

REPORT

Navigating the Future Strategic Technology Insights for U.S. Government

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Navigating the Future: Strategic Technology Insights for U.S. Government

About This Report: Background and Research Goals

Lumen commissioned this research to better understand the evolving technology and infrastructure priorities of U.S. federal and state/local government organizations. The study explores the most pressing challenges these agencies face, their strategic priorities, and the role of emerging technologies—particularly artificial intelligence (AI)—in shaping their future operations.

The findings presented here are based on a comprehensive survey conducted in early 2025 and are intended to inform how Lumen and its partners can support public sector agencies in addressing their most critical needs, from cybersecurity and IT modernization to workforce development and digital transformation.

Research Methodology

This study was designed by Lumen in partnership with Market Connections and conducted between December 2024 and January 2025. A total of 600 IT and infrastructure decision-makers participated in the survey, evenly split between federal (300) and state/local (300) government organizations. Respondents represented a wide range of roles within IT and technology management, with an average of 13 years of experience in the public sector.

Participants were drawn from across the United States, with strong representation from states including Minnesota, New York, Massachusetts, California, Colorado, and Oregon. All respondents are involved in the selection, implementation, or oversight of technology and infrastructure solutions within their respective agencies.

Respondent Profile

Respondents held diverse roles across the IT and technology spectrum, providing a well-rounded view of the challenges and opportunities facing public sector organizations today. This diversity ensured that the survey captured a broad range of perspectives, reflecting the unique needs and priorities of different regions, agency types, and functional responsibilities.

Summary of Findings

The 2025 Lumen Market Intelligence Survey reveals that U.S. federal and state/local government organizations are experiencing a growing urgency to modernize IT infrastructure, strengthen cybersecurity, and harness artificial intelligence (AI) to improve operational efficiency and service delivery.

Key insights from the survey: Top Organizational Challenges Across Federal, State and Local Governments

With the creation of the new Department of Government Efficiency, federal, state, and even local agencies are operating in a dramatically shifting landscape—one defined by a heightened emphasis on operational efficiency and an urgent mandate to demonstrate measurable value. In response, government organizations across the country are accelerating their digital transformation efforts to align with and respond to the evolving expectations and strategic priorities of the new leadership.

Extreme or Very Challenging

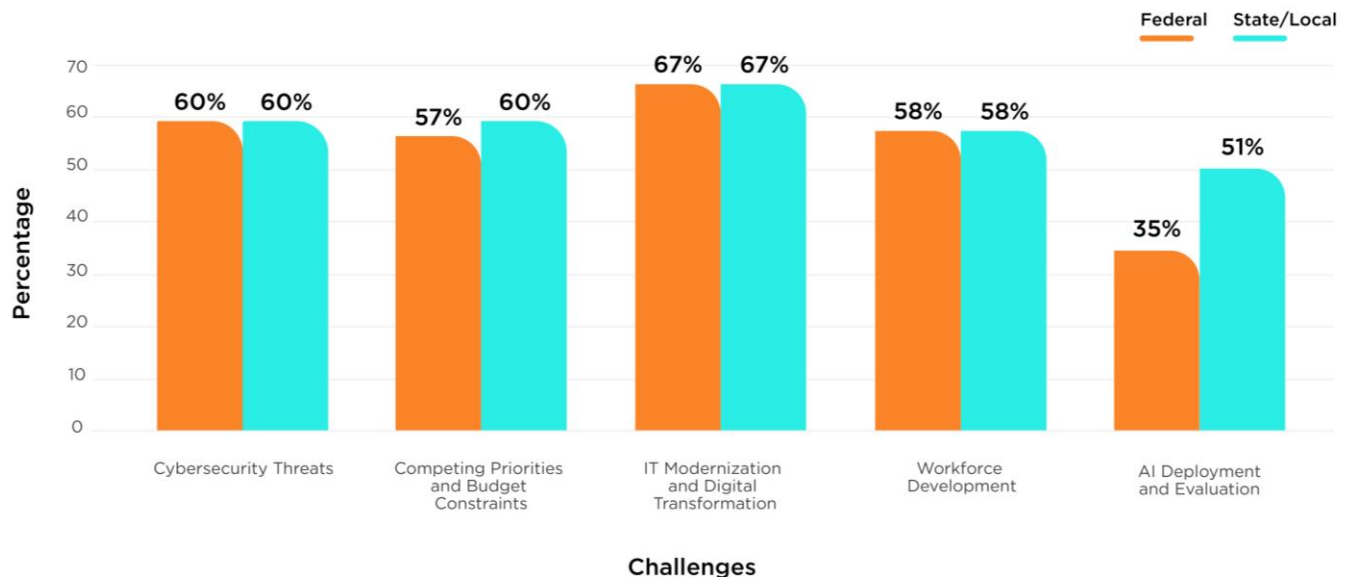


The survey identified several key organizational challenges faced by both federal and state/local organizations.

