

Use Case: Modernizing Infrastructure to Meet Citizen Expectations

How Lumen Infrastructure Services Empower Smart State, Local and Educational Communities

Challenges

Aging Infrastructure Hinders Public Service Delivery

State and local governments are responsible for citizen services—ranging from public health and transportation to education and emergency response—but they're finding their digital infrastructures, often built decades ago, are no longer equipped to handle the demands of a modern, connected society.

Latency issues often plague interdepartmental communications, and the frequent lack of integration between cloud platforms and on-premises systems creates bottlenecks in data sharing. Security vulnerabilities are real threats considering sensitive data like healthcare records, student information, and law enforcement analytics are flowing through outdated networks. All of these factors make compliance mandates difficult to maintain.

Many state and local IT leaders are recognizing that without a modern infrastructure, they risk not only operational inefficiencies but more importantly a loss of public trust. Citizens are demanding more—and the states and local governments need to deliver.



Challenges

- Aging digital infrastructure
- Slow, siloed, unreliable legacy systems
- Lack of integration between cloud and on-premises platforms
- Security vulnerabilities
- Operational inefficiencies reduce public trust

Results

- Operational agility
- Resilience and scalability
- Compliance and Security
- Future-ready architecture

Solution

Purpose-Built Infrastructure for Agile State and Local Government

To address these challenges, government leaders need to consider embracing partnerships with technology providers with strong infrastructure service offerings, such as Lumen. They can begin by focusing on the strategic deployment of Lumen Private Connectivity Fabric, Dark Fiber, and Wavelength Services—technologies purpose-built to deliver secure, high-performance connectivity across distributed environments.

These infrastructure services can enable the agency to establish low-latency, high-bandwidth connections between edge locations, core data centers, and cloud platforms. What does this mean? It means that now smart city sensors can relay traffic data in real time, public health dashboards can update instantly, and emergency response systems can coordinate

seamlessly across jurisdictions. Less delays means a safer, healthier public.

Security is also paramount. By deploying encrypted, segmented Lumen network paths, sensitive data—whether in motion or at rest—can be protected to meet the strictest compliance standards. These governments can confidently manage the many databases they maintain such as law enforcement databases, student records, and healthcare analytics without fear of breach or non-compliance.

Edge compute nodes can be deployed to support distributed offices, schools, and field operations. By using a decentralized approach, they'll reduce reliance on centralized infrastructure, help improve response times, and enable real-time decision-making at the immediate level.

By bringing in the Lumen managed services team, now a clear hand-in-hand approach can be implemented with IT departments, helping ensure smooth integration with existing systems while laying the groundwork for future expansion. The infrastructure can be designed not just for today's needs, but for tomorrow's innovations—AI workloads, digital twin modeling, and next-gen applications.

Outcome

Infrastructure That Powers Smart, Safe Communities

The results could be transformative. With Lumen, operational agility can become a reality. Departments could respond to citizen needs seamlessly in real time, whether dispatching emergency services, updating public transit schedules, or managing school district operations. An infrastructure that supports high-throughput workloads and enables rapid deployment of new services can be a reality.

Resilience and scalability can be built into the network. State and local agencies could expand their digital footprint without costly overhauls and adapt to new technologies and growing citizen demands with ease.

Security and compliance could now be strengths instead of weaknesses as agencies exceed public sector standards, and safeguard sensitive data across all environments.

A future-ready architecture can position state and local governments as leaders in smart government initiatives. With Lumen agencies can be equipped to embrace AI, quantum computing, and other emerging technologies with little fear.

Ready to Transform your Infrastructure?

Citizens expect more. Give them not just what they need but what they want.

- Deliver fast, coordinated citizen services across agencies and jurisdictions
- Safeguard sensitive citizen data with secure, compliant infrastructure that respects privacy
- Smart decision making for safe communities—enabled by edge infrastructure
- Upgrade public infrastructure to bring smart, innovated technology to citizens now and in the future

Lumen Solution Set

Lumen® Private Connectivity Fabric SM(PCF)
Lumen® Dark Fiber
Lumen® Wavelengths
Edge Compute Nodes

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