MAPS® The Model for Advancing Public Safety



MissionCriticalPartners



M Mission Critical Partners

Mission Critical Partners is a leading provider of consulting and managed services with a vision of helping our clients transform networks and operations into integrated ecosystems that improve outcomes in the public safety, justice, government, healthcare, transportation, and utility sectors. We are committed to helping our clients solve their most pressing challenges.

This report highlights findings from hundreds of assessments we've completed of the public-sector environment. We examine how organizations scored as a whole, explore some of the common challenges they collectively face, and summarize strategies they and the industry at large can implement to achieve improvements.

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MAPS® The Model for Advancing Public Safety



EXECUTIVE SUMMARY

The Model for Advancing Public Safety[®], also known as MAPS[®], is a proprietary assessment methodology developed by Mission Critical Partners (MCP) for determining where an organization stands concerning numerous critical factors. MAPS[®] is based on:

- Industry standards
- Best practices
- MCP's collective expertise

MCP aggregated the results of the engagements that were conducted to generate an overarching set of scores for the following critical areas of a public-safety operation:

- Land mobile radio (LMR)
- Operations
- Staffing and workforce optimization
- NG911 readiness
- Geographic information systems (GIS)
- Data integration
- Cybersecurity and physical security

Understand where your organization stands in key areas and where you need to prioritize your efforts.

Request a MAPS assessment today.



MAPS® The Model for Advancing Public Safety



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Land Mobile Radio

pages 8-11

Our findings show advancements in interoperability, but many LMR systems still operate largely on analog technology and a large proportion of radios lack advanced features.

HIGHEST SCORE: Interoperability (Score: 6.6 – Medium Risk, Nearing Low Risk) LOWEST SCORE: Technology & Features (Score: 5.19 – Medium Risk)

CHAPTER



Geographic Information Systems

PAGES 12-17

GIS requires staff, data, hardware, software, and systems for it to be successful in the operation of a Next Generation 911 (NG911) system. The emergency communications centers (ECCs, also known as public safety answering points, or PSAPs) that we assessed fared best in the general IT arena and worst for GIS documentation.

HIGHEST SCORE: General Information Technology (IT) (Score: 8.1 – Low Risk) LOWEST SCORE: Documentation (Score: 4.55 – Medium Risk, Nearing High Risk)



CHAPTER



Next Generation 911 (NG911) Readiness

PAGES 18-23

Our findings depict a long road ahead to implementing NG911, with almost all ECCs experiencing medium to high risk for all essential components that are critical for achieving NG911.

HIGHEST SCORE: Governance (Score: 5.54 – Medium Risk) LOWEST SCORE: Next Generation Core Services (Score: 2.98 – High Risk)

CHAPTER



Emergency Communications Center (ECC) Operations

PAGES 24-29

Our analysis demonstrated a need for public-safety leadership to grow beyond being focused on tactics and evolve into embracing a long-term vision and communicating it effectively throughout the organization. This evolution involves succession and change-management planning and preparing for the unexpected via continuity-of-operations and disaster-recovery plans that are regularly updated and exercised.

HIGHEST SCORE: Technology (Score: 8.04 – Low Risk) LOWEST SCORE: Leadership and Planning (Score – 5.65 – Medium Risk)

CHAPTER



Staffing

PAGES 30-35

While many ECCs appear to have improved management and organizational structures, most are unable to hire the full complement of personnel needed to meet today's operating needs, let alone future needs.

HIGHEST SCORE: Management & Organizational Structure (Score: 8.33 – Low Risk) LOWEST SCORE: Personnel (Score: 3.0 – High Risk)

CHAPTER



Security

PAGES 36-41

In a world where everything related to cybersecurity happens at warp speed, it's challenging to keep up. The ECCs we assessed were grossly deficient in critical areas required for a proactive and resilient cybersecurity posture — including basics like multifactor authentication, password-management policies, and mitigating the risk against the significant threat from within — people.

HIGHEST SCORE: Physical Security (Score: 8.6 – Low Risk) LOWEST SCORE: Authentication & Authorization (Score: 5.1 – Medium Risk)

CHAPTER



Data Integration

PAGES 42-45

MCP is beginning to apply its MAPS methodology to data integration; therefore, conclusive results are unavailable as of this writing. However, to encourage an environment where data is analyzed and then shared and accessed readily inside and outside the organization, leaders should be focused on governance, developing standards-based interfaces, and building a culture with champions who fully understand the value of data integration in improving decision-making and outcomes.

Acronym List

page 46

METHODOLOGY

MAPS is a proprietary assessment methodology developed by MCP for determining where an organization stands regarding numerous critical factors.

