Case Study

Columbus Police Department - Neighbourhood Safety Camera Network

Service: WINCare Managed Services
Industry: Smart City | Public Safety
Location: Columbus, Ohio, USA

About the Project

The Columbus Police Department (CPD) operates one of Ohio's largest neighborhood camera networks, using fiber and RADWIN wireless links to protect the community.

As the network expanded, CPD experienced rising downtime, latency, and unreliable connectivity that disrupted surveillance and burdened NOC teams.

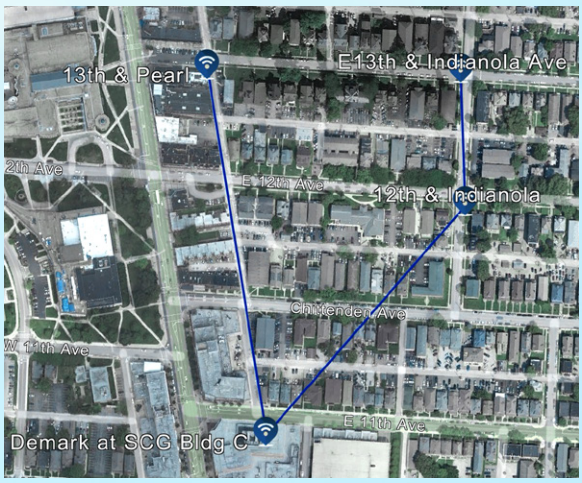
To regain stability, CPD adopted RADWIN's WINCare Managed Services for continuous monitoring, proactive optimization, and dependable performance.

The network combines high-power base stations with extensive point-to-point backhaul, including RADWIN 2000E and 2000+ links, while varied PTMP subscriber units connect cameras at street level.

Its true strength is orchestration: hundreds of radios, multiple PTMP sectors, and diverse SUs operating seamlessly as one managed network.

Project Challenges

- **Unstable uptime and network reachability:** frequent device dropouts and noisy alarms strained operations.
- **Rising latency and interference:** RF congestion led to video delays and throughput loss.
- **Limited operational visibility:** reactive troubleshooting slowed response times.
- **Expanding footprint**: new sites demanded scalable performance governance.



RADWIN PtP & PtMP links connecting assets across the city of Columbus

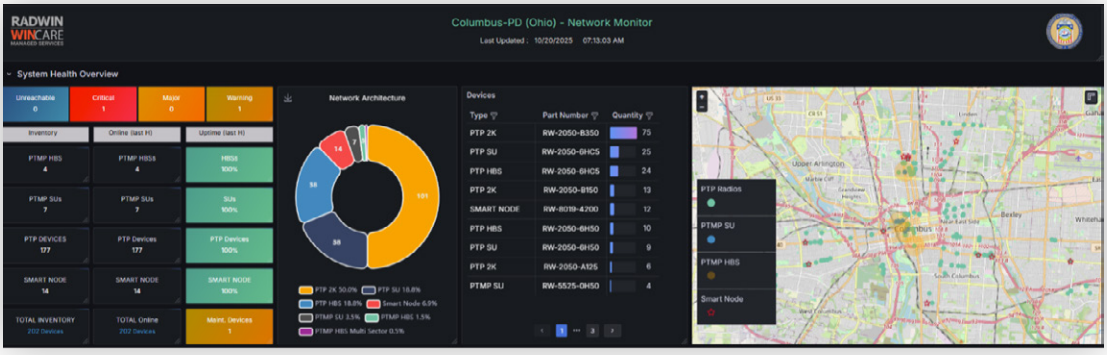
RADWIN

Case Study

RADWIN Managed Services Solution

RADWIN Managed Services introduced a structured, proactive operations framework that transformed network reliability and visibility through:

- **24/7 Monitoring and Smart Alerts**: Continuous system health dashboards, automated fault detection, and remote troubleshooting.
- **RF Optimization:** Channel re-planning, alignment correction, and interference mitigation.
- **Device Hygiene and Standardization:** Firmware normalization, configuration hardening, and QoS tuning for video streams.
- **Change Management and Validation:** Controlled updates with performance validation across P50/P95/P99 metrics.
- **Governance Cadence:** Weekly performance reports, monthly trend analyses, and quarterly optimization sprints.



