



APCO 2017

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# PROJECT 43: BROADBAND IMPLICATIONS FOR THE PSAP

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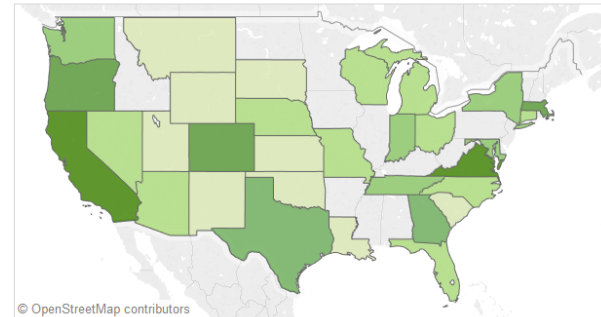
# WHY LAUNCH A NEW PROJECT?

- A number of major, broadband-based developments are leading to a paradigm shift in the role of the PSAP.
  - **FirstNet** – will place broadband communications in the hands of first responders.
  - **NG9-1-1** – will enable PSAPs to utilize broadband data in ways that will transform how the public reaches 9-1-1 and how PSTs interact with first responders.
- Goal:
  - To help PSTs, PSAPs, 9-1-1 authorities, elected officials, and others in the public safety community better leverage existing technology capabilities and prepare for the evolving broadband communications technologies that will impact PSAP operations and improve support to emergency responders.

# THE PROCESS

- Launched in April 2016
- Nearly **80** experienced public safety and industry professionals participated
- Tasked with deliverables in 6 focus areas:
  - Operations
  - Governance
  - Cybersecurity
  - Technology
  - Training
  - Workforce

**States Represented**  
(darker colors represent more members)



**Membership**

Member Type	
Non-Member	16.87%
Associate Member	2.41%
Full Member	57.83%
Group Full	15.66%
Commercial Member	6.02%
Group Commercial	1.20%

**Education**

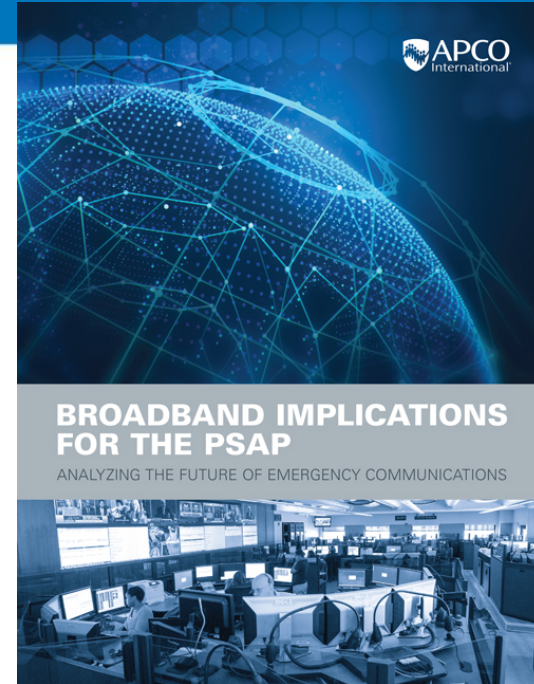
Ind Education Ext	
n/a	15.66%
associate's degree	3.61%
bachelor's degree	30.12%
doctoral degree	4.82%
high school	1.20%
master's degree	18.07%
some college	26.51%

**individual type**

Individual Type	
n/a	3.61%
9-1-1 Coordinator	2.41%
APCO Staff	1.20%
C-level	2.41%
Consultant	7.23%
County/State Official	2.41%
Director	27.71%
Engineer/Technician	6.02%
Fire Chief	1.20%
Government Official	1.20%
Information Systems	3.61%
Manager	10.84%
Marketing	1.20%
Officer	1.20%
Other	3.61%
Police Chief	1.20%
Retired	3.61%
Supervisor	9.64%
Telecommunicator/Disp..	3.61%
Training and Education..	6.02%

# REPORT OVERVIEW

- Executive Summary
  - Introduces key concepts
  - Describes pre- and post-broadband environment with scenarios
  - Sets the vision of the future
- Chapter for each focus area
  - Familiarizes the reader with the subject matter
  - Includes Findings and Recommendations
- Conclusion & Next Steps
  - Lists Essential Findings and Recommendations
  - Summarizes APCO Next Steps Commitment
- Appendices
- Glossary



# EXECUTIVE SUMMARY – INTRODUCING KEY CONCEPTS

Shifts in terminology:

- “Public Safety Answering Point” → “Emergency Communications Center”
- “Dispatcher” → “Public Safety Telecommunicator”

*“PSAPs of the future will be a nerve center, managing data-rich communications via broadband technology with 9-1-1 callers and first responders.”*

A common definition of “NG9-1-1”

- *“a secure, nationwide, interoperable, standards-based, all-IP emergency communications infrastructure enabling end-to-end transmission of all types of data, including voice and multimedia communications from the public to an Emergency Communications Center”*

# EXECUTIVE SUMMARY – VISION OF THE FUTURE

## Responding to a multi-vehicle collision with fully-enabled broadband capabilities

- NG9-1-1 calls include streaming audio and video to PSTs
- PSTs receive precise location information
- UAV transmits live video of the scene, improving situational awareness
- PSTs receive automated HAZMAT identification
- PSTs transmit information about the scene and patients to responders en route
- Callers' wearables with biometric sensors, in conjunction with automatic crash notification data and imagery from the scene, are used to determine patient priorities
- PSTs seamlessly dispatch units and share data with responders from multiple jurisdictions
- PSTs monitor biometric and HAZMAT sensors on responders throughout the incident

