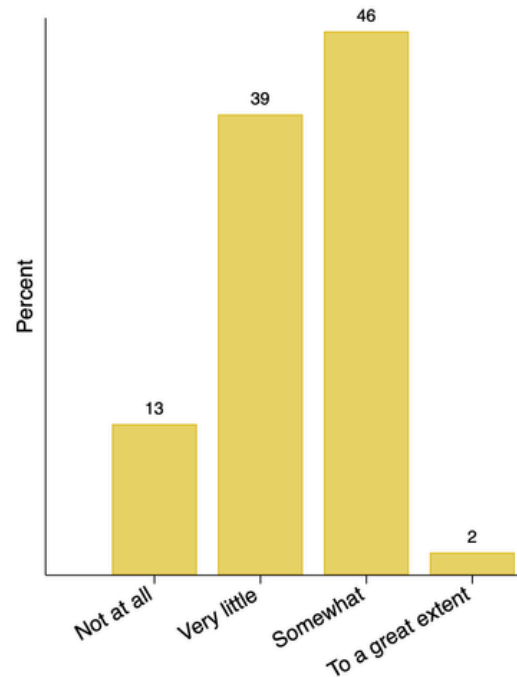
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# AI Use in Fire Departments

Extent of AI Use by Fire Chiefs



Extent of AI Use by Key Personnel



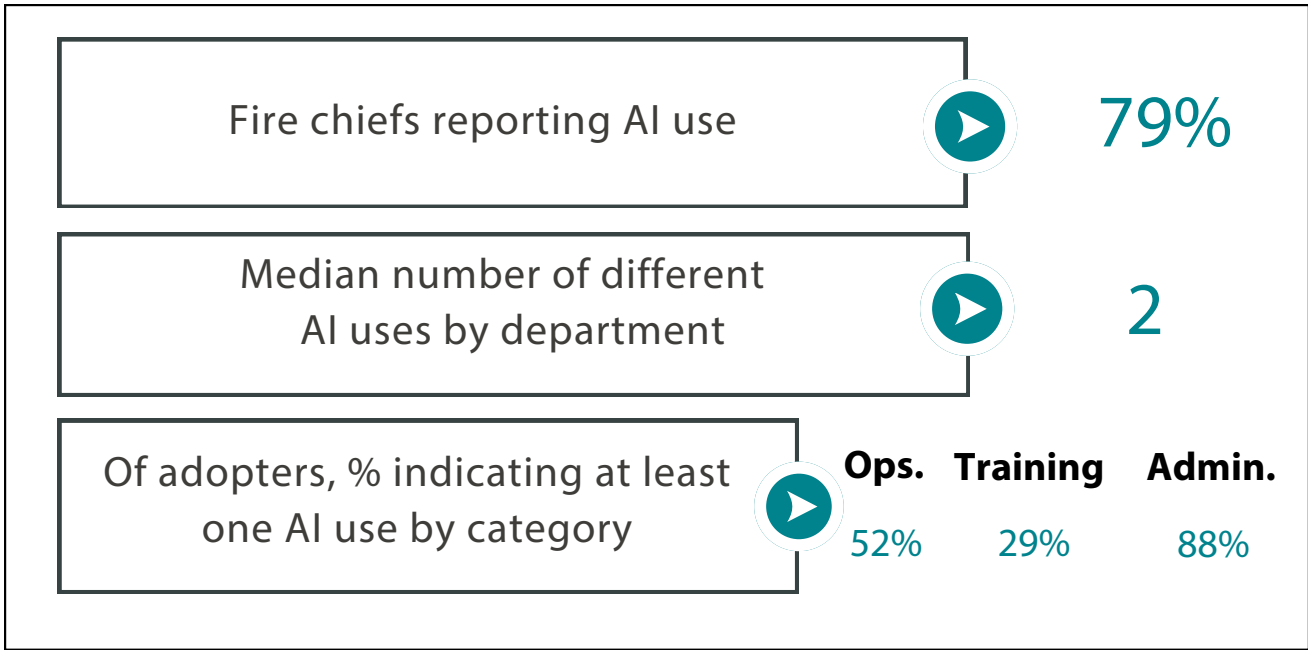
59% Comfortable  
18% Uncomfortable



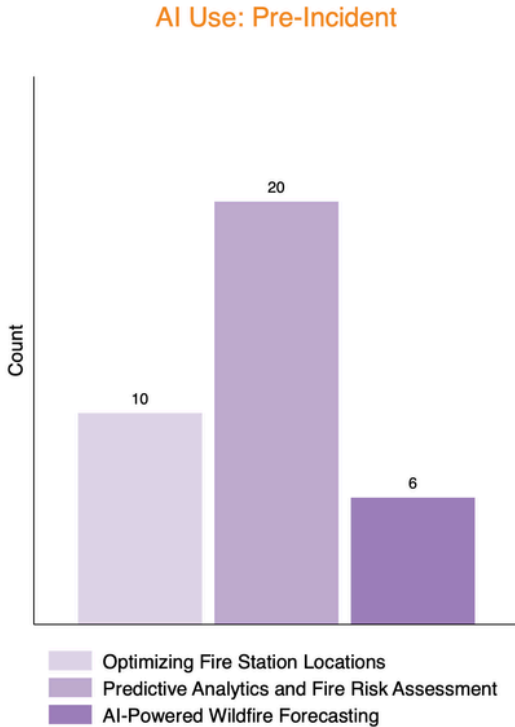
Fire chief comfort  
with AI use

Respondents indicated significant variation in the extent of AI use by both fire chiefs and key agency personnel (e.g. assistant or battalion chiefs, data analysts). Relatively small proportions report use “to a great extent” by both fire chiefs (7%) and other key personnel (2%). The two middle categories of extent of AI use (“somewhat” and “very little”) received the highest proportions of responses; approximately 42% and 36% for fire chiefs, respectively, and 46% and 39% for key agency personnel.

