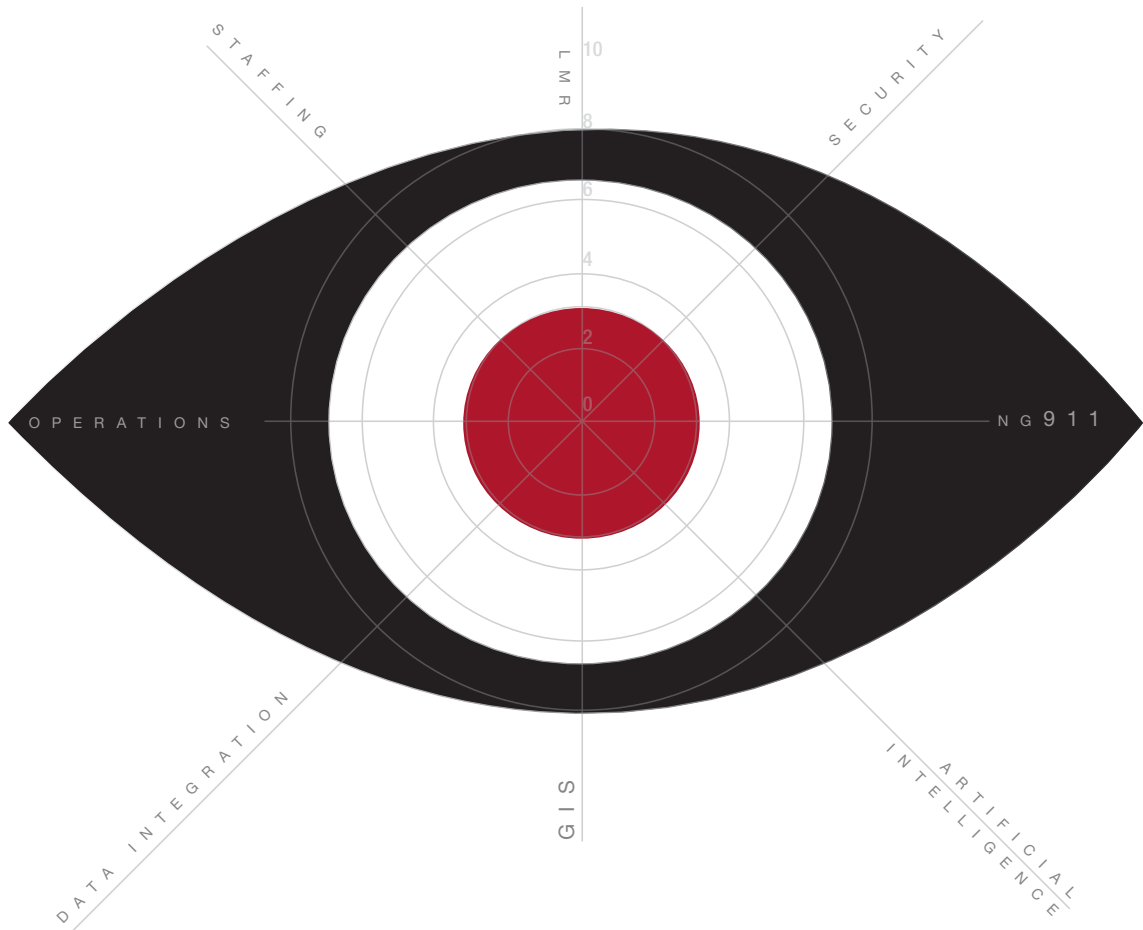


ANALYSIS+INSIGHTS

MAPS® The Model for Advancing Public Safety

SECOND EDITION



MissionCriticalPartners



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 second-edition report highlights findings from hundreds of assessments we've completed of the public-sector environment since August 2022. We examine how organizations scored as a whole, explore some of the common challenges they collectively face and where progress has been made, and summarize key trends to watch.