At the heart of the findings both segments shared the common struggle with limited resources and competing demands. Federal agencies, often tasked with safeguarding national interests, are grappling with a surge in cybersecurity threats. Sixty percent of federal respondents cited cybersecurity as a top concern, underscoring the growing sophistication of attacks targeting sensitive government systems. Meanwhile, state and local agencies are feeling the pinch of internal resource shortages, with 60% reporting that a lack of personnel and expertise is hindering their ability to deliver essential services.

Budget constraints remain a universal hurdle. Both federal and state/local respondents pointed to the difficulty of balancing urgent needs with long-term investments. Whether it's a federal department juggling infrastructure development and disaster response, or a local government prioritizing emergency services over community development, the financial squeeze is real—and it's forcing tough decisions.

Top 5 Challenges for Federal and State/Local Government Organizations



Despite these constraints, there is a clear appetite for modernization. **Two-thirds of respondents identified IT modernization and digital transformation as a top priority for the next 12 to 18 months. Agencies are eager to replace outdated systems with more agile, efficient technologies** that can better support their missions. Workforce development is also high on the agenda, with 58% of respondents emphasizing the need to upskill staff and attract new talent capable of navigating today's digital demands.

Artificial intelligence is emerging as a critical enabler of this transformation. Nearly 40% of agencies have already deployed or are piloting AI solutions, with state and local governments slightly ahead of their federal counterparts. AI is being used to enhance cybersecurity, automate document processing, detect fraud, and streamline administrative tasks. These applications are not just theoretical, they're already delivering tangible benefits, from faster permit approvals to more accurate disaster forecasting.

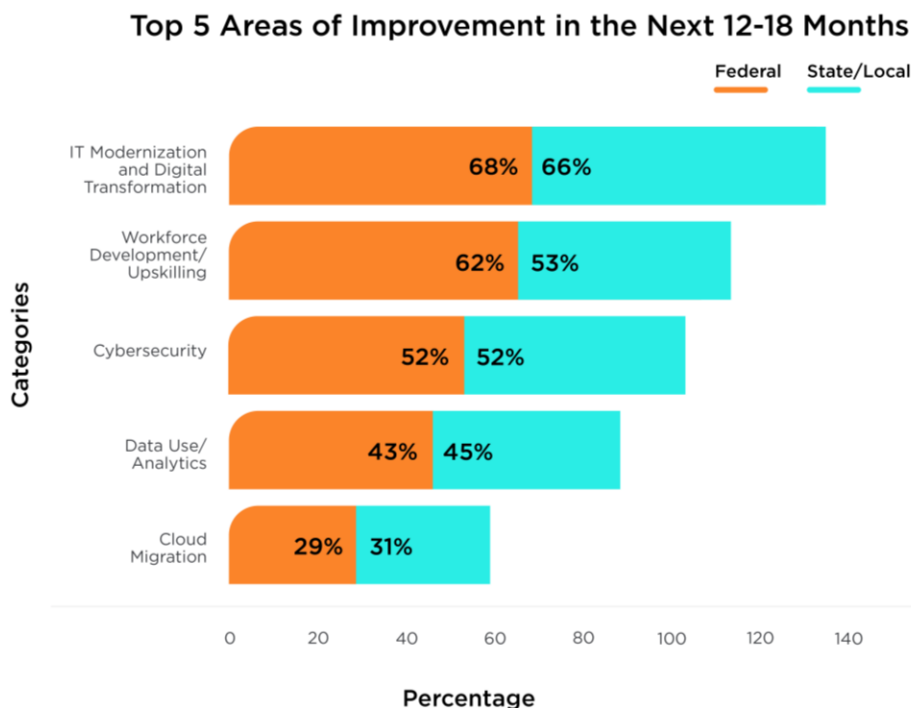
Amid these shifts, Lumen is positioning itself as a trusted partner in government modernization. Survey respondents strongly associated the company with deep technical expertise and strong value for the price, particularly among state and local agencies. With offerings like Private Connectivity Fabric, Wavelength Solutions, and advanced cybersecurity services, Lumen is helping agencies overcome their most pressing challenges and build a more resilient, responsive public sector.

