



2021

ANNUAL SUMMARY

*A summary of key products, activities,
and major meeting outcomes in 2021*

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INTRODUCTION

In 2021, SAFECOM, administered by the Cybersecurity and Infrastructure Security Agency (CISA)¹ and led by the SAFECOM Executive Board, worked to enhance public safety communications capabilities and improve coordination among the community. SAFECOM supported the progress of strategic priorities through its four committees: Governance, Education and Outreach, Funding and Sustainment,² and Technology Policy.³ Additionally, SAFECOM members supported a number of other initiatives through organized task forces and working groups comprised of SAFECOM members and subject matter experts across multiple disciplines and levels of government, with an emphasis on identifying cybersecurity risks relevant to public safety communications; supporting the transition to Next Generation 911 (NG911); providing user input to Project 25 (P25) standards and compliance; incorporating the full scope of Information and Communications Technology (ICT) services into the incident management organizational structure; and creating and piloting an Information Sharing Framework (ISF). This document summarizes key 2021 SAFECOM products, activities, and summaries of meetings conducted throughout the year.

A NOTE FROM THE CHAIR



For two years now, the world has faced unimaginable challenges in the face of a global pandemic. Among those on the frontlines to stop the spread of COVID-19 are law enforcement officers, firefighters, emergency medical technicians, paramedics, and many more. Everyday emergencies do not stop even in the face of a pandemic, and neither has SAFECOM's dedication to support public safety communications—be it during daily operations, planned events, or responding to the unknown.

2021 marked the 20th anniversary of the establishment of SAFECOM as part of the Presidential E-Government Initiative known as “Project SAFECOM.” The past 20 years have seen rapid improvements in how first responders communicate with each other, across all levels of government, and with the public. From advancements in technology to innovations in sustaining emergency communications systems, SAFECOM collaborates with its partners to support the nation's emergency communications priorities as outlined in the *National Emergency Communications Plan* (NECP):

- ✓ Enhance effective governance among partners with a stake in emergency communications, embracing a shared responsibility of the whole community from traditional emergency responders and supporting entities to the citizens served
- ✓ Address interoperability challenges posed by rapid technology advancements and increased information sharing, ensuring the most critical information gets to the right people at the right time
- ✓ Build resilient and secure emergency communications systems to reduce cybersecurity threats and vulnerabilities

As we wrap up two decades of achievements, I want to thank the members of SAFECOM for their dedication to advancing the emergency communications mission and for building SAFECOM into the premier advisory organization it is today. While we've come a long way in the last 20 years, there is still more work to be done, and I look forward to SAFECOM's accomplishments still to come.

A handwritten signature in black ink, reading "Gerald R. Reardon".

Chief Gerald R. Reardon
SAFECOM Chair

¹ 6 U.S. Code Section 571 (c) (2) requires CISA to administer the Department's responsibilities and authorities relating to the SAFECOM program, excluding elements related to research, development, testing, and evaluation and standards.

² Jointly coordinated with the National Council of Statewide Interoperability Coordinators (NCSWIC).

³ Jointly coordinated with NCSWIC.

SUMMARY

VISION

Assuring a safer America through effective public safety communications

MISSION

SAFECOM, as an advisory body to the Department of Homeland Security (DHS), improves public safety communications operability, interoperability, and security across local, regional, state, tribal, territorial, and international borders, and with federal government entities

To achieve our vision and mission in 2021, SAFECOM:



Focused on:

- Governance
- Education & Outreach
- Funding & Sustainment
- Technology Policy
- Communications Section
- Information Sharing
- Cybersecurity
- Next Generation 911
- Project 25 User Needs and Compliance



Welcomed

6

new members



Published over

45

new resources



Conducted over

75

meetings

2021 IMPACT ON PUBLIC SAFETY COMMUNICATIONS

EXECUTIVE BOARD

The Executive Board serves as the program's leadership group and provides strategic guidance to SAFECOM on emergency responder user needs. The Board is also responsible for maintaining programmatic resources, including the *SAFECOM Strategic Plan* and the *SAFECOM Annual Summary*. The *Strategic Plan* outlines the function of SAFECOM and its sub-groups' current year planned priorities, products, and activities. The *Annual Summary* highlights SAFECOM's previous year accomplishments and activities. In 2021, the Executive Board also played an integral role in helping to revise and update the *SAFECOM Governance Charter*.

Executive Board Accomplishments

Chair: Chief Gerald Reardon
First Vice Chair: Deputy Chief Chris Lombard
Second Vice Chair: Chief Jay Kopstein
✓ [2020 SAFECOM Annual Summary](#)
✓ [2021 SAFECOM Strategic Plan](#)

GOVERNANCE COMMITTEE

The Governance Committee focuses on public safety communications governance, which concentrates on improving both governance structures and processes internal to SAFECOM, as well as external statewide governance bodies for public safety communications. In 2021, the Committee focused on improving governance structures and processes internal to SAFECOM. The Committee oversaw the management of SAFECOM's annual elections process and led efforts to revise and update the *SAFECOM Governance Charter*, in coordination with CISA and the Executive Board. The revised *SAFECOM Governance Charter* and supplemental *Operating Processes and Procedures* document will be published in early 2022. Additionally, the Committee supported development of best practices related to governance external to SAFECOM, through the development of white papers describing best practices for developing governance charters⁴ and best practices for analyzing governance structure membership to align with the evolving ecosystem.⁵ These white papers will be published in early 2022.