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MAPS®

The Model for Advancing
Public Safety

**ANALYSIS +
INSIGHTS**

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:

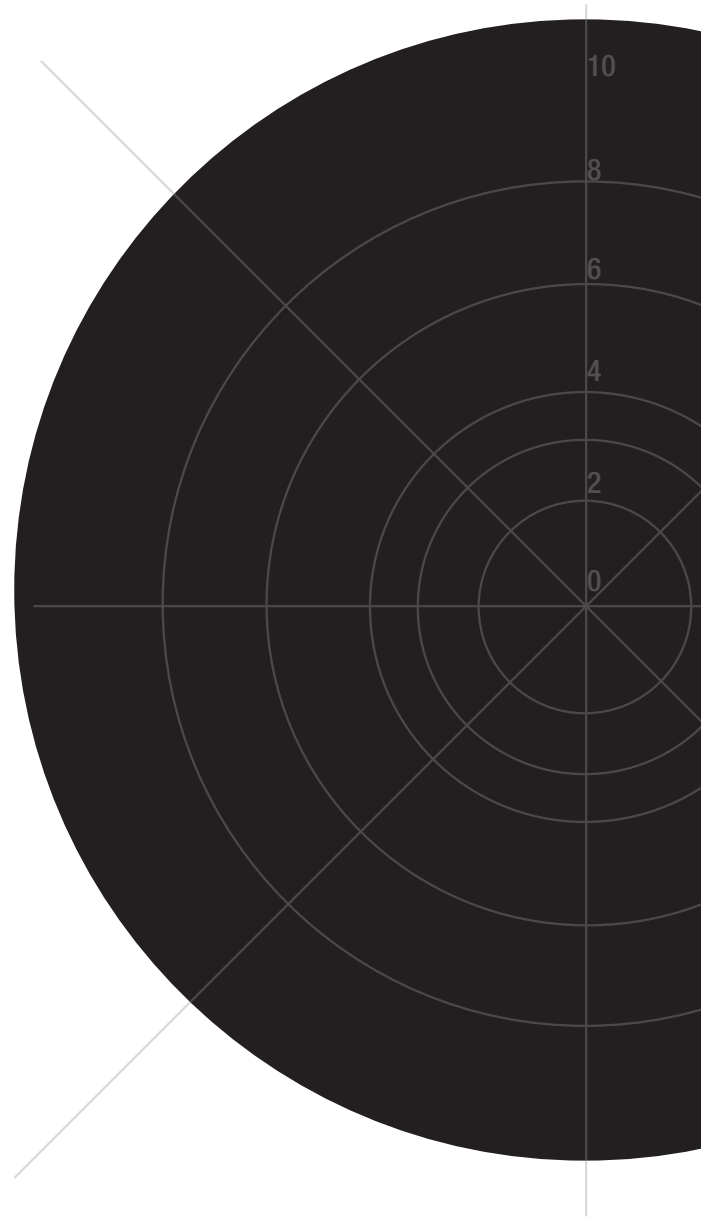
- Industry standards
- Best practices
- MCP's collective expertise

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)
- Geographic Information Systems
- Next Generation 911 readiness
- Operations
- Security
- Staffing
- Data Integration
- Artificial Intelligence

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

Request a MAPS assessment today.



ANALYSIS + INSIGHTS

MAPS®
The Model for Advancing
Public Safety

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CHAPTER

01

Land Mobile Radio

Land mobile radio (LMR) systems have been the lifeblood of emergency response for over a century and are vitally important today. While there has been talk about public-safety broadband networks eventually making LMR systems obsolete, such an outcome is many years into the future — if it happens at all. However, many LMR systems are fast approaching or have reached the end of life, so they must be upgraded significantly or replaced altogether. Another significant issue is that many cybersecurity vulnerabilities have been identified that exponentially increase the risk profile for LMR systems.

STRONGEST AREA: Facilities

WEAKEST AREA: Coverage

CHAPTER

02

Geographic Information Systems

Historically, GIS has been used by the 911 community to support the work of addressing authorities and establishing emergency-response boundaries. GIS is vital in the Next Generation 911 (NG911) environment. Harnessing the location and advanced querying capabilities of GIS enables more accurate call routing. However, the migration to geospatial call routing necessitates the creation of highly accurate and fully attributed GIS data — something that many public-safety agencies struggle with, which makes the migration to NG911 extremely challenging, if not impossible.

STRONGEST AREA: Data

WEAKEST AREA: Staff

CHAPTER

03

Next Generation 911 Readiness

Next Generation 911 (NG911) represents a quantum leap forward regarding the services that public safety agencies can provide to the citizenry. While the migration to NG911 service is flourishing in some areas, it is languishing in many others. Funding, governance, staffing shortages, and a finite number of vendors are significant issues. Standards represent yet another issue — while they exist, they still are evolving. All of this serves to lengthen the migration timeline. However, the good news is that NG911 is a priority for the 911 community — most 911 authorities and ECCs are somewhere on the migration continuum, and they're all pushing on the wheel — but the wheel is very big and heavy.