Of those fire chiefs using AI, approximately 59% were “comfortable” in their use of the tool (14% “extremely comfortable” and 45% “very comfortable”), while 25% were neither comfortable nor uncomfortable. Approximately 18% expressed some of amount of discomfort with AI use, and of those 2% were “very uncomfortable.”



## AI Use by Function: Pre-Incident

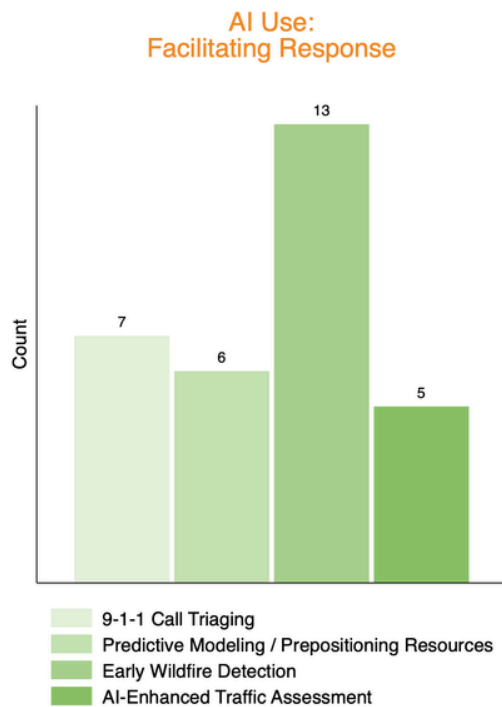


Nearly **26%** of respondents indicated adoption of one or more pre-incident uses for AI. Of those responses, the largest number indicated that fire chiefs use AI to analyze existing data to predict and assess risk (20). A smaller number (10) indicated the use of those data to optimize station placement, while the smallest number of responses (6) indicated AI use for wildfire forecasting. Responses in the “other” category pointed to AI use in vehicle deployment and vehicle routing.