Unified view of the entire network and it's status

Results and Performance Gains

KPI	Prior to Managed Services	After Managed Services
Availability	~65–70%	≥99.999% (most hours 100%)
Unreachable devices	10–15/hour	near-zero
Critical/Major alerts	5–10/hour	<1/hour
Latency (PTMP SUs)	Up to ~250 ms	Sub-20 ms
Latency (PTP 2K/2000+)	Up to ~700 ms	Typically, ~4–10 ms
RSSI	Approx. ≈-75 dBm	healthy bands (≥-67 / ≥-55 dBm)
Capacity	~10 Mbps (worst case scenario)	Maximum device throughput

Case Study

Business Impact

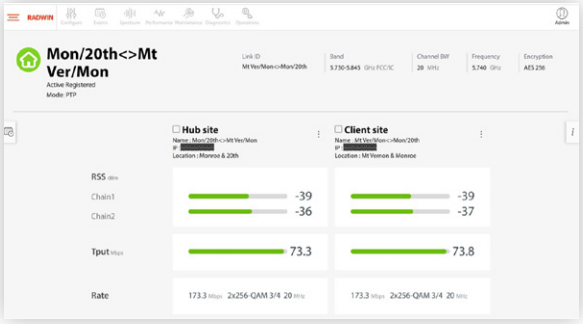
- **Reliability:** Network stability increased to virtually 100% uptime.
- **Efficiency:** Major issues resolved remotely, minimizing site visits and OPEX.
- **Speed:** Rapid fault isolation and resolution, enhanced service continuity.
- **Scalability:** Optimized RF headroom supports continued expansion, currently over 320 wireless and 175 fiber-connected cameras.
- **Confidence:** Actionable insights replaced alarm noise, restoring operational trust

How Managed Services Creates Value (Cause ⟶ Effect)

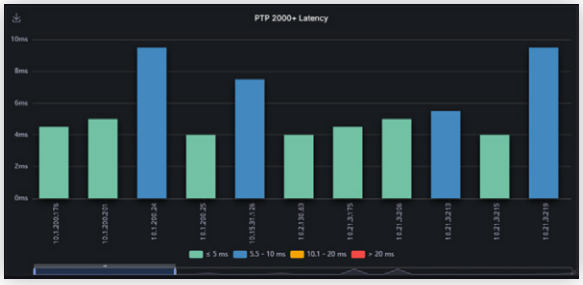
Service Action	Outcome
24/7 monitoring & alerting	Unreachable devices reduced to near-zero; minimized critical alarms
Remote troubleshooting	Faster MTTR, fewer truck rolls, lower OPEX
RF optimization	Lower latency, stronger RSSI, higher MCS rates
Change mngmt. / Validation	Stable throughput, eliminated spikes
Continuous governance	Sustained 99.999–100% availability and operational confidence

Looking Ahead

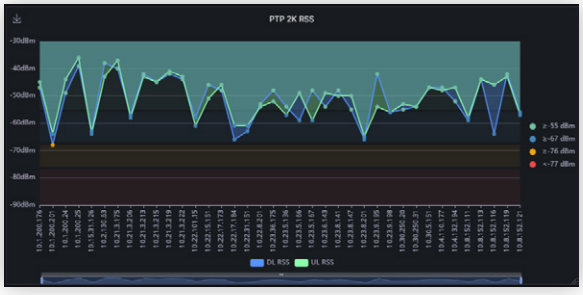
The City of Columbus is expanding its camera footprint with proactive capacity planning, extended SLA-based reporting for command centers, and ongoing optimization cycles to sustain world-class network availability.



Detailed view of every link and it's performance



PTP 2000+: Continuous Monitoring of Radios' Latency ensuring it remains in the target MS level



PTP 2K RSSI – Monitoring bands' health and ensuring stability

See What RADWIN Managed Services Can Do for Your Network.