Overview
Roadmap to 2020

- The Emergency Communications Preparedness Center (ECPC) Grants Focus Group (GFG) coordinates across federal grant programs to support interoperable emergency communications, which includes keeping program managers and grantees well-informed of major federal emergency communications issues

- The ECPC GFG developed the *Roadmap to 2020* (*Roadmap*) for the emergency communications community, focusing on systems, technology, and implications of converging initiatives in 2020 and outlining major steps the emergency communications community should consider when investing in emergency communications

- The *Roadmap* is an educational tool and resource for program managers, complementing the *ECPC Reference Guide* and providing an overview of issues facing grantees, and Grantees, complementing the *SAFECOM Guidance on Emergency Communications Grants* and acting as an educational resource for state leadership and decision makers

- Components of the *Roadmap to 2020* include:
  - Key considerations such as implications of new technologies, spectrum, Next Generation 911 (NG911), Nationwide Public Safety Broadband Network (NPSBN)/FirstNet, and other general topic areas
  - List of resources for federal program managers of emergency communications grants
  - List of resources for emergency communications grantees

Purpose: The *Roadmap to 2020* outlines key considerations of converging emergency communications initiatives leading up to 2020, including systems, technology, and policies. This guide is an educational tool and resource for program managers and their grantees.

ROADMAP TO 2020

Nationwide Public Safety Broadband Network (NPSBN)/State Alternative Plan Program (SAPP)

- Standards, best practices, and eligible grant activities continually evolve to prepare for NPSBN deployment or adoption of FirstNet requirements
- FirstNet will work with the selected vendor partner to finalize the network solution that will be based on a single, national network architecture that evolves with technological advances and initially consists of a core network and radio access network (RAN)
- When deployed, will operate under a services-based model where eligible public safety entities will subscribe to a level of service that aligns with their mission needs
- Infrastructure costs of the network core and RAN will be borne by FirstNet with the exception of those states that choose to take on responsibility for RAN deployment within their state
- The NPSBN is expected to provide the public safety community with mission critical broadband data capabilities and services to augment existing capabilities

Next Generation 911 (NG911)

- Continued transition towards Enhanced 911 and NG911 with added capabilities such as text-to-911 or Reverse 911
- The 911 Implementation Grant Program aimed at assisting states and territories move towards NG911 is expected in Fiscal Year (FY) 2017
- NG911 NOW Coalition's 2020 goal: "All 911 systems and centers in all 56 states and territories will have sufficiently funded, standards-based, end-to-end, IP-based 911 capabilities, and will have retired legacy 911 systems, without any degradation in service to the public"
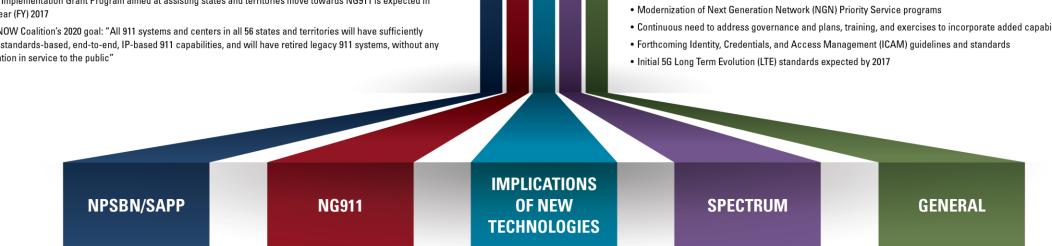
General

- Impending changes in political officials and appointments, which may affect federal, state, and local policies
- Emergency responders' use of commercial networks during emergencies
- Update of the National Emergency Communications Plan (NECP), the Nation's strategy for operable and interoperable communications, is expected in 2018
- Evolving definitions and criteria for "public safety" including broadening the public safety community (e.g. utilities)

Spectrum

- By February 22, 2021, the Federal Communications Commission (FCC) must take steps to begin the auction and relocation process of the T-Band; however, public safety incumbents are not required to relocate at that time
- Public safety T-Band incumbents must relocate no later than two years after the date on which the system of competitive bidding is completed. Note that replacement spectrum has not yet been identified
- Increasing use of spectrum may create frequency inference issues

Implications of New Technologies

- Increased security risks such as physical access, channel encryption, and cyber attacks
- Updates to the Project 25 Compliance Assessment Program (CAP)
- Future use and standards for mission critical voice over broadband
- Addition of data capabilities including public safety-specific features (e.g., streaming video, proximity services)
- Increasing data and information sharing across disciplines and jurisdictions
- Transition and operability of devices, applications, services, and networks into a connected environment
- Modernization of Next Generation Network (NGN) Priority Service programs
- Continuous need to address governance and plans, training, and exercises to incorporate added capabilities
- Forthcoming Identity, Credentials, and Access Management (ICAM) guidelines and standards
- Initial 5G Long Term Evolution (LTE) standards expected by 2017