### Other Pre-Incident AI Responses

- Location modeling / optimizing vehicle deployment
- Vehicle routing

# AI Use by Function Operations



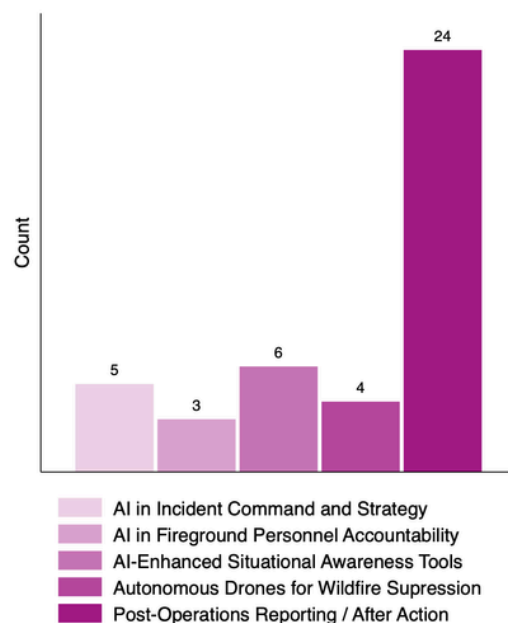
## Facilitating Response

Approximately **16%** of respondents indicated use of AI in facilitating emergency response, including functions related to 9-1-1 call triaging, in pre-positioning of resources in advance of significant weather events, use of AI in wildfire detection, and in assessing traffic conditions. Of those, AI use in early wildfire detection using multiple forms of data was the most selected tool. Overall, a relatively small proportion of the total respondents have adopted tools that serve to facilitate emergency response.

## Incident Management / After Action

Approximately **18%** of respondents indicated use of AI in managing active incidents or in after action reporting. Of note, use of AI in managing active incidents, perhaps the most visible of fire department activities, was not widespread among respondents, with between 3–6 indicating that they use AI in incident command, accountability, and situational awareness. A far greater number indicated AI use in drafting standard post-incident reports in generating formal after action reports.