Governance Committee Accomplishments

Chair: Major George Perera
Vice Chair: Sheriff Paul Fitzgerald
✓ Annual SAFECOM Elections
✓ Annual Membership Assessment Process

2021 SAFECOM Elections

In 2021, SAFECOM conducted elections for the SAFECOM First Vice Chair, two Executive Board member positions, as well as leadership for the Education & Outreach and Funding & Sustainment committees. Leadership for each set of elections remained largely unchanged as a result of the elections; however, previous Education & Outreach Committee Vice Chair, Sean Fensterwald (SAFECOM At-Large, Fairfax County [VA] Fire & Rescue), resigned and a special election was held to fill the vacant seat.

The 2021 Elections resulted in the following members filling leadership roles:

- **SAFECOM First Vice Chair:** Deputy Chief Chris Lombard, The InterAgency Board for Emergency Preparedness & Response/SAFECOM At-Large (Seattle [Washington] Fire Department)
- **SAFECOM Executive Board Member:** Chief Douglas Aiken, National Public Safety Telecommunications Council
- **SAFECOM Executive Board Member:** Sheriff Paul Fitzgerald, National Sheriffs' Association
- **Education & Outreach Committee Chair:** Michael Davis, SAFECOM At-Large (Ulster County [New York] 9-1-1 Emergency Communications)

⁴ Publication of this guidance directly contributed to NECP Objective 1.1; Success Indicator: Governance bodies develop and implement governing documents, such as charters or bylaws, to clarify roles, purpose, authority, and methods for adapting to change.

⁵ Publication of this guidance directly contributed to NECP Objective 1.2; Success Indicator: Governance bodies identify and include missing or underrepresented stakeholders (e.g., jurisdictions, tribes, sectors, organizations) in formal governance structures, when developing strategic and operational plans and policies, during training and exercises.

- **Education & Outreach Committee Vice Chair:** Captain Cody Worrell, SAFECOM At-Large (Phoenix [Arizona] Fire Department)
- **Funding & Sustainment Committee Chair:** Lloyd Mitchell, Forestry Conservation Communications Association
- **Funding & Sustainment Committee Vice Chair:** Chief Bill Bamattre, Metropolitan Fire Chiefs Association



Deputy Chief Chris Lombard
SAFECOM First Vice Chair



Chief Douglas M. Aiken
Executive Board Member



Sheriff Paul Fitzgerald
Executive Board Member



Michael Davis
Education & Outreach
Committee Chair



Captain Cody Worrell
Education & Outreach
Committee Vice Chair



Lloyd Mitchell
Funding & Sustainment
Committee Chair



Chief Bill Bamattre
Funding & Sustainment
Committee Vice Chair

2021 New Membership

Each year, the Governance Committee reviews SAFECOM's current membership for gaps in public safety disciplines and expertise. After analyzing SAFECOM's membership composition, the Governance Committee reviewed SAFECOM membership applications and provided recommendations for new members to the Executive Board.

In 2021, the following new associations and at-large members joined SAFECOM:

- **Associations**
 - All-Hazards Incident Management Teams Association (Paul Broyles, Lee Williams)
- **At-Large Members**
 - Jeffrey Kozdron, Seminole Tribe of Florida
 - Brent Larson, Idaho Office of Emergency Management
 - Tyrell Morris, Orleans Parish Communication District (Louisiana)
 - Cody Worrell, Phoenix Fire Department (Arizona)

Additionally, several existing SAFECOM associations appointed new representatives, including:

- National Association of State EMS Officials (Guy Dansie)
- National Law Enforcement Telecommunications System (Bill Phillips, Kurt Anzelmo)
- DRONERESPONDERS Public Safety Alliance (Chris Sadler)



Cybersecurity Working Group: The Cybersecurity Working Group⁶ shares actionable guidance and informational materials with peers regarding cybersecurity risks relevant to public safety communications. The Working Group shares planning and mitigation guidance regarding known threats and vulnerabilities to public safety communications; consolidates and publishes information on cybersecurity services and grant programs; and works collaboratively with other groups to develop and share information on equipment and protocol vulnerabilities impacting the public safety mission.

In 2021, the Working Group continued to work on various public safety guidance documents and shared actionable informational materials, including the *Guide to Cyber Risk Assessment*, *Cyber Risks to Land Mobile Radio (LMR)*, and several *SAFECOM Cybersecurity Advisories* to reinforce critical alerts. To further develop the *First 48: What to Expect When a Cyber Incident Occurs* document, the Working Group conducted multiple stakeholder interviews with a variety of federal, state, local, and industry partners. Best practices, insights, and themes from the interviews help inform the Working Group of issues pertinent to the public safety community.

In addition, the Working Group also reviewed and supported CISA publication initiatives such as an infographic on how public safety answering points (PSAPs) and emergency communications centers (ECCs) can protect themselves against telephony denial of service attacks.

Cybersecurity Working Group Accomplishments

Co-Chair: Mark Hogan

Co-Chair: Major George Perera

- ✓ Conducted 7 public safety interviews with federal, state, local, and industry partners for development of the *First 48: What to Expect When a Cyber Incident Occurs* document:
 - Federal Bureau of Investigation (FBI)
 - California Governor's Office of Emergency Services
 - Washington County Consolidated Communications Agency (Oregon)
 - Fairfax County, Virginia, Department of Public Safety Communications
 - California Cybersecurity Integration Center & California State Threat Assessment Center
 - Texas A&M University
 - Seattle Fire Department (Washington)
 - SecuLore Solutions
- ✓ Distributed 11 *SAFECOM Cybersecurity Advisories* to reinforce critical alerts:
 - Microsoft Security Updates: January 2021; February 2021; April 2021; June 2021; and December 2021
 - FBI Private Industry Notification (PIN) on Business Email Compromise Targeting State, Local, Tribal, and Territorial Government Entities
 - FBI PIN on How Cyberattacks Targeting Network Servers Used by First Responders Could Impact Operational Response
 - FBI PIN on Conti Ransomware Attacks Impact First Responder Networks
 - Microsoft Security Updates for PrintNightmare Vulnerability
 - Ransomware Awareness for Holidays and Weekends
 - Zero-Day Attack Targeting Windows Users with Microsoft Office Documents
 - BlackMatter Ransomware, Global Positioning Systems (GPS) Bug, and Virtual Private Network (VPN) Solutions
 - Recent Exploited Vulnerabilities including Log4j

⁶ Efforts undertaken by the Working Group directly contributed to NECP Objective 2.1; Success Indicator: Public safety organizations use strategic implementation plans (e.g., Statewide Communication Interoperability Plans, Regional Interoperability Communications Plans, NG911 Plans, and cybersecurity plans) to measure progress against NECP objectives and any additional state or territory objectives, and update plans annually.