STRONGEST AREA: Call Handling Equipment

WEAKEST AREA: GIS

CHAPTER

04

Operations

Emergency communications centers (ECCs) — also known as public safety answering points (PSAPs) and 911 centers — handle calls placed to the 911 system and dispatch the appropriate law enforcement, fire/rescue, and emergency medical response. Their operations are being hampered by a severe staffing shortage that afflicts the entire public sector, a lack of training for supervisors, failure to prepare telecommunicators for the Next Generation 911 (NG911) environment, a regression in leadership driven by retirements, and a lack of adequate financial resources. However, ECCs generally are doing a better job of strategic planning and are becoming more open to the idea of consolidation.

STRONGEST AREA: Training

WEAKEST AREA: Alternative response and leadership and planning

CHAPTER

05

Security

Increasingly, public-sector organizations are being targeted by cyberattackers. While ransomware attacks remain the most prevalent, networks and systems are not infiltrated solely to extract a ransom. Cyberattackers also may seek to steal personal or highly sensitive data that can be sold to others on the dark web. Both approaches yield a big payday. The good news is the public sector finally has become aware of the potential consequences of cyberattacks — but they need to pick up the pace considerably in terms of putting themselves in the best possible position to avoid them — because the situation will only worsen.

STRONGEST AREA: Power

WEAKEST AREA: Lifecycle

CHAPTER

06

Staffing

ECCs have suffered a severe staffing shortage for the last several years. This situation arguably has worsened and will persist well into the future because the candidate pool is shrinking, and Baby Boomers are retiring in droves. While every center is trying to address the staffing shortage, the reality is that they're clinging to antiquated recruiting and hiring practices. They need to streamline and shorten their hiring processes. Further, many ECCs lack the financial resources to compete for viable candidates, and their human resources (HR) personnel are too overburdened. Consequently, it will continue to be difficult for them to attain the workforce they need to sustain operations and avoid personnel burnout.

STRONGEST AREA: Training

WEAKEST AREA: Personnel

CHAPTER

07

Data Integration

MCP is beginning to apply its MAPS methodology to data integration; therefore, conclusive results are unavailable as of this writing. Data is essential for better-informed decision-making that will enhance emergency response. Data integration is essential for managing the enormous amount of data available to public-safety organizations. This means analyzing it to give it context so that it is actionable and ensuring that information flows seamlessly across the entire public-safety ecosystem. However, data can become siloed very easily, which prevents these goals from being achieved. An organization's thinking just as easily can become siloed — it often fails to see the much bigger picture, which is how its data might be leveraged across the entire ecosystem to enhance emergency-response outcomes. The good news is that this is slowly changing.

CHAPTER

08

Artificial Intelligence

MCP is beginning to apply its MAPS methodology to artificial intelligence; therefore, conclusive results are unavailable as of this writing. Artificial intelligence (AI) is gaining traction in many sectors, and public safety is no exception. AI solutions exist to supplement human intelligence, not replace it. Numerous use cases for public safety are emerging, some of them eye-opening, and more will be imagined as the public-safety sector learns to harness its power. However, AI is not well understood right now, which can be disconcerting. Further, while AI seems to show promise, it must be proven that the technology will stand up to the rigors of the mission-critical environment in which public-safety agencies operate. ECCs also need to seriously consider the problems that they think this technology can help solve — it is important to understand that AI is not a panacea.

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 2023 report includes data from assessments completed by MCP since August of 2022.