AI Use: Incident Management / After Action



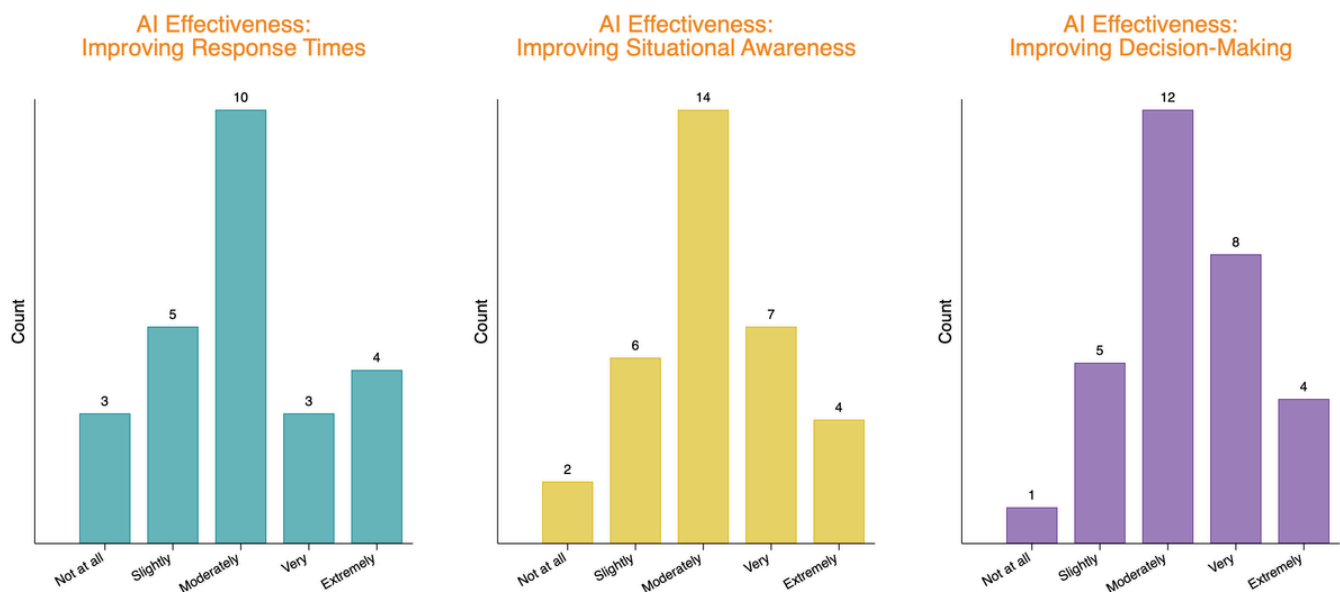
# AI Use by Function Operations

Respondents indicated a number of “other” responses on AI use in operations, including creating operationally-focused documents like SOPs and SOGs, analyzing response data, examining individual health data in a manner that informs operations and readiness, using AI tools built into RMS systems, drafting incident reports, and similar AI tools in emergency medical services.

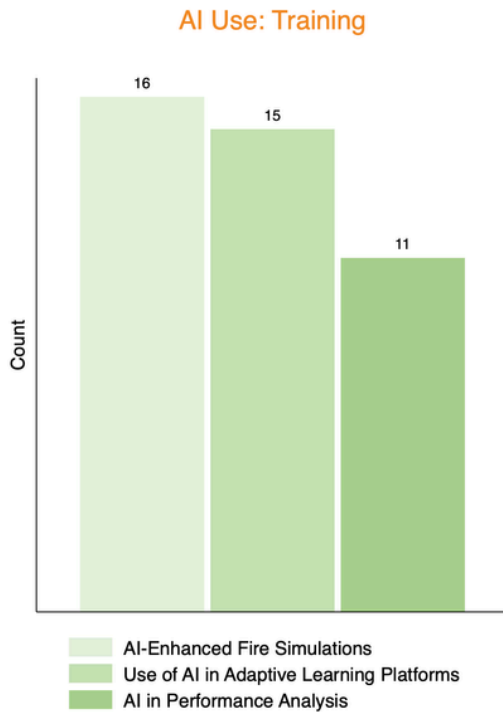
## Other Operations AI Responses

- Developing and revising SOPs / SOGs
- Examining turnout time / response time
- Incident command decision support
- Fire behavior modeling
- Examining sleep data
- Using built-in AI in RMS
- Writing post-incident reports
- AI-assisted ultrasound
- Writing patient care narratives

Perspectives on the effectiveness of AI in improving response times, situational awareness, and decision-making were mixed. The most frequent responses for all three were in the “moderately” category, with a slightly higher number of positive responses (“very” and “extremely”) for improving situational awareness and decision-making.



# AI Use by Function Training



## AI Use in Training

Just over **23%** of respondents indicated one or more uses of AI in facilitating fire services training, including use in simulations, via adaptive learning platforms, and in analyzing performance during or after training activities.

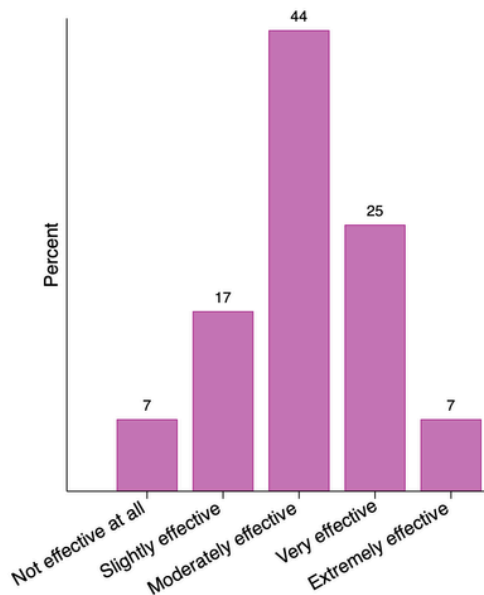
## Other Training AI Responses

- AI summaries of training information and websites
- Use of AI training to remove bias or fatigue in patient care