EDUCATION AND OUTREACH COMMITTEE

The Education and Outreach Committee promotes SAFECOM's role and its impact on public safety communications nationwide through participation in public safety incidents and virtual events, and through the publication of blog posts and website updates. The Committee hosted a SAFECOM School and New Member Webinar in April 2021 as an opportunity for new members to learn more about the SAFECOM program, membership requirements and expectations, and the importance of active participation. In addition to strategizing methods and platforms to clearly communicate SAFECOM's mission, goals, and priorities, the Committee also published the *SAFECOM: Created by Public Safety Stakeholders to Strengthen Emergency Communications* video, highlighting SAFECOM's networking opportunities and its impact on the public safety and emergency communications community. To showcase SAFECOM members' diverse and comprehensive experiences, the Committee also established the *SAFECOM Membership Spotlight*, a quarterly publication featuring a SAFECOM member. These Spotlights highlight the association or organization represented, and members' unique personal skill sets, achievements, and education that work together to drive improvements to the public safety community.

Education and Outreach Committee Accomplishments

Chair: Michael Davis

Vice Chair: Sean Fensterwald (September 2019 – December 2021); Cody Worrell (January 2022 – Present)

- ✓ SAFECOM School and New Member Webinar
- ✓ [SAFECOM Factsheet](#)
- ✓ *SAFECOM: Created by Public Safety Stakeholders to Strengthen Emergency Communications* [Video](#)
- ✓ [Introduction to SAFECOM Presentation](#)
- ✓ [SAFECOM Interoperability Continuum](#) Graphic, Brochure, and Supplementary Documents (e.g., Frequently Asked Questions)
- ✓ [SAFECOM Membership Spotlight](#) (National Association of State Technology Directors)

Interoperability Continuum Working Group: Beginning in 2020, the Interoperability Continuum Working Group was charged with updating the *SAFECOM Interoperability Continuum*⁷ brochure and developing recommendations and best practices based on the core objectives of the Continuum. Highlights of the updates include an added focus on information and cybersecurity, as well as an expansion of the governance section to address lifecycle funding. SAFECOM published the updated [Interoperability Continuum](#) and its supporting documents in June 2021.

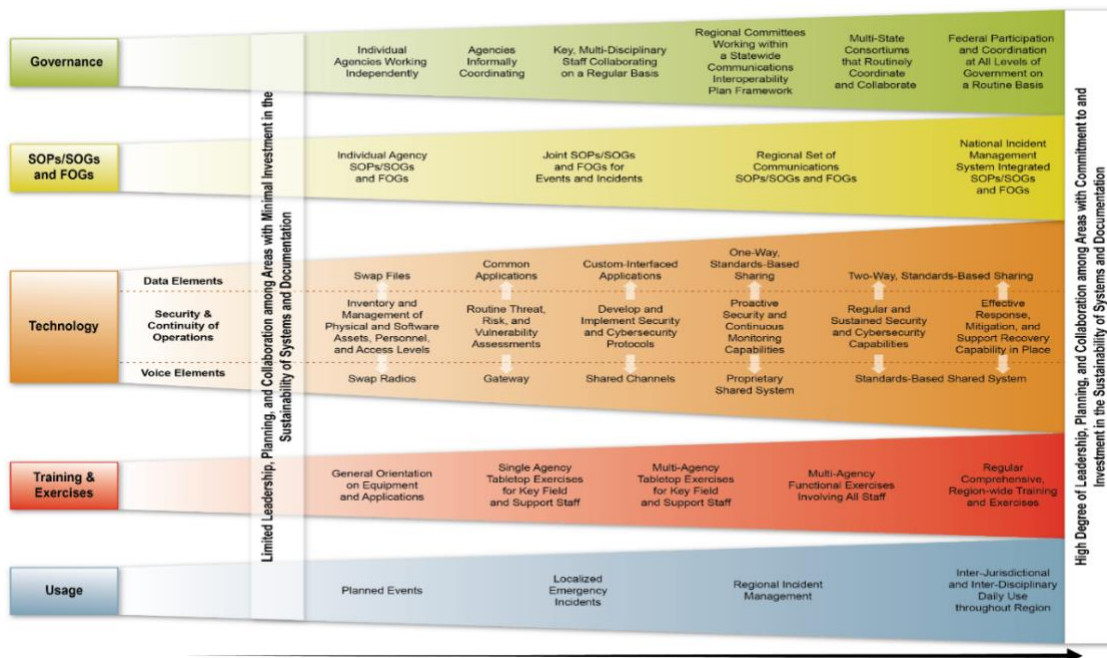


Figure 1: *Interoperability Continuum* (June 2021)

⁷ Work towards updating the *Continuum* contributed to NECP Objective 6.3; Success Indicator: SAFECOM updates the *Interoperability Continuum* to account for cybersecurity.