In short, the survey reveals a government sector in transition—eager to embrace innovation but constrained by legacy systems and limited resources. The path forward will require not just new technologies, but also strategic partnerships and a renewed focus on workforce and infrastructure development. And as the findings suggest, Lumen is well-positioned to help lead the way.

What Areas Do these Organizations Identify in Need of Improvement?

Over the next 12-18 months, the top areas in need of improvement include IT modernization and digital transformation, workforce development, and cybersecurity:

- **IT Modernization and Digital Transformation:** 67% of respondents identified this as a priority. Organizations need to replace outdated technology with modern solutions to improve efficiency and performance. For instance, a federal department responsible for infrastructure development and disaster response must prioritize immediate disaster response efforts over long-term infrastructure projects due to budget constraints, resulting in delays and inefficiencies.
- **Workforce Development:** 58% of respondents highlighted this as a critical area for improvement. A state agency responsible for social services, for example, lacks the necessary internal resources to effectively support vulnerable populations. The agency's limited staff and outdated systems hinder its ability to provide timely assistance.
- **Cybersecurity:** Equally important for both segments, with 52% of respondents in each group highlighting it as a key area for improvement. A state government managing voter registration data experiences frequent cyber-attacks. The state's IT team is challenged by the need to protect sensitive voter information while maintaining system integrity.



How Agencies Are Advancing AI: Development, Deployment, and Adoption Trends Across the Organization

The survey found that most organizations are deploying, piloting, or evaluating AI for predictive analytics. Currently 35% of federal agencies and 43% of state and local entities have implemented or are testing AI technologies. AI is increasingly seen as essential for strengthening cybersecurity, with organizations leveraging it to detect and mitigate threats, automate security processes, and enhance overall resilience.

39%

of organizations have deployed, piloted or evaluating AI for predictive analytics.

Additionally, those surveyed identified that AI is being leveraged for various use cases throughout their organizations:

- **Automation of Document Processing:** 39% of organizations are utilizing AI for this purpose, with federal organizations at 44% and state/local organizations at 33%.
 - Ex: A federal department responsible for healthcare services uses AI to automate document processing, reducing manual effort and improving efficiency
- **Fraud Detection and Prevention:** 38% of organizations are leveraging AI for fraud detection, with federal organizations at 38% and state/local organizations at 38%.
 - Ex: A federal agency overseeing financial transactions uses AI to detect and prevent fraudulent activities, safeguarding public funds
- **Automation of Administrative Tasks:** 37% of organizations are using AI to automate administrative tasks, with federal organizations at 37% and state/local organizations at 37%.
 - Ex: A federal agency tasked with disaster response uses AI to forecast natural disasters, enabling better preparation and resource allocation.
- **Predictive Analytics:** 39% of organizations are employing AI for predictive analytics, with federal organizations at 35% and state/local organizations at 43%.

- Ex: A federal agency tasked with disaster response uses AI to forecast natural disasters, enabling better preparation and resource allocation.



When organizations think about AI readiness, they often focus on outcomes first, then data, security, and potentially ethics. However, nearly everyone overlooks the network. AI must access and process data securely, at speed and scale. If the network isn't capable of the bandwidth and latency requirements, AI benefits will never be realized. Lumen's checklist helps government IT leaders understand their AI readiness journey, addressing network challenges crucial for success." – **Josh Finke**, SVP Public Sector, Lumen

What Service Offerings Can Agencies Prioritize to Future-Ready Operations and to Meet Evolving Mandates and Citizen Expectations?

IT leaders must stay future-focused—continually planning and adapting to meet evolving demands.

With mandates arriving rapidly and the need for digital services growing, strong, trusted partnerships with industry leaders are more critical than ever. Lumen has long-standing relationships with both federal and state and local agencies, supporting organizations of all sizes. Our broad and diverse portfolio of solutions is designed to help government customers reduce costs, boost operational efficiency, and strengthen cybersecurity. We help address key challenges—such as reducing costs, improving operational efficiency, and strengthening cybersecurity—through tailored, scalable technologies to enable in positive outcomes. Here's how each of these offerings can help government agencies:

As cybersecurity remains the top infrastructure priority for U.S. federal agencies, with ransomware and malware protection consistently ranked as the leading driver of IT decision-making, the Lumen security portfolio is purpose-built to help agencies mitigate risk, strengthen resilience, and optimize limited internal resources.