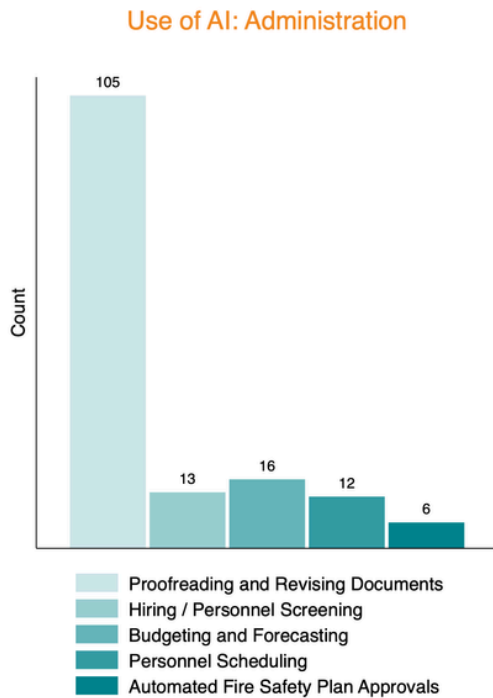
## AI Effectiveness in Training

As with responses on AI effectiveness in operations, the responses here on effectiveness were mixed. The modal response here was “moderately effective,” though a larger proportion of responses to the question of training effectiveness indicated a favorable perception in the “very” or “extremely” effective categories.

## Effectiveness of Fire Training Using AI



# AI Use by Function Administration



Approximately **69%** of respondents indicated AI use in fire department administration. By far the most frequent response in this category was in proofreading and revising documents, a result that is expected given the broad diffusion of these tools across sectors and functions. Far fewer responses indicated uses in human resources functions like hiring and personnel screening, budgeting and forecasting, scheduling, and fire safety plan approvals.

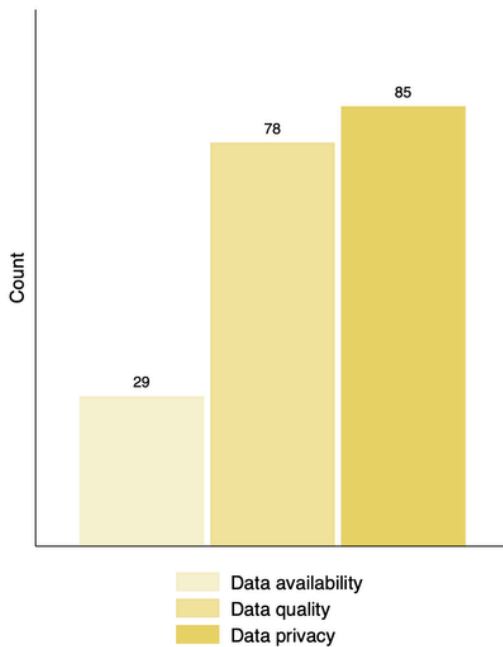
A number of “other” responses were provided by fire chiefs, including those focused on drafting or editing internal organizational documents or external forms of communication, on targeted searches or for research purposes, and on administrative functions that may be used by other sectors, including phone answering or translation services. Others indicated that AI was used via integration with existing technology applications, like Microsoft Copilot.

## Other Administration AI Responses

- Drafting policies and procedures; job descriptions and annual appraisals / performance evaluations; grant writing; press releases, speeches, letters, social media content
- Plan review for citizens to receive code interpretation
- Workflow efficiencies (Microsoft Copilot integration with Office 365)
- Enhanced searches and analysis of documents and research materials
- Research on legal requirements
- Phone answering; translation