FUNDING AND SUSTAINMENT COMMITTEE

Throughout 2021, the Funding and Sustainment Committee,⁸ in coordination with the National Council of Statewide Interoperability Coordinators (NCSWIC), continued to create a series of products highlighting strategies for maintaining and securing funding for emergency communications projects. The Committee began the year by providing subject matter expertise on the *FY 2021 SAFECOM Guidance on Emergency Communications Grants*, helping to make emergency communications policies, best practices, and technology standards consistent across the nation.

In addition, members developed several new resources to assist stakeholders during times of constrained funding, including the *Contingency Considerations When Facing Reductions in Emergency Communications Budgets* fact sheet, *Funding Mechanisms Guide for Public Safety Funding* (*Funding Mechanisms Guide*), and *Contingency Planning Guide for Emergency Communications Funding* (*Contingency Planning Guide*). Specifically, the fact sheet provides a series of contingency considerations to justify investment in four mission-critical resource categories. The *Funding Mechanism Guide* highlights strengths, challenges, opportunities, and other considerations associated with a series of funding mechanisms. The *Contingency Planning Guide* provides a comprehensive look at public safety officials' considerations when planning for or facing budget reductions and recommends actions to take before, during, and after budget cuts.

In addition to new resources, the Committee also updated legacy documents to better reflect the current emergency communications landscape. For example, as part of a larger *Funding and Sustaining LMR: Materials for Decision-Makers* document suite, the Committee updated five products including the *LMR Trio* fact sheets, the *Funding and Sustaining LMR Systems Brochure*, and the *Promoting the Importance of Funding and Sustaining LMR Action Memorandum*. These materials provide information and guidance on LMR systems, including the importance of sustaining funding, relevant standards and resources, and considerations associated with FirstNet and system upgrades. Specifically, the documents have been revised to reflect advancements made in FirstNet technology, P25 standards, and guidance found within the latest *SAFECOM Guidance on Emergency Communications Grants*.

TECHNOLOGY POLICY COMMITTEE

Technology Policy Committee Accomplishments

Chair: Phil Mann

- ✓ [Public Safety UAS Resource Guide](#)
- ✓ [Infrastructure Obstructions to Radio Propagation](#)
- ✓ [Communications Dependencies Case Study: 2020 Midwest Derecho](#)

The Technology Policy Committee promotes the use of technologies, resources, and processes related to emergency communications and interoperability in coordination with NCSWIC. The Committee continued to support LMR systems, promote broadband technology and deployment, encourage public safety information sharing, and work with all government partners to further the use and security of various technologies within the emergency communications ecosystem⁹—Identity,

Funding and Sustainment Committee Accomplishments

SAFECOM Chair: Lloyd Mitchell

Vice Chair: Chief Bill Bamattre

- ✓ [FY 2021 SAFECOM Guidance on Emergency Communications Grants](#)
- ✓ [Contingency Considerations When Facing Reductions in Emergency Communications Budgets](#)
- ✓ [Funding Mechanisms Guide for Public Safety Communications](#)
- ✓ [Funding and Sustaining LMR Trio, Part 1: Educating Decision-Makers on LMR Fundamentals](#)
- ✓ [Funding and Sustaining LMR Trio, Part 2: Educating Decision-Makers on LMR Technology Issues](#)
- ✓ [Funding and Sustaining LMR Trio, Part 3: Educating Project and Acquisition Managers on Project 25](#)
- ✓ [Funding and Sustaining LMR Systems Brochure](#)
- ✓ [Promoting the Importance of Funding and Sustaining LMR Action Memorandum](#)
- ✓ *Contingency Planning Guide for Emergency Communications Funding*

⁸ Efforts undertaken by this Committee directly contributed to NECP Objective 1.2; Success Indicator: Governance bodies coordinate with elected officials to champion public safety communications priorities and lifecycle planning among decision makers.

⁹ Efforts undertaken by the Committee directly contributed to NECP Objective 4.2; Success Indicator: Public safety organizations periodically evaluate, engage, and incorporate commercial and non-traditional communications partners (e.g., auxiliary communications, volunteers, and utilities) in incidents and planned events. Efforts also contribute to NECP Objective 5.2; Success Indicator: SAFECOM and NCSWIC communicate emerging technology impacts to public safety, such as those associated with identity management, multimedia, 5G, Internet of

Credential, and Access Management, NG911, advanced technologies, and cybersecurity. The Technology Policy Committee also encompasses the NG911 Working Group and the P25 User Needs Working Group (UNWG).

The Technology Policy Committee released several products in 2021. The *Communications Dependencies Case Study: 2020 Midwest Derecho*¹⁰ document provides emergency communications administrators with knowledge to better prepare for severe power outages impacting communications and work with commercial providers during and after inclement weather incidents. The document builds upon the [Public Safety Communications Dependencies on Non-Agency Infrastructure and Services](#) document published in 2020. The Committee published the *Infrastructure Obstructions to Radio Propagation*¹¹ document to address passive and non-traditional obstructions to radio signals, focusing on additions, modifications, or improvements to infrastructure that might cause signal weakness or loss. The Committee published the *Public Safety Unmanned Aircraft System (UAS) Resource Guide* to highlight multiple resources for public safety communications stakeholders on using UAS, developing a UAS program, engaging with the community, responding to unfamiliar or malicious UAS use, and managing UAS with available tools.