Our comprehensive cybersecurity offerings—including DDoS Mitigation, SASE Solutions, and high-speed, resilient dedicated internet access—are designed to protect mission-critical applications and sensitive data. These capabilities are especially critical for federal agencies managing high-value assets and operating under constant threat of cyber intrusion.

If a federal agency responsible for safeguarding national security data was facing a surge in sophisticated cyberattacks, the agency's IT team, particularly with the continued workforce cuts we've seen in 2025 could possibly be stretched thin and struggling to maintain system integrity. If the agency has Lumen® DDoS Mitigation and SASE Solutions deployed, the agency could gain real-time threat detection and automated protection, to help reduce vulnerabilities and enable the down-sized team to shift focus from reactive defense to strategic modernization.

Similarly, a state government managing voter registration systems may lack the internal capacity to effectively monitor and respond to persistent cyber threats. Lumen® Dedicated Internet Access (DIA) could provide the secure, high-performance connectivity needed to maintain operational continuity. By automating threat detection and response, the agency could reallocate internal resources to higher-value initiatives—helping ensure both the integrity of voter data and the resilience of democratic processes.

These use cases underscore the critical role Lumen security solutions could play in helping public sector organizations meet evolving cybersecurity demands while navigating workforce and budgetary constraints.

Lumen® Private Connectivity FabricSM is Enabling Scalable, Secure Infrastructure for AI-Driven Government

Budget constraints, IT modernization and digital transformation

As federal agencies accelerate their adoption of AI and cloud-native technologies, the need for secure, high-performance infrastructure has never been more critical. Lumen Private Connectivity Fabric (PCF) is engineered to meet this demand—delivering a modern network architecture that supports the scale, speed, and security required for next-generation government operations. It is a purpose-built secure network architecture tailored to your unique requirements and gives you the flexibility and scalability needed to meet today and tomorrow's demands in the emerging AI economy.

PCF integrates conduit, Gen-AI capacity fiber, optical services, and digital services into a unified, custom-configured solution. This architecture provides dedicated, high-capacity access to AI data centers across all major cloud providers, enabling seamless data movement and low-latency processing across hybrid and multi-cloud environments.

For federal agencies, PCF can offer a strategic path to modernize legacy infrastructure while maintaining compliance and operational resilience. If the Department of Defense (DoD), where mission-critical



By adopting Lumen's Private Connectivity Fabric, we're using the same network as some major hyperscalers. This allows us to securely and quickly connect to other cloud services and AI services with high bandwidth." - **Trenton Thornock**, CEO, Prometheus Hyperscale

operations depend on real-time data processing and secure communications were leveraging Lumen PCF, it could enhance data integrity, minimize latency, and support AI-driven decision-making at scale—helping ensure readiness and responsiveness in dynamic threat environments.

At the state and local level, PCF could play a pivotal role in advancing smart city initiatives. From traffic optimization to emergency response, real-time data collection and analysis are essential to improving public services. Our secure, scalable network helps ensure that sensitive data—such as surveillance feeds and citizen records—remains protected while enabling municipalities to expand digital services and integrate emerging technologies.

In both federal and local contexts, Lumen Private Connectivity Fabric empowers agencies to meet the growing demands of AI, cloud, and data-intensive workloads—while maintaining the agility, security, and scalability required for long-term transformation.

Lumen® Wavelength Solutions: High-Capacity Connectivity for Mission-Critical Government Operations

Competing priorities, budget constraints and IT modernization and digital transformation

As federal and state agencies confront rising data demands and constrained budgets, the need for scalable, high-performance connectivity has become a strategic imperative. Lumen® Wavelength Solutions (WAVES) can deliver the robust, low-latency infrastructure required to support data-intensive applications and accelerate digital transformation across the public sector.

WAVES provide a high-speed connectivity fabric between data centers and cloud environments, enabling agencies to move and process large volumes of data with speed and precision. This capability is particularly valuable for organizations managing time-sensitive operations or deploying AI-driven applications that require real-time responsiveness.

For example, a federal department tasked with infrastructure development and disaster response must often prioritize immediate crisis management over long-term modernization due to budget limitations. By adopting Lumen Wavelength Solutions, the department can streamline data flows, minimize operational delays, and enhance its ability to respond to emergencies, helping ensure that critical infrastructure projects remain on track and within budget.

