KB

CONNECTIVITY THAT PAYS OFF: HOW LEADERS IN THE PUBLIC SECTOR WILL USE 5G TO BUILD FUTURE-READY SMART CITIES

July 2022:

Jim Rapoza:
VP & Principal Analyst, IT:

ABERDEEN
STRATEGY & RESEARCH
ILLUMINATE. INSPIRE. IGNITE.

Overview

In this knowledge brief, we'll look at the technologies, strategies, and partners that leading public sector organizations are utilizing to create smart cities. We'll also analyze Aberdeen research data to identify the top benefits that these cities, towns and organizations can gain by leveraging 5G for their smart city transformations.

Through smart devices, the Internet of Things has transformed industrial manufacturing, healthcare, and even our personal home lives. Now, smart cities technologies enable the public sector to build smart capabilities that use these devices to do things like enable first responders, improve traffic flow and public transit efficiency, boost services and engagement for the public, and increase safety from both a physical and environmental standpoint.

But creating a smart city (or town, police station, fire department, parks department, etc.) requires more than just IoT devices. End-to-end, scalable, and high performing connectivity is a must for a successful smart city.

Therefore, successful public sector organizations are taking advantage of modern network connectivity, along with the arrival of 5G, to bring the network coverage and performance necessary for effective smart city rollouts. In fact, 48% of all organizations reported that 5G was the top driver behind their new initiatives to modernize connectivity and embrace modernization.

However, creating a smart city, or simply bringing increased connectivity and IoT capabilities to a public sector organization, requires more than just 5G. Solutions that can leverage a variety of IoT connectivity (such as NB-IoT, LTE-M, LTE Cat 1+, etc.) are necessary for government choice. These organizations will need to work with partners who understand new smart city technologies and how they can be deployed securely and reliably.

Security and reliability are important factors. Aberdeen research shows that the top challenges that public sector organizations face when adopting smart city technologies and carrying out other modernizations include ensuring strong security and implementing solutions that integrate with other key infrastructure such as IoT management systems.

By understanding their own connectivity and technology needs and working with technology providers who understand the public sector and smart city solutions, public sector organizations can better take advantage of emerging advances such as 5G to accelerate innovation while ensuring safety.

With these solutions in place, they can more easily and effectively implement advances such as traffic systems that communicate with vehicles—or smart

Smart cities leverage **IoT**, **analytics**, **fast communication networks,** and other **emerging technologies** such as **augmented reality**, **virtual reality**, and **automation** to combine the physical and digital public experience. Benefits of smart cities can include improved traffic flow, increased public safety, public engagement, and environmental controls and protection.

systems that ensure transit safety—that not only enable innovation, but improve public life.

Building the Public Works for Smart Cities

While IoT technology has been around for a while now, the rise of new technologies such as microservices, edge computing, and fast connectivity such as 5G has revolutionized its capabilities and made possible many smart city capabilities that seemed like science fiction just a few years ago. Cities and towns, police, and fire departments, as well as other public sector groups, can now enable smart devices, meters, communications, and other capabilities that can transform public safety, improve traffic and parking, increase transit adoption, or just make public buildings and services more welcoming and user-friendly.

Most importantly, these technologies can greatly improve the ability of first responders. Having faster and more-improved communications can increase team situational awareness. Smart device analytics and data awareness can speed responses and even predict potential emergencies, and extensive network integration can enable public alerts and notifications.

How a Mandate for 5G Boosts Connectivity and Transforms the Public Sector

Aberdeen research has shown that smart city technologies, paired with holistic WAN approaches and a path to 5G, can bring many important benefits and improvements to public sector organizations. These include:

- Increased security capabilities
- Faster emergency response
- Improved service levels

Clearly, the benefits of implementing smart city solutions make it a key modernization driver for any public sector entity.

While this bleeding-edge type of technology can seem out-of-reach for many public sector groups, organizations are finding that deploying smart city solutions is within their capabilities. By partnering with providers who understand communication technologies like 5G, who have experience deploying IoT within a number of industries, and who have worked to implement smart technologies in the public sector, many cities, towns and first responder departments are finding that they can quickly begin leveraging these critical technologies.

54%

of leaders in connectivity and IoT technologies have adopted 5G

Furthermore, adoption of 5G-enabled solutions can be an indicator of success. Aberdeen research has identified organizations in a wide variety of business fields that are leaders in connectivity and IoT technologies, and these leaders are 20% more likely to implement 5G solutions.

Key Takeaways

Smart, IoT devices, paired with fast and reliable connectivity, are a key modernization enabler for many public sector organizations today. These cities, towns and first responders have learned that smart technologies and modern network connectivity enable them to provide the best services, ensure public safety and improve public life, while making it possible to continue to grow and innovate into the future.

Additionally, public sector organizations that have begun making these modernization moves are finding that this need not be a complex or time-consuming task. By working with experienced solution providers who understand smart cities and 5G, these organizations can bring enhanced capabilities and improved services to their community.

With smart city capabilities, they know more about what is happening in real-time—whether it's traffic, public emergencies, or usage of services—and are able to take actions, both from personnel such as first responders, and from automated smart devices, based on this information.

To gain the benefits of a 5G-ready and scalable network enabled smart city, public sector organizations should consider the following recommendations:

- **Look for reliable connectivity with wide coverage.** The coolest IoT devices and smart technologies are useless if they can't connect to the network. To bring smart capabilities to the public, look for connectivity that covers your entire area and that is reliable and scalable.
- **There is help out there for public sector organizations looking to modernize.** A number of grants and assistance programs from federal and state programs can help when bringing smart capabilities to first responders and other key smart city use cases.
- **Create a foundation for success.** Your core network capabilities need to be fast, secure, and always up. By pairing strong core networking connectivity with emerging technologies like 5G, the public sector can make sure the network isn't a bottleneck to innovation.

60%

of public sector organizations report increased security after modernizing with smart technologies and fast network connectivity

- **Work with experienced partners** who understand first responders, smart city implementations, public safety, and key technologies like 5G.
- **Continue to innovate.** Smart cities can go well beyond just IoT devices. Leading organizations are already leveraging things like drones and virtual reality to make their smart cities even smarter.

About Aberdeen Strategy & Research

Aberdeen Strategy & Research, a division of Spiceworks Ziff Davis, with over three decades of experience in independent, credible market research, helps **illuminate** market realities and inform business strategies. Our fact-based, unbiased, and outcome-centric research approach provides insights on technology, customer management, and business operations, to **inspire** critical thinking and **ignite** data-driven business actions.