| NPSBN/SAPP | NG911 | IMPLICATIONS OF NEW TECHNOLOGIES | SPECTRUM | GENERAL |

Appendix A

Resources for Federal Program Managers of Emergency Communications Grants

Resources	Website/Contact
SAFECOM Guidance	All grantees investing in emergency communications should refer to the *SAFECOM Guidance*. The Guidance provides standards and best practices on emergency communications technologies. Note that all DHS grantees must comply with the Guidance.
ECPC Reference Guide	The *ECPC Reference Guide* provides a common grant guidance for federal program managers to use when developing grant and program materials. To understand emergency communications policies and standards and to assist in mitigating risks to federal investments, federal program managers should: • Be aware of key initiatives, national plans, and financial or programmatic issues that impact emergency communications projects • Review *SAFECOM Guidance* to understand stakeholder-driven priorities for emergency communications funding; reference or require grantees to use or comply with *SAFECOM Guidance* when applying for federal funding • Identify and insert applicable policies and technical standards based on the type of projects funded through the federal program • Understand the ECPC GFG data collection effort to identify emergency communications projects and supporting financial data For a copy of the *ECPC Reference Guide* or additional information contact the ECPC GFG at ECPC@hq.dhs.gov
Implications of New Technologies	• P25 Suites of Standards • P25 Suite of Standards for Government Entities • P25 Technology Interest Group (PTIG) • P25 Compliance Assessment Program (CAP) • NIST Roadmap for Improving Critical Infrastructure Cybersecurity, February 2014 • NIST Cybersecurity Framework Feedback: What We Heard and Next Steps, June 2016 • Cyber Risks to NG911
Spectrum	• Overview of T-Band issues • The Middle Class Tax Relief and Job Creation Act of 2012 requires that systems operating in the T-Band migrate within 11 years of enactment, by 2023 • FCC Public Safety T-Band Fact Sheet
NG911	• National 911 Program Website • NG911 Standards Identification and Review • Benefits of NG911: A Video • "State of 911" Webinars • NG911 for Leaders in Law Enforcement
NPSBN/SAPP	• FirstNet Website • July 2016 National Telecommunications and Information Administration (NTIA) notice for comments provides preliminary guidance on how opt-out states can obtain a spectrum capacity lease for FirstNet and apply to NTIA for funding • FirstNet Fact Sheets and FAQ, Presentations, and Reports

Appendix B
Resources for Emergency Communications Grantees

Resources	Website/Contact
SAFECOM Guidance	All grantees investing in emergency communications should refer to the *SAFECOM Guidance*. The Guidance provides standards and best practices on emergency communications technologies. Note that all DHS grantees must comply with the Guidance. The Guidance encourages grantees to: • *Governance and Leadership:* invest in emergency communications governance and leadership structures for coordinating statewide and regional initiatives that reflect the evolving emergency communications environment. To find your Statewide Interoperability Coordinator (SWIC), contact OEC at oec@hq.dhs.gov • *Statewide Planning:* target funding toward planning activities, including updates of statewide plans, and ensure plans incorporate the capabilities and needs of all emergency communications systems • *Training and Exercises:* invest in emergency communications-related training and exercises to address gaps identified in response and recovery operations • *Enhanced Operational Coordination:* update the inventories of their communications assets and share the information within their State or territory and with neighboring States that are most likely to request support during emergencies or events • *Standards-based Technologies and Equipment:* invest in equipment that will help to sustain and maintain current LMR capabilities while planning for new technologies and capabilities; improve their understanding of and preparations for the security risks associated with the use of Internet Protocol (IP)-based emergency communications systems
Implications of New Technologies	• P25 Suites of Standards • P25 Suite of Standards for Government Entities • P25 Technology Interest Group (PTIG) • P25 Compliance Assessment Program (CAP) • NIST Roadmap for Improving Critical Infrastructure Cybersecurity, February 2014 • NIST Cybersecurity Framework Feedback: What We Heard and Next Steps, June 2016 • Cyber Risks to NG911
Spectrum	• Overview of T-Band issues • The Middle Class Tax Relief and Job Creation Act of 2012 requires that systems operating in the T-Band migrate within 11 years of enactment, by 2023 • FCC Public Safety T-Band Fact Sheet
NG911	• National 911 Program Website • NG911 Standards Identification and Review • Benefits of NG911: A Video • "State of 911" Webinars • NG911 for Leaders in Law Enforcement
NPSBN/SAPP	• FirstNet Website • July 2016 National Telecommunications and Information Administration (NTIA) notice for comments provides preliminary guidance on how opt-out states can obtain a spectrum capacity lease for FirstNet and apply to NTIA for funding • FirstNet Fact Sheets and FAQ, Presentations, and Reports

For more information on the ECPC please visit https://www.dhs.gov/emergency-communications-preparedness-center or contact the ECPC GFG at ECPC@hq.dhs.gov

Appendix C

Other Resources for Emergency Communications Grantees and Federal Program Managers of Emergency Communications Grants

Resources	Website/Contact
Office of Emergency Communications (OEC)	• OEC Website • OEC Contact Information • OEC Guidance Documents • OEC Technical Assistance Catalog: each state receives free technical assistance
Federal Grants	• List of grants funding emergency communications • Grants.gov Website • FEMA Grants Website • OMB Grants Management Website