# OPERATIONS

## Sample Findings

- Broadband technology will have substantial impacts on PSAP operations
- Funding is key for initial and ongoing operational needs
- SOPs will need to account for:
  - Increased call or session times
  - Legitimacy of the info
  - Sending media back to callers
  - Triaging numerous sources of multimedia data
- Data storage, retention, and dissemination will require significant consideration

## Sample Recommendations

- Develop new ANSI standards
- Create an online repository for PSAPs to share NG best practices
- Build cases for resources and funding at all levels to modernize 9-1-1
- Expand public messaging and education
- Update QA/QI programs

# GOVERNANCE

## Sample Findings

- Governance structures can facilitate NG9-1-1 deployments
  - They can be top-down and state-driven, decentralized and locally-driven, or another format – but a common feature is active engagement with local stakeholders, including PSAPs
- Outdated laws and regulations can impede adoption of broadband and NG9-1-1 if they:
  - Lack sufficient funding or liability protection
  - Are legacy-focused
  - Forestall appropriate governance structures
- States lack a common definition of NG9-1-1

## Sample Recommendations

- States should:
  - Establish a state-level coordinating entity
  - End 9-1-1 fee diversion
  - Update 9-1-1 funding mechanisms
  - Remove barriers to 9-1-1 modernization within existing legislation
- Congress should establish a substantial grant program to modernize 9-1-1 services across the country with incentives to achieve interoperability, drive economies of scale, and promote sustainable funding mechanisms



# CYBERSECURITY

## Sample Findings

- Resources are available to improve cybersecurity
- PSAP personnel are key to maintaining security in public safety systems and services
- Opportunities exist for sharing cybersecurity resources
- Cyber risks extend to both existing networks and equipment as well as new technologies

## Sample Recommendations

- Agencies & personnel at all levels should get engaged and educated about the threat
- Explore resource sharing opportunities such as the Emergency Communications Cybersecurity Center (EC3)
- PSAPs should develop strategies for preventing and mitigating cyber-attacks
- Cybersecurity concerns should be reported as soon as practical ([www.ic3.gov](http://www.ic3.gov))

# TECHNOLOGY

## Sample Findings

- There is confusion about what it means for NG9-1-1 to be fully deployed and the role of standards
- Widely deployed commercial standards will play a role not previously possible
- Adherence to accredited standards is critical
- Broadband technologies create new opportunities to achieve seamless interoperability

## Sample Recommendations

- Promote a common and comprehensive definition of NG9-1-1
- RFP language and grant criteria should call for use of widely deployed commercial standards to ensure seamless interoperability
- Additional standards should be approved through organizations like ANSI
- Promote integration between the NPSBN and NG9-1-1

# TRAINING

## Sample Findings

- The new opportunities and roles broadband will create for PSTs will require initial and ongoing training
- PSTs will need training in areas such as:
  - Using broadband to play enhanced roles in protecting the public and responders
  - Incorporating increased situational awareness & live video
  - Managing increased and new sources of stress
- Stakeholders (IT depts., app developers, elected officials, general public) will need training/education about broadband capabilities and limitations for public safety

## Sample Recommendations

- Account for increased situational awareness
- Implement cybersecurity training
- Place greater emphasis on stress management training
- Adopt baseline training to account for resource differences
- Update training standards

# WORKFORCE

## Sample Findings

- The workforce of the future will need to expand upon existing knowledge, skills, and abilities
- Recruitment and retention of tech-savvy personnel will be beneficial
- The experience of the aging workforce will remain critical
- PSTs need the appropriate level of recognition for the roles they play
- Technology adoption and staffing levels are intertwined

## Sample Recommendations

- Implement recruitment and retention strategies to match the special public safety and technology skills of the PST profession
  - Support scholarship programs for the PST career
  - Increase job exposure during recruitment and training
  - Offer new professional development opportunities and incentives
- Explore new staffing models
- Update and expand staffing models

# ESSENTIAL FINDINGS AND RECOMMENDATIONS

- Appropriate recognition and respect for Public Safety Telecommunicators is critical
- The community must work from a shared vision for the future of emergency communications
- ECCs as the “nerve centers” of emergency response
- Interoperability and standards are critical
- Federal support is needed to modernize 9-1-1
- PSAPs need support to address cybersecurity challenges



# APCO'S NEXT STEPS COMMITMENT

- Undertake an analysis to determine what new/modified standards may be needed
- Review existing training and certification programs and explore need for updates
- Create a Task Force on Public Safety Apps
- Develop an online repository for sharing next generation best practices
- Perform an occupational analysis of work performed by the next generation PST
- Develop and offer a cyber hygiene course for PSAP personnel
- Review existing best practices and guidance related to GIS
- Update existing and develop new curricula related to broadband implications for PSAPs
- Advocate for federal funding
- Consider a next iteration of Project RETAINS to address NG9-1-1 staffing issues

## QUESTIONS?

- You can access a digital copy of the report at [www.apcoP43.org](http://www.apcoP43.org).
- Comments are welcome and may be sent to [broadband@apcointl.org](mailto:broadband@apcointl.org).
- Follow us @GRO\_APCO.