# AI Use in the Fire and Emergency Service Concerns

AI Concerns: Data



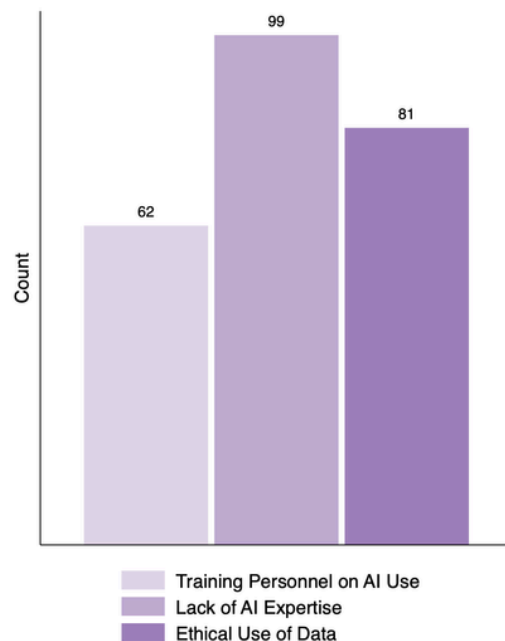
AI Concerns: Data

Nearly all respondents indicated one or more concerns about the use of AI across operations, training, and administration. Just over **73%** of respondents indicated concerns related to several aspects of the data used in AI tools. Specifically, both data quality and privacy were key considerations. Data availability was noted by fewer respondents as a concern with AI adoption, something that makes intuitive sense given the extensive use of data by CPSE-affiliated fire and emergency service agencies.

## AI Concerns: Personnel / Expertise

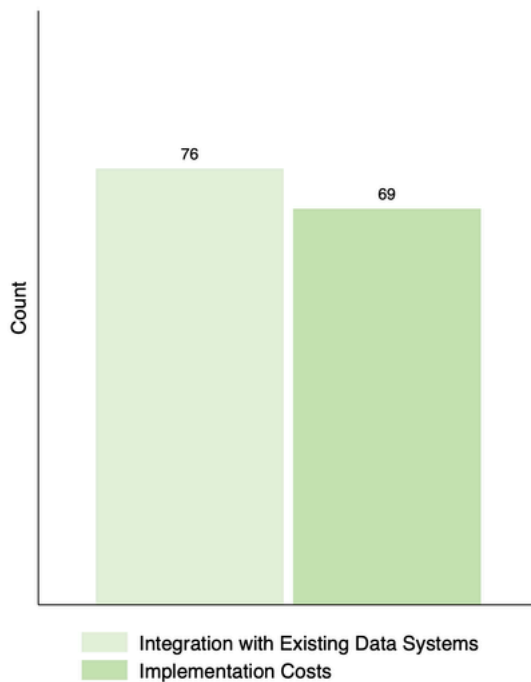
The human components of AI use generated more concern among respondents. Nearly **83%** of respondents indicated one or more concerns with training on AI use, lack of expertise, or the ethical use of data. Of those, the lack of AI expertise was the most frequently selected, followed by ethical use of data as a part of AI tools. This points to the importance of future implementation considerations that are centered on the human element of technology adoption.

AI Concerns: Personnel and Expertise



# AI Use in the Fire and Emergency Service Concerns

## AI Concerns: Logistics



## AI Concerns: Logistics

Of all concerns expressed, those related to logistics were noted less frequently, but still by a large proportion of the respondents. Nearly **60%** of respondents indicated one or more concerns with the logistics of AI integration with existing data systems or the costs associated with AI implementation. These integration concerns are echoed in the text of many of the “other” responses provided by fire chiefs, specifically those related to procurement, IT restrictions, and compliance with organizational or governmental requirements.

## Other Concerns

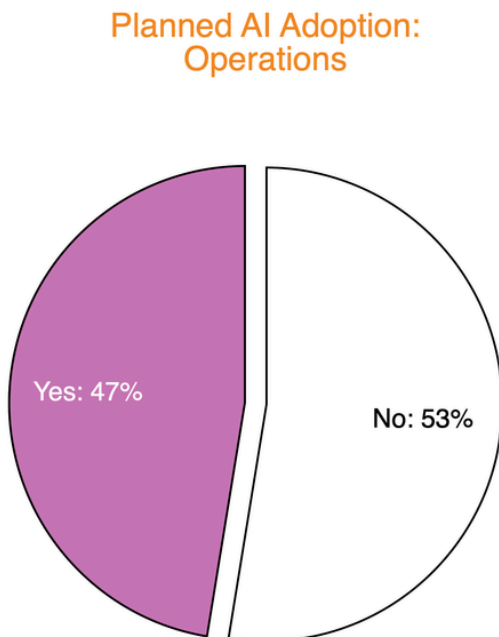
- Internal, departmental knowledge of AI is lacking
- Poor AI results (writing, mapping, routing, and other functions)
- Data reliability, data verification
- AI "hallucinations"
- QA / QI issues with AI results
- Removal of the human element from analysis
- Overuse by personnel / loss of common sense and experience
- Human deference to AI
- Ethical questions
- Firewall issues / employer restrictions / IT restrictions
- Challenges with AI procurement from IT department
- Compliance with DoD IT and cyber security polices / requirements
- Environmental impact from energy use
- Cost