At the state level, agencies responsible for delivering social services frequently operate on outdated systems that hinder their ability to serve vulnerable populations. Lumen secure, high-capacity transport infrastructure supports modernization efforts by enabling seamless integration with cloud platforms and next-generation applications. This could empower agencies to improve service delivery, enhance operational efficiency, and better meet the needs of their constituents.

In both federal and local contexts, Lumen Wavelength Solutions offer a cost-effective, scalable foundation for digital transformation—helping public sector organizations modernize infrastructure, optimize performance, and deliver on their mission with greater agility and resilience.

Dark Fiber Solutions: Dedicated Capacity for Long-Term Connectivity and Cost Control

Competing priorities and budget constraints/lack of internal resources

In the shadow of DOGE, the mounting pressure to modernize infrastructure while managing constrained budgets, dedicated network capacity has become a critical enabler of operational resilience. Lumen®

Dark Fiber Solutions offer government agencies a scalable, cost-effective path to meet long-term bandwidth demands—without the capital burden of building and maintaining their own network infrastructure.

By leasing dark fiber, agencies gain full control over network scalability, capacity, and performance. This approach allows for the creation of efficient, high-capacity pathways for content delivery and data transport—to help keep mission-critical services running, even as data volumes grow.

For local governments, the challenge is often balancing essential services with limited fiscal resources. A municipality responsible for both public safety and community development may be forced to prioritize emergency response due to revenue shortfalls. In such scenarios, Lumen Dark Fiber Solutions provide a strategic advantage—enabling reliable, high-speed connectivity that supports both immediate operational needs and long-term digital transformation goals. This could help agencies avoid the trade-offs that typically accompany budget constraints, to help ensure continuity across critical functions.

At the federal level, agencies tasked with environmental protection often struggle with limited internal resources to monitor and enforce regulatory compliance. Lumen Dark Fiber infrastructure simplifies network management while delivering world-class operations and maintenance. By automating routine monitoring and enabling high-throughput data collection, agencies could reallocate staff to higher-value strategic initiatives—to help enhance regulatory enforcement and improve environmental outcomes.

Across both federal and local contexts, Lumen Dark Fiber Solutions empower agencies to modernize infrastructure, minimize operational risk, and maintain cost control—delivering the dedicated capacity needed to support evolving mission requirements.

“High-capacity fiber infrastructure is essential for AI-driven networks. Current network protocols and architectures are outdated, making robust fiber infrastructure a necessity.” – **Dave Ward**
Executive VP of
Technology and Chief
Product Officer, Lumen

How Do Respondents Identify Trusted Technology Partners that Deliver Real Organizational Value?

“ We outline most of the criteria for success in the contractual agreement and metrics are established in the contract to measure the performance of the vendor.

– City Government,
California

“ Value adds for the department; implementable product; value for money; high quality work and product; ease of working with contractors

– Department of
Transportation

“ Through a comprehensive assessment process, we evaluate the technology's impact on operational efficiency, cost savings, and user satisfaction

– State Government,
Colorado

Trust in Lumen

A key highlight of the survey is that respondents clearly associate Lumen with deep technical expertise and strong value for the price. Specifically, 54% of respondents strongly associate Lumen with deep technical expertise, and 54% strongly associate Lumen with value for the price. These associations are particularly strong among state and local organizations, with an average of 65% of respondents associated Lumen with deep technical expertise and an average of 64% associated Lumen with value for the price. These strong associations highlight Lumen's reputation for delivering exceptional technical expertise and value, particularly among state and local organizations, reinforcing its position as a trusted partner in the technology and infrastructure solutions sector.

59%

of respondents associate Lumen with deep technical expertise and value for the price

The Conclusive Findings

These products and solutions from Lumen are designed to significantly improve organizational challenges related to budget savings, operational efficiency, and cybersecurity for government agencies. By addressing key challenges and focusing on areas in need of improvement, organizations can enhance their operational efficiency, improve security measures, and achieve their missions more effectively. Lumen's expertise and solutions play a crucial role in supporting these efforts, making it a valuable partner for government agencies.

Why Lumen?

Lumen connects the world—and we're committed to empowering government organizations of all sizes to achieve their missions. Through modernizing technology ecosystems, we help agencies deliver exceptional citizen experiences while driving efficiency, enhancing cybersecurity, and achieving meaningful cost savings. Our expertise in procurement processes helps agencies navigate government contract vehicles with ease. With our help, agencies can transform their technology, provide excellent service experiences for citizens, and accomplish their missions time and again. Contact us today.

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