NG911 Working Group Accomplishments

Chair: Mark Buchholz

Vice Chair: Jeremy DeMar (June 2020 – October 2021)

- ✓ [NG911 Incident-Related Imagery Impacts 101](#)
- ✓ [California Statewide NG911 GIS Use Case](#)
- ✓ [City of Manassas, VA., GIS Use Case](#)
- ✓ [Measuring Risk Magnitude and Remediation Costs in 911 and NG911 Networks Executive Summary](#)

NG911 Working Group: The NG911 Working Group¹² utilizes stakeholder feedback from multiple levels of government and associations to identify short- and long-term priorities to support efforts to fund, assess readiness, and complete the transition to NG911. To support stakeholders in the transition to NG911, the Working Group published various documents, such as the *NG911 Incident-Related Imagery Impacts 101* document, which highlights considerations for receiving multimedia in 911 centers. In July 2021, the Working Group published the *California Statewide NG911 Geographic Information System (GIS) Use Case*, which shares lessons

learned and best practices from California's implementation of a statewide GIS as part of their transition to NG911, and developed the *City of Manassas, Virginia GIS Use Case*, which highlights best practices and lessons learned from a local perspective. The group also developed an internal executive summary of the Federal Communications Commission Communications Security, Reliability, and Interoperability Council VII report, *Measuring Risk Magnitude and Remediation Costs in 911 and NG911 Networks Executive Summary*, to highlight key findings and recommended cybersecurity practices to assist the public safety community and industry involved in deployment of 911 networks for SAFECOM and NCSWIC members. Lastly, the group conducted interviews to develop a suite of cyber incident response case studies for ECCs/PSAPs, slated to be published in 2022.

In addition to developing and publishing helpful documents, the NG911 Working Group provided valuable briefings for members on topics such as Hurricane Ida and lessons learned from a PSAP perspective, the Response & Resiliency Network, and California's NG911 transition efforts.



Figure 2: NG911 Working Group members presenting a session titled *Protecting Our Nation's Emergency Communications System from Cyberattack* at the 2021 Association of Public-Safety Communications Officials (APCO) Annual Conference & Expo (August 15, 2021)

Things, social media, network virtualization, spectrum optimization, artificial intelligence, machine intelligence, geographic information systems, and positioning, navigation, and timing systems.

¹⁰ Publication of this guidance directly contributed to NECP Objective 4.2; Success Indicator: Public safety organizations periodically evaluate, engage, and incorporate commercial and non-traditional communications partners (e.g., auxiliary communications, volunteers, and utilities) in incidents and planned events.

¹¹ Publication of this guidance directly contributed to NECP Objective 4.2; Success Indicator: Public safety organizations maintain and readily share comprehensive information about features, functionality, and capabilities of operable and interoperable communication resources.

¹² Efforts undertaken by the Working Group directly contributed to NECP Objective 5.2; Success Indicator: The National 911 Program coordinates, in collaboration with all levels of government, the optimization of 911 services, including the nation's transition to NG911.

P25 User Needs Working Group: The P25 UNWG is a forum in which a broad range of public safety users and user representatives may provide input into the P25 standards development process. In 2021, the Global Positioning Systems (GPS) Focus Group, established by the P25 UNWG in 2020, began conducting interviews with members of the public safety community on their use of GPS. Interviews will continue in 2022 and the results will be compiled into a white paper. The P25 UNWG also conducted interviews with various members of the public safety community on LMR to long-term evolution (LTE) interoperability. These interviews will be compiled into the *LMR to LTE Interoperability: Best Practices* white paper. The white paper documents both large-scale LTE/LMR system integrations and smaller, pinpointed tasks to address what is working well and best practices from a technology standpoint. The white paper will be published in 2022.

P25 UNWG Accomplishments

SAFECOM Co-Chair: Scott Wright

- ✓ P25 Steering Committee and Federal Partnership for Interoperable Communications (FPIC) Engagement Plan
- ✓ Transition activities from the P25 User Needs Subcommittee to the UNWG
- ✓ Provided input to FPIC on recommendations for Inter-RF Subsystem Interface (ISSI) and Console Subsystem Interface (CSSI) standards modifications

COMMUNICATIONS SECTION TASK FORCE

The Communications Section Task Force (CSTF)¹³ addresses challenges associated with supporting ICT services within the National Incident Management System (NIMS) Incident Command System (ICS). The CSTF continues to work towards developing a nationwide federated governance framework through the Incident Communications Advisory Council, a focus group created to review and validate the CSTF's recommendations for enhancing the functionality of NIMS.

CSTF Accomplishments

Chair: Deputy Chief Chris Lombard

Vice Chair: John Miller (December 2018 – October 2021)

- ✓ ITSL Refresh
- ✓ Draft FEMA NIMS ICT Functional Guidance
- ✓ [COMU Webpage](#) Refresh

In 2021, the CSTF assisted CISA in developing the draft *Federal Emergency Management Agency (FEMA) NIMS ICT Functional Guidance*, which provides a framework to incorporate the full scope of ICT services into the incident management organizational structure to meet the increasing demands for ICT capabilities. The ICT function manages the infrastructure and systems that support and enable the NIMS integrated communications and information management processes and applications required by the incident management organization.

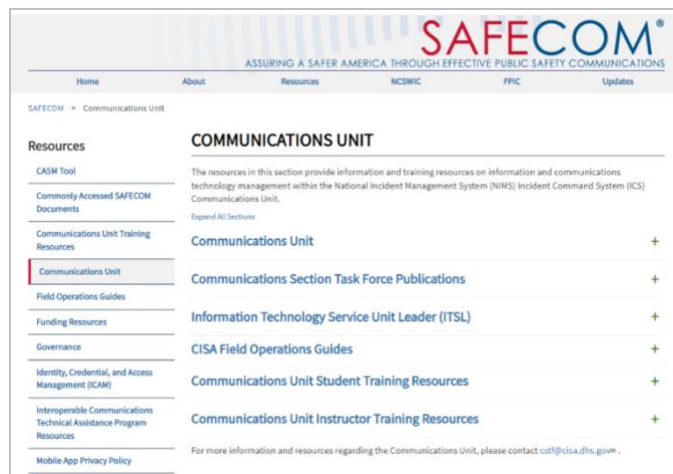


Figure 3: COMU Webpage Refresh to include more information on ICT resources, tools, and courses

Additionally, the guidance describes how the ICT function safeguards incident operations from cybersecurity threats and explains how to manage the inter-relationship of the communications and the IT infrastructure. The CSTF will continue to assist CISA with reviewing the draft document throughout 2022.