# AI Use in the Fire and Emergency Service

## Future Adoption

### Planned AI Adoption Across Operations, Training, and Administration

Fire chiefs were asked about plans for adopting AI tools across all three functions, with varying intentions to adopt new applications across operations (47%), training (30%), and administration (43%). Many of the planned uses matched those discussed earlier, though a number of new applications are mentioned, including AI use in community risk reduction, pre-planning, curriculum organization and creation of training plans, and creation of an organizationally-focused large language model (LLM) that incorporates all meeting minutes, recordings, financial documents, and others.



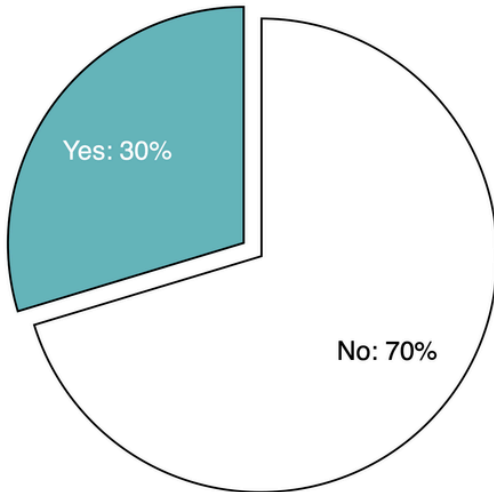
### Planned Operations Uses

- Pre-planning / facility hazard risk assessment
- AI in Community Risk Reduction
- AI-assisted 9-1-1 call taking to analyze incident type and response needs
- Data analysis / analytical tools for station deployment and response evaluation
- AI early fire detection cameras / wildland cameras
- Drones as a first responder / incident recon / decision support
- AI-enhanced accountability
- Incident documentation
- AI use for medical report writing
- Patient care reporting quality control
- Interpretive algorithms for cardiac monitor

# AI Use in the Fire and Emergency Service

## Future Adoption

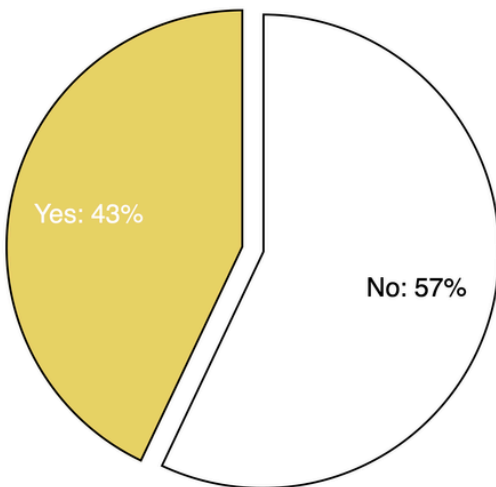
### Planned AI Adoption: Training



### Planned Training Uses

- Realistic scenarios / simulation platforms and equipment; VR / AR for incident command, tactics, HAZMAT; pump sim.
- AI generated images for use in existing fire simulation software
- AI assist in curriculum organization
- Creating training plans based on analytics and experience
- Job hazard analysis and training design
- Training scheduling
- Post-incident analysis and training recommendations
- AI EMS training

