



CASE STUDY

BRIDGING THE DIGITAL DIVIDE

How the City of Mesa Delivered Smart Connectivity Without Fiber



SMART CITY



NORTH AMERICA

The City of Mesa found a smarter way to deliver gigabit connectivity for public Wi-Fi and pave the way for smart city applications using Ceragon’s MultiHaul™ TG mmWave solution. No trenching required.

Mesa, Arizona, one of the nation’s fastest-growing cities, spanning 138 square miles and home to more than half a million residents, is a city committed to advancing digital equity, ensuring all residents have better access to education, economic opportunities, and essential services. Yet even in a city with strong ambitions for digital transformation, and despite maps and reports to the contrary, some neighborhoods still had too many people not getting online.

To close the digital divide and future-proof its infrastructure for next-gen smart city initiatives, Mesa was searching for a resilient, high-capacity connectivity solution that could deliver fiber-like performance at scale, without the delays, disruptions, or expenses of trenching fiber.



“We’ve transformed connectivity in Mesa—delivering gigabit speeds to underserved neighborhoods, enhancing municipal operations, and laying the foundation for our smart city future. The rapid deployment and scalability of Ceragon’s [MultiHaul™ TG mmWave] Terragraph solution has been a game-changer for our community.”

Harry Meier, Deputy CIO for Innovation, City of Mesa

THE CHALLENGES

Close the Digital Divide | Address Fiber Expansion Challenges | Expand Private 4G Coverage | Support Smart City Growth

While Mesa had already deployed public Wi-Fi access points (APs) and fiber in some locations, large parts of the city, especially underserved neighborhoods and public spaces, remained underserved. Even in areas where Wi-Fi existed, mesh networking between these APs wasn’t delivering enough capacity. Performance degraded after just one or two hops, making it clear that the current setup would not be enough as the city moves into the digital age.

And expanding the fiber network to fill these gaps was not a viable path forward. Beyond the cost and disruption of trenching across busy corridors, the city would also need to create fiber access points at nearly every intersection—major and minor. That meant even more delays, more disruption, and more expense.

Mesa also needed to **expand its private 4G coverage** for municipal staff in the field, enabling them to stay connected to city systems and services. Meanwhile, city officials had eyes on the future with plans for smart city applications, all requiring a huge boost in capacity.

Without a new approach, communities would remain under-connected and future smart city projects would stall. The city needed a smarter, faster, more scalable solution.

THE SOLUTION

MultiHaul™ TG mmWave | Rapid, Plug-and-Play Deployment | Multi-Service Smart City Network | Gigabit Speed Anywhere

To achieve its vision, Mesa selected Siklu by Ceragon’s MultiHaul™ TG 60 GHz mmWave solution—a wireless platform designed to deliver high-capacity, low-latency, fiber-like speeds without the disruption or expense of installing fiber, nor limited capacity and interference associated with other wireless solutions.

Unlike the city’s previous Wi-Fi AP mesh network, which degraded up to 80% after just one or two hops, the new MultiHaul™ TG platform provides full gigabit throughput across multiple hops with no performance loss. That means fast, stable, and consistent wireless broadband for residents and municipal services, no matter the location.

To date, more than 400 MultiHaul TG nodes have been installed across the city, covering roughly six square miles of neighborhoods, parks, and downtown corridors. Operating in the license-exempt 60 GHz band, the solution delivers the best of both worlds; fiber-like capacity without the high costs of licensed spectrum, and interference-free performance that Wi-Fi mesh simply cannot match. Also, each unit features self-aligning, beam-forming antennas that eliminate mechanical alignment, while zero-touch provisioning enables rapid, cost-effective hands-free deployment.

Just mount and plug in. Fire up and forget.

More than just a Wi-Fi upgrade, the same network powers Mesa’s private 4G coverage for city staff and municipal teams, creating a multi-service smart city platform ready for IoT, mobility, and future digital applications.

Best of all, this initiative runs in parallel with a broader smart city deployment, led by our technology partner and the world leader in lighting, **Signify**. Mesa is working with **Signify** to transform its existing street lighting network into a platform for broadband connectivity. Together, these aligned efforts are helping to shape a more inclusive and connected Mesa.

THE RESULT

With Ceragon’s MultiHaul™ TG solution, Mesa now operates a fiber-like mesh network that reaches more residents, public spaces, and municipal teams than ever before. And that’s just the beginning. As Mesa continues to expand its digital footprint through its smart street lighting infrastructure, Ceragon’s wireless platform is proving to be a cornerstone for scalable, city-wide innovation.

Key Outcomes:

- Gigabit connectivity for residents and public Wi-Fi hotspots.
- Expanded coverage across parks, downtown corridors, and underserved neighborhoods.
- Enhanced private 4G connectivity for municipal staff and city services.
- Lower OPEX/CAPEX with higher ROI.
- Rapid deployment with minimal disruption to communities.
- Smart street lighting infrastructure with integrated radios inside luminaires for seamless network coverage while maintaining urban aesthetics.
- Future-ready, scalable network to support smart city initiatives and IoT expansion.