Additionally, the CSTF assisted the CISA Interoperable Communications Technical Assistance Program (ICTAP) with revising the Information Technology Service Unit Leader (ITSL) curriculum. The rollout of the ITSL course will begin in 2022. Finally, as part of the CSTF's ICT Recruitment and Retention initiative, the CSTF revised the Communications Unit (COMU) webpage to include more information on ICT resources, tools, and courses.

¹³ Efforts undertaken by this Task Force directly contributed to NECP Objective 3.1; Success Indicator: Public safety organizations coordinate training and technical assistance across levels of government (as applicable) to ensure current and consistent information; and NECP Objective 3.3; Success Indicator: SAFECOM and NCSWIC develop training curriculums for additional positions within the Information Technology Service Unit.

INFORMATION SHARING FRAMEWORK TASK FORCE

Established in conjunction with NCSWIC, the Information Sharing Framework Task Force (ISFTF)¹⁴ develops a data interoperability framework, including technical and operational standards to enable secure information flow between disparate public safety systems, and defines best practices for data/icon security and interoperability. The ISFTF completed the *Approach for Developing an Interoperable Information Sharing Framework (ISF)* document in December 2020 and published the document in November 2021. This report explains the ongoing development of an ISF to inform and guide the transition to a common information exchange approach. Public safety agencies can adopt the ISF to make their technology and communications ecosystem more interoperable, thereby enhancing first responder access to the timely and relevant information needed to save lives and protect communities. As a result, the ISFTF focus in 2022 will shift to conducting workshops, ISF customization training, operational pilots, scoping a Technical Proof-of-Concept (PoC), and developing a strategy to engage with industry for potential design, development, and implementation of ISF Integration Layer function capabilities.

ISFTF Accomplishments

Chair: Sheriff Paul Fitzgerald

- ✓ [Approach for Developing an Interoperable ISF](#)
- ✓ *Statement of Work (SoW) for ISF Operational PoC/Pilot*
- ✓ *ISF SoW for Pilot with State of Iowa, focusing on Computer-Aided Dispatch (CAD)-to-CAD, PSAP Cybersecurity, and NG911 Media Analysis*
- ✓ *SoW for Technical PoC*

P25 COMPLIANCE ASSESSMENT PROGRAM TASK FORCE

In coordination with NCSWIC, the P25 Compliance Assessment Program Task Force (CAPTF)¹⁵ provides public safety community input into the DHS Science and Technology Directorate (S&T) P25 CAP program, which assesses compliance of communications equipment to the P25 Suite of Standards. In 2021, the P25 CAPTF provided the S&T P25 CAP program with user input and guidance on proposed Inter-RF Subsystem Interface (ISSI) and Console Subsystem Interface (CSSI) CAP interoperability testing; temporary suspension of CAP ISSI/CSSI conformance testing; CAP P25 Feature Gap Analysis; and proposed CAP website content revisions.

2021 MEETINGS

Due to ongoing travel restrictions throughout 2021, CISA hosted the traditional in-person meetings virtually. Regardless, this series of virtual meetings continued to promote collaboration and networking among stakeholders, and facilitated solutions to some of the nation's most pressing issues on emergency communications interoperability. Below are summaries of the larger meetings from 2021. Full summaries of these virtual meetings and other in-person meetings may be found under the *Joint Meetings* section of the [SAFECOM website](#).

In addition to the larger meetings, SAFECOM's sub-groups also met virtually throughout the year. Across 11 sub-groups, SAFECOM held 77 committee, working group, and task force meetings in 2021. Several sub-groups also presented at public safety and emergency communications conferences or state-level organizations.

SPRING 2021 VIRTUAL ENGAGEMENTS (MAY 4-6; 11-13)

SAFECOM and NCSWIC kicked off their bi-annual meeting, conducted virtually for the second time, with multiple informative and productive sessions over two weeks. CISA Deputy Director Nitin Natarajan served as the keynote speaker, helping to kick off the event and providing opening remarks and CISA updates.

Members of both organizations selected topics for the engagement series, focusing on the groups' most pressing priorities. Session topics included critical communications infrastructure impacts from both natural and man-made disasters; advancements in location accuracy; solutions for managing an increasing number of cyber threats; best practices for mass vaccine distribution and other real-world events; and efforts to expand broadband access.

¹⁴ Efforts undertaken by the Task Force directly contributed to NECP Objective 5.3; Success Indicator: SAFECOM and NCSWIC publish best practices and updated guidance on standard operating procedures to help the public safety community overcome data storage, exchange, maintenance, and analysis challenges.

¹⁵ Efforts undertaken by the Task Force directly contributed to NECP Objective 5.2; Success Indicator: SAFECOM and NCSWIC guide standards-based LMR evolution.

View the [full summary](#) on SAFECOM's website. Virtual engagement session recordings are available to SAFECOM and NCSWIC members through the Homeland Security Information Network (HSIN).

JOINT SAFECOM-NCSWIC IN-PERSON MEETING (NOVEMBER 17)

On November 17, 2021, SAFECOM and NCSWIC leadership joined key members of both programs in-person in Arlington, Virginia, to discuss the relationship between SAFECOM and NCSWIC. CISA Deputy Director Natarajan engaged with participants to extend the agency's support to the public safety community. CISA and participants agreed on the need to return to in-person meetings, as the ongoing pandemic allowed. SAFECOM and NCSWIC participants came to consensus on guidance to the SAFECOM Governance Committee to update SAFECOM's Charter to codify the relationship more accurately between the two programs. The Governance Committee later incorporated this guidance into a revised *SAFECOM Governance Charter* and *SAFECOM Governance Operating Processes and Procedures*, which the SAFECOM Executive Board approved in January 2022.