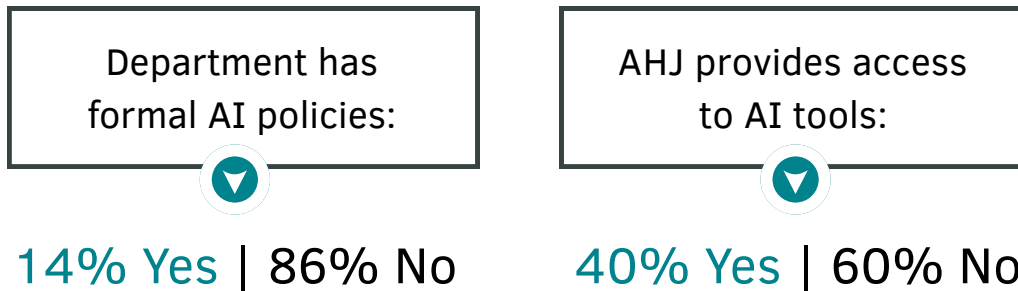
### Planned AI Adoption: Administration



### Planned Administrative Uses

- Creating policies, reports, emails, forms, testing and evaluations
- Budgeting and forecasting
- AI for applicant screening, staffing models, personnel scheduling, OT analysis
- AI for fire plan review and approval
- Use of AI in existing products (RMS, dispatch)
- Use in writing EMS auto-narratives
- Create an LLM for all meeting recording, minutes, financial documents
- Adoption of new tools: Copilot, ChatGPT, Claude, NotebookLM, NIPRGPT, Grammarly, Gemini, GovAI

# AI Use in the Fire and Emergency Service Infrastructure



Fire chiefs were asked about their adoption of formal AI policies with departments, and about their access to AI tools via their authority having jurisdiction (AHJ). A relatively small proportion, only 14%, indicated the adoption of formal policies within their department. Approximately 40% indicated that they have access to one or more AI tools via their AHJ.

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## AI Use in the Fire and Emergency Service Actionable Takeaways

- **Pilot Operational AI Use Cases in Low-Risk, High-Impact Areas.** Agencies should consider controlled pilots in functions like wildfire detection, resource pre-positioning, and incident documentation, with attention to assessment of impact on response time, situational awareness, and decision-making before scaling. Additionally, agencies should consider partnering with vendors or research institutions to test more advanced tools.
- **Expand AI Training and Capacity Building.** Departments should offer hands-on training on specific AI tools in operations, administration, and training, and include ethical AI usage as part of professional development.

- **Develop and Implement Formal AI Policies.** Agency leaders should create governance frameworks covering AI use, data privacy, and ethical standards, and define approval processes for AI adoption and integration.
  - **Prioritize Administrative AI Integration to Free-Up Resources for Field Operations.** Fire chiefs should consider more robust use of AI in administrative tasks in a manner that frees up time and resources for more attention to operational readiness and community engagement.
  - **Plan for Scalable AI Infrastructure and Tool Access.** Department leaders should consider focused and extensive assessment of existing IT infrastructure for AI compatibility, budgeting needs for scalable AI solutions with secure integration into RMS, CAD, and communication systems, and the possibility of pursuing collaborative procurement models to reduce individual agency costs.
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## AI Use in the Fire and Emergency Service

### Conclusion

This strategic scan of AI use in the fire and emergency service provides evidence of mixed adoption of artificial intelligence across fire services operations, training, and administration. Though more than three quarters of fire chiefs indicated some type of AI use, a relatively small proportion of uses were in pre-incident functions, operations, and training, and a larger proportion were in administrative tasks, specifically in the creation and revision of various types of organizational documents. For those using AI in areas of both operations and training, perspectives on effectiveness of these tools were generally favorable, but without overwhelming evidence of impact.

In contrast, fire chiefs did express some concerns with the use of AI tools, mostly centered on data privacy, data quality, lack of AI expertise, and ethical use of data. Given that AI is still relatively nascent across both the public and private sectors, these results are not unexpected, and caution appear to be more abundant in AI adoption than use cases.

Of note, these results are not representative of the fire and emergency service at large, but do provide an important snapshot of AI adoption. Future surveys and in-depth discussions of use cases are critical in understanding how AI is being used, especially given the rapidity of change in this specific area. These results also indicate that CFAI agencies and CPC designees are engaging in leading and emerging practices related to AI use. These agencies are truly path-breaking, and their work serves as a progressive example for the rest of the fire and emergency service.

AI presents as one type of new tool that can aid fire chiefs and key agency personnel as they respond to contemporary challenges. This strategic scan presents a chance for greater discussion about the use of AI, about the appropriate expertise and skills necessary to use these tools, and about the diffusion of technologies across the fire service.



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