SUCCESS STORY

Los Angeles County Fire Department: Resilient Communications w/Custom AVL

Transforming Fleet Visibility and Operational Awareness with a Private Wireless AVL Network



The Los Angeles County Fire Department needed dependable resource tracking and mobile data connectivity across a vast, complex service area where commercial broadband is not always available. RMI custom-built a solution using the County's private wireless network, LTE/5G, and satellite to keep crews connected when lives are on the line.

Learn how RMI helped LACoFD get more value from its existing infrastructure with a solution tailored to the department's exact operational needs.

THE NEED

Continuous AVL Visibility Beyond LTE Coverage

The County of Los Angeles Fire Department (LACoFD) protects more than 4 million residents across 2,300 square miles of dense urban centers, suburban neighborhoods, beaches, open water, and mountainous terrain. Nearly 100 dispatchers manage close to 400,000 incidents each year — making accurate unit location, reliable status updates, and uninterrupted connectivity essential to safe and efficient operations.

> *"The Department required a system that allowed personnel to share critical situational information regardless of the availability of an LTE network."*
>
> - Scott England, LA County Telecom Consulting Engineer

Commercial LTE coverage varies dramatically across the region, especially in canyons, remote areas, and disaster-impacted zones. LACoFD needed a mobile data and AVL solution that would:

- Provide real-time unit location tracking regardless of LTE availability
- Connect every mobile data computer (MDC) and every fire station to the Emergency Communications Center (ECC)
- Support dispatch details, responder status, digital messaging, and map updates
- Reduce reliance on commercial broadband for cost, resilience, and security and provide backup connectivity when cellular service is unavailable

As Telecom Consulting Engineer Scott England explains, "The Department required a system that allowed personnel to share critical situational information regardless of the availability of an LTE network."



THE CHALLENGE

A Vast, Complex Service Area with Uneven Connectivity

LACoFD's geography creates persistent communication challenges:

- Mountain ranges and canyons obstruct LTE signals
- Coastal and open-water operations require long-range coverage

© 2026 RadioMobile, Inc.

- Wildfire and disaster conditions frequently degrade commercial networks
- High-noise RF environments that demand exceptionally selective radio equipment

The Department needed a secure, redundant, and self-controlled network capable of delivering AVL and operational data everywhere responders operate — not just where LTE happens to be available. The solution also had to support high call volume, work across a mix of urban and remote environments, and remain useful during incidents when commercial networks could become congested, damaged, or unavailable.

THE SOLUTION

A Private Wireless AVL Network

To meet these needs, LACoFD partnered with RadioMobile, Inc. (RMI), specializing in mobile data and AVL solutions for Fire and EMS agencies. RMI designed a custom, private LMR-based mobile data network that integrates seamlessly with FSA/CAD/AVL systems and provides resilient, countywide coverage. By using Department-controlled infrastructure as a dedicated data path, the network helps keep essential operational information moving even when commercial broadband cannot be counted on as the only communications layer.

Strategic LMR Site Deployment

The network includes 12 strategically placed LMR high-sites operating narrowband UHF channels at 22 kbps. These high-sites deliver long-range coverage with fewer towers and are hardened within secure Department facilities.