SAFECOM AT EXTERNAL CONFERENCES

SAFECOM members presented panel sessions at several significant public safety and emergency communications conferences in 2021, including the National Emergency Number Association (NENA) 2021 Annual Conference & Expo, Association of Public-Safety Communications Officials (APCO) International Annual Conference & Expo, and the International Wireless Communications Expo (IWCE). Sessions presented at each of these conferences are listed below:

- **NENA 2021 Annual Conference & Expo**
 - *Your Voice at the Federal Level* presented by members of the NG911 Working Group (July 27, 2021)
- **APCO International Annual Conference & Expo**
 - *Protecting Our Nation's Emergency Communications System from Cyberattack* presented by members of the NG911 Working Group (August 15, 2021)
- **IWCE**
 - *P25 for the Future: New Standards, Applications, Interoperability and Security* presented by members of the P25 UNWG (September 27, 2021)
 - *The Nation's Lifeline is at Risk* presented by members of the NG911 Working Group (September 29, 2021)
 - *Cyber Resiliency for Public Safety Networks* presented by members of the Cybersecurity Working Group (September 30, 2021)
 - *Advancing Interoperability: The Role of Project 25 User Needs* presented by members of the P25 UNWG (September 30, 2021)

Additionally, the ISFTF presented an *ISF Customization for NG911 and CAD Pilot* to the Iowa 911 Council and the Iowa Statewide Interoperable Communications Systems Board (September 9, 2021). The ISFTF also presented a session titled *5G Information Overload and the ISF* at the [2021 4th IEEE 5G Workshop on First Responder and Tactical Networks](#) (December 14, 2021).

SAFECOM'S CONTRIBUTIONS TO NATIONWIDE GUIDANCE

SAFECOM members continued to support the implementation of the [National Emergency Communications Plan](#) by completing activities aligned with each of the goals and objectives. Updated in 2019, the plan addresses current gaps within emergency communications, reflects new and emerging technological advancements, and provides guidance to drive the nation towards a common end-state of emergency communications. SAFECOM incorporates the plan's success indicators and implementation activities into its annual strategic planning and product development. With SAFECOM's contributions, significant progress has been made in the first two years of NECP implementation. Across three workstreams (CISA, Emergency Communications Preparedness Center, and SAFECOM/NCSWIC) 33% (or 130 implementation activities) have been completed. Another 19% (or 76

implementation activities) are in progress, resulting in over half of planned activities either completed or started within the plan's first two years.

SAFECOM members also contributed to the [Fiscal Year 2021 SAFECOM Guidance on Emergency Communications Grants](#). Updated annually, this guidance offers current information on emergency communications policies, eligible costs, best practices, and technical standards for state, local, tribal, and territorial (SLTT) grant recipients investing federal funds in emergency communications projects.

Additionally, SAFECOM members coordinated with the First Responder Network Authority (FirstNet Authority) on a push-to-talk mutual aid governance and policy framework, providing input to develop the *Standard Talkgroup Nomenclature for Broadband Public Safety Interoperability Talkgroups*. This document recommends standard terminology for nationwide interoperability talkgroups for public safety voice, data, and video communications on 3GPP mission-critical services. The document will be released in 2022.

LOOKING AHEAD TO 2022

Looking ahead to 2022, SAFECOM hopes to return to more in-person engagements, as health and safety considerations allow. In addition to the bi-annual SAFECOM meetings, members of SAFECOM plan to engage in public safety and emergency communications conferences such as the All-Hazards Incident Management Team Association Training & Education Virtual Symposium, IWCE, NENA Annual Conference & Expo, 2022 National Homeland Security Conference, APCO International Annual Conference & Expo, International Association of Chiefs of Police Annual Conference and Exposition, and the International Association of Emergency Managers Annual Conference. Members will present on several topics, such as:

- Current and evolving state of ICT
- Understanding the ITSL position
- Updates on the latest P25 standards
- Understanding public safety communications security and the necessity for protecting sensitive information transmitted over public safety radio channels, as well as best practices for agencies looking to establish a security strategy for mission-critical communications
- Cybersecurity impacts on incident management and critical infrastructure security
- Cybersecurity threats to 911 systems
- Implementing 911 multimedia capabilities
- Managing threats to continuity of operations

SAFECOM aligns many of its priorities and initiatives to the nationwide goals established in the NECP. In 2022, SAFECOM will focus on enhancing public safety and emergency communications interoperability by:

- Supporting the development and implementation of governing documents¹⁶
- Supporting the inclusion of missing or underrepresented stakeholders in formal governance structures¹⁷
- Championing public safety communications priorities and lifecycle planning among decision-makers¹⁸
- Supporting the coordination of training and technical assistance to ensure current and consistent information¹⁹

¹⁶ Contributes to NECP Objective 1.1, Success Indicator: Governance bodies develop and implement governing documents, such as charters or bylaws, to clarify roles, purpose, authority, and methods for adapting to change.

¹⁷ Contributes to NECP Objective 1.2, Success Indicator: Governance bodies identify and include missing or underrepresented stakeholders (e.g., jurisdictions, tribes, sectors, organizations) in formal governance structures, when developing strategic and operational plans and policies, during training and exercises.

¹⁸ Contributes to NECP Objective 1.2, Success Indicator: Governance bodies coordinate with elected officials to champion public safety communications priorities and lifecycle planning among decision makers.

¹⁹ Contributes to NECP Objective 3.1, Success Indicator: Public safety organizations coordinate training and technical assistance across levels of government (as applicable) to ensure current and consistent information.