MAPS® is based on:

- Industry standards developed by organizations and workgroups such as the Federal Communications Commission's (FCC) Task Force on Optimal Public Safety Answering Point (PSAP) Architecture (TFOPA), the National Institute of Standards and Technology (NIST), the National Emergency Number Association (NENA), and the Association of Public-Safety Communications Officials-International (APCO)
- Best practices
- MCP's collective expertise

The 2022 report includes data from assessments completed by MCP since 2018.

How the MAPS Methodology Works

Since its inception, MCP has conducted hundreds of assessments of clients' technologies, operations, staffing, funding, and governance. These assessments largely have been qualitative based on the experience and knowledge of the firm's subject-matter experts.

Three years ago, driven by a desire to introduce quantitative analysis into these assessments, MCP launched the MAPS methodology. The methodology — which is based on industry standards and best practices in addition to the firm's collective expertise — enables officials to immediately discern and understand where their organizations stands regarding numerous factors.



Question Set

MAPS leverages a quantitative and qualitative question set, and the questions are weighted based on importance. For example, weighting for a technological assessment would consider how likely each factor would cause a system failure. For example, power, transport, and cybersecurity factors would be given greater weight than other factors.

Collaborative Interview

MCP uses the question set in collaborative interviews with an organization's officials and stakeholders. Many questions are asked multiple times to uncover potential discrepancies in the provided answers. Follow-up interviews address disparities and dive deeper into questions for which officials and stakeholders could not provide answers.

Scoring and Blueprints

A vital element of the MAPS offering is a color-coded blueprint that illustrates the status of each factor that was assessed. The colors are easy to grasp:

- Green indicates factors that are at low risk and thus not in need of immediate attention (scores ranging from 7.1–10).
- Yellow indicates those at medium risk (scores ranging from 4.0–7.0).
- **Red** indicates factors that are at high risk (scores ranging from 0–3.9).

The MAPS scoring and blueprint become the basis of a comprehensive recommendations report that guides the organization regarding specific strategies for addressing the identified risk factors. The blueprint enables officials to determine where efforts and resources need to be placed to shore up areas of weakness.

The 2022 report includes data from **381 assessments** completed by MCP since 2018.

ACRONYM LIST

ADA	Americans with Disabilities Act	IGA	intergovernmental agreements
ALI	Automatic Location Identification	loT	Internet of Things
AI	Artificial Intelligence	IP	Internet Protocol
APCO	Association of Public Safety Communications Officials	ІТ	Information Technology
CAD	Computer-Aided Dispatch	LVF	Location Validation Function
CHE	Call-Handling Equipment	OTAR	Over the Air Rekeying
CJIS	Criminal Justice Information System	ΟΤΑΡ	Over the Air Programming
COOP	Continuity of Operations	ML	Machine Learning
DoS	Denial of Service	MOU	Memoranda of understanding
DPPA	Drivers Policy Protection Act	MSAG	Master Street Address Guide
DDoS	Distributed Denial of Service	NFPA	National Fire Protection Association
ESInet	Emergency Services Internet Protocol (IP) Network	NIEM	National Information Exchange Model
ECC	Emergency Communications Center, also known as Public Safety Answering Point, or PSAP	NIST	National Institute of Standards and Technology
ECRF	Emergency Call Routing Function	NENA	National Emergency Number Association
E911	Enhanced 911	PIN	Personal Identification Number
FBI	Federal Bureau of Investigation		
FCC	Federal Communications Commission	REST	REpresentational State Transfer
FDMA	Frequency Division Multiple Access	SLAs	
GIS	Geographic Information Systems	SOPS	Standardized Operating Procedures
GPS	Global Positioning System	тома	
HIPAA	Health Insurance Portability and Accountability Act	TEOPA	Task Force on Ontimal Public Safety Point Architecture
HVAC	Heating/Ventilating/Air-Conditioning	UPS	
IDS/IPS	Intrusion Detection/Prevention System	VPN	Virtual Private Network

REQUEST THE FULL REPORT

- MAPS[®] scoring for multiple industries in publicsafety operations
- Includes data from 381 MCP completed assessments since 2018
- 48-page report digital download







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About Mission Critical Partners

Mission Critical Partners (MCP) is a leading provider of data-integration, consulting, network, and cybersecurity solutions specializing in transforming mission-critical communications and public-sector networks into integrated ecosystems that improve outcomes in the public safety, justice, healthcare, transportation, and utility sectors.

For more information, visit MissionCriticalPartners.com

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