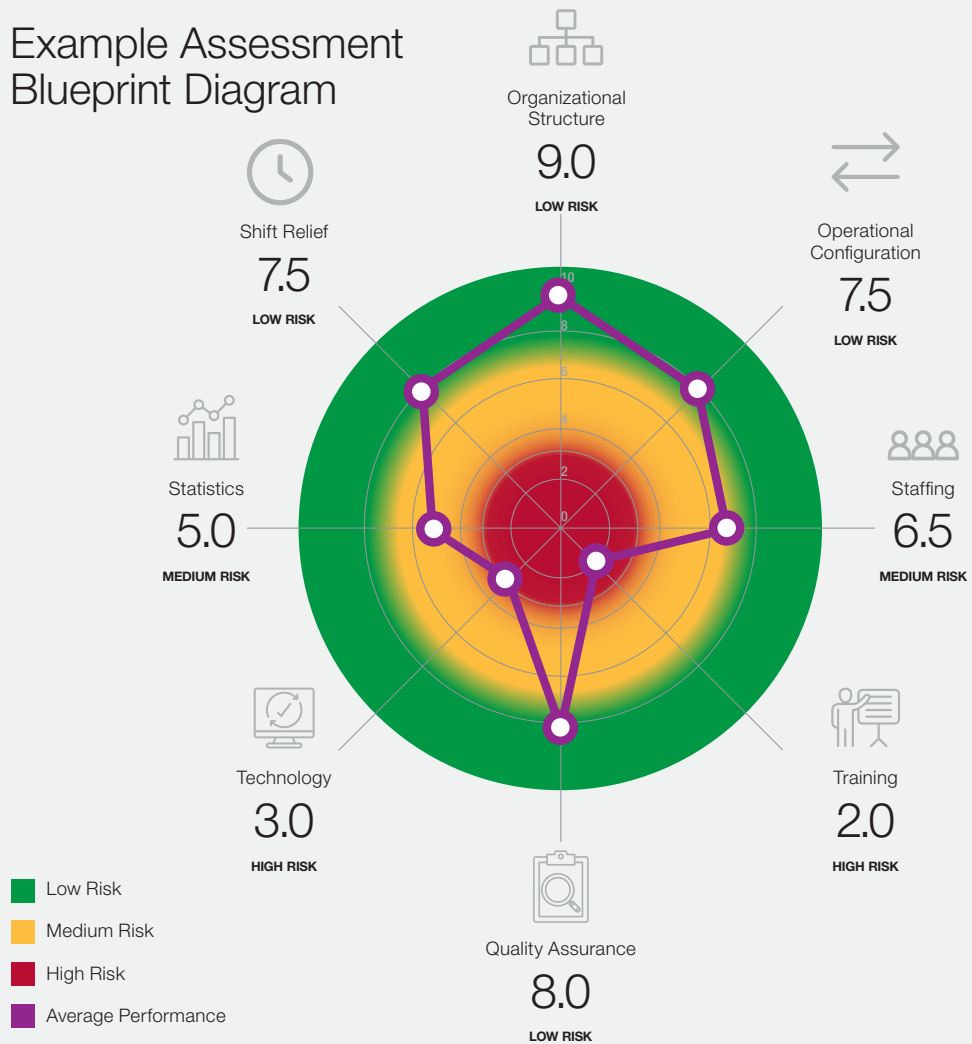


How the MAPS Methodology Works

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.

Example Assessment Blueprint Diagram



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 2023 report includes data from assessments completed by MCP since August of 2022.

ACRONYM LIST

ADA	Americans with Disabilities Act	IGA	intergovernmental agreements
ALI	Automatic Location Identification	IoT	Internet of Things
AI	Artificial Intelligence	IP	Internet Protocol
APCO	Association of Public Safety Communications Officials	IT	Information Technology
CAD	Computer-Aided Dispatch	LVF	Location Validation Function
CHE	Call-Handling Equipment	OTAR	Over the Air Rekeying
CJIS	Criminal Justice Information System	OTAP	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	NGCS	Next-Generation Core Services
FBI	Federal Bureau of Investigation	PIN	Personal Identification Number
FCC	Federal Communications Commission	QA/QI	Quality Assurance/Quality Improvement
FDMA	Frequency Division Multiple Access	REST	REpresentational State Transfer
GIS	Geographic Information Systems	SLAs	Service Level Agreements
GPS	Global Positioning System	SOPS	Standardized Operating Procedures
HIPAA	Health Insurance Portability and Accountability Act	TDMA	Time Division Multiple Access
HVAC	Heating/Ventilating/Air-Conditioning	TFOPA	Task Force on Optimal Public Safety Point Architecture
IDS/IPS	Intrusion Detection/Prevention System	UPS	Uninterruptible Power Supply
		VPN	Virtual Private Network



CLICK HERE TO REQUEST THE FULL REPORT

- MAPS® scoring for multiple industries in public-safety operations
- The 2023 report includes data from assessments completed by MCP since August of 2022.
- Digital access



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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