- Expanding training for communications-support personnel²⁰
- Supporting the development of training curriculums for additional positions within the Information Technology Service Unit²¹
- Supporting communications capability alignment with the NIMS ICS²²
- Improving the timeliness of notification, activation, and response of communications systems providers²³
- Engaging commercial and non-traditional communications partners in incidents and planned events²⁴
- Supporting communications continuity-of-operations planning for ECCs and PSAPs²⁵
- Identifying public safety technology and infrastructure capability gaps²⁶
- Guiding standards-based LMR evolution²⁷
- Supporting the transition to NG911²⁸
- Publishing best practices and updated guidance on standard operating procedures to help the public safety community overcome information sharing challenges²⁹
- Sharing planning and mitigation guidance regarding known cybersecurity threats and vulnerabilities³⁰
- Encouraging cybersecurity for NG911³¹

As outlined in the *2022 SAFECOM Strategic Plan*, SAFECOM established a work plan for product development for the coming year. In addition to identifying key topics and activities to enhance public safety and emergency communications operability and interoperability, SAFECOM took steps to ensure its strategic priorities align with the NECP. Some of SAFECOM's key guidance documents planned for publication in 2022 are:

- *Best Practices for Governance Charters White Paper* (Governance Committee): Leverages suggested elements of governance charters and by-laws in the *Emergency Communications Governance Guide for SLTT Officials* to develop best practices for governance charters
- *Cyber Risks to LMR White Paper* (Cybersecurity Working Group): Provides LMR background, examples of potential cyberattacks, and actionable steps to secure the system. Includes additional resources on planning and mitigation regarding known threats and vulnerabilities
- *Public Safety Communications Evolution Brochure* Update (Education & Outreach Committee): Depicts the current public safety communications landscape, describes the evolution of public safety communications, and features considerations for how both LMR systems and LTE technology can operate concurrently during emergency response operations

²⁰ Contributes to NECP Objective 3.3, Success Indicator: States, territories, and tribal nations develop and support instructor cadres to expand training for communications-support personnel.

²¹ Contributes to NECP Objective 3.3, Success Indicator: SAFECOM and NCSWIC develop training curriculums for additional positions within the Information Technology Service Unit.

²² Contributes to NECP Objective 4.1, Success Indicator: Public safety organizations possess primary, secondary, and backup communications capabilities aligned with the NIMS ICS and share appropriate forms (e.g., ICS 205) illustrating the status of an agency's capabilities.

²³ Contributes to NECP Objective 4.1, Success Indicator: Public safety organizations assess and improve the timeliness of notification, activation, and response of communications systems providers to support the Incident Commander and Incident Management Team requirements as incidents and planned events.

²⁴ Contributes to NECP Objective 4.2, Success Indicator: Public safety organizations periodically evaluate, engage, and incorporate commercials and non-traditional communications partners (e.g., auxiliary communications, volunteers, and utilities) in incidents and planned events.

²⁵ Contributes to NECP Objective 4.4, Success Indicator: ECCs/PSAPs address systems and staffing to support communications continuity-of-operations planning.

²⁶ Contributes to NECP Objective 5.1; Success Indicator: SAFECOM and NCSWIC identify public safety technology and infrastructure capability gaps.

²⁷ Contributes to NECP Objective 5.2, Success Indicator: SAFECOM and NCSWIC guide standards-based LMR evolution.

²⁸ Contributes to NECP Objective 5.2, Success Indicator: The National 911 Program coordinates, in collaboration with all levels of government, the optimization of 911 services, including the nation's transition to NG911.

²⁹ Contributes to NECP Objective 5.3, Success Indicator: SAFECOM and NCSWIC publish best practices and updated guidance on standard operating procedures to help the public safety community overcome data storage, exchange, maintenance, and analysis challenges.

³⁰ Contributes to NECP Objective 6.2; Success Indicator: SAFECOM and NCSWIC share planning and mitigation guidance regarding known threats and vulnerabilities.

³¹ Contributes to NECP Objective 6.2; Success Indicator: SAFECOM and NCSWIC encourage cybersecurity for NG911.

- *Emergency Communications Lifecycle Planning Suite* (Funding & Sustainment Committee): Provides a high-level review of the considerations relevant to each step of the system lifecycle including best practices, resources, and a lifecycle planning tool
- *Communications Dependencies Case Study: Nashville 2020 Bombing* (Technology Policy Committee): Summarizes impacts on public safety communications systems during the December 2020 bombing in Nashville, Tennessee, and provides lessons learned and best practices to address reliance on a single commercial provider and improve power resiliency
- *Cyber Incident Response Use Cases for ECCs/PSAPs* (NG911 Working Group): Informs best practices and lessons learned when responding to cyber incidents, and includes:
 - Cyber Incident Response to PSAPs: A State's Perspective
 - Malware Attacks: Lessons Learned from an ECC
 - Telephony Denial of Service Attacks: Lessons Learned from a PSAP
- *LMR/LTE White Paper* (P25 UNWG): Highlights how stakeholders are implementing LMR/LTE and implementation challenges, technology, policy, and cost, based on a series of interviews with stakeholders across the nation
- *FEMA NIMS ICT Functional Guidance* (CSTF): Assists FEMA with reviewing the *NIMS ICT Functional Guidance* in preparation for publication
- *ISF Technical Feasibility PoC* (ISFTF): Determines technical feasibility of implementing information sharing common integration layer functions in a cloud computing environment and testing with public safety stakeholders

Find these and more planned initiatives and activities in the *2022 SAFECOM Strategic Plan*.

Many SAFECOM products are available on the [SAFECOM website](#).

For additional questions regarding the SAFECOM program, please contact SAFECOMGovernance@cisa.dhs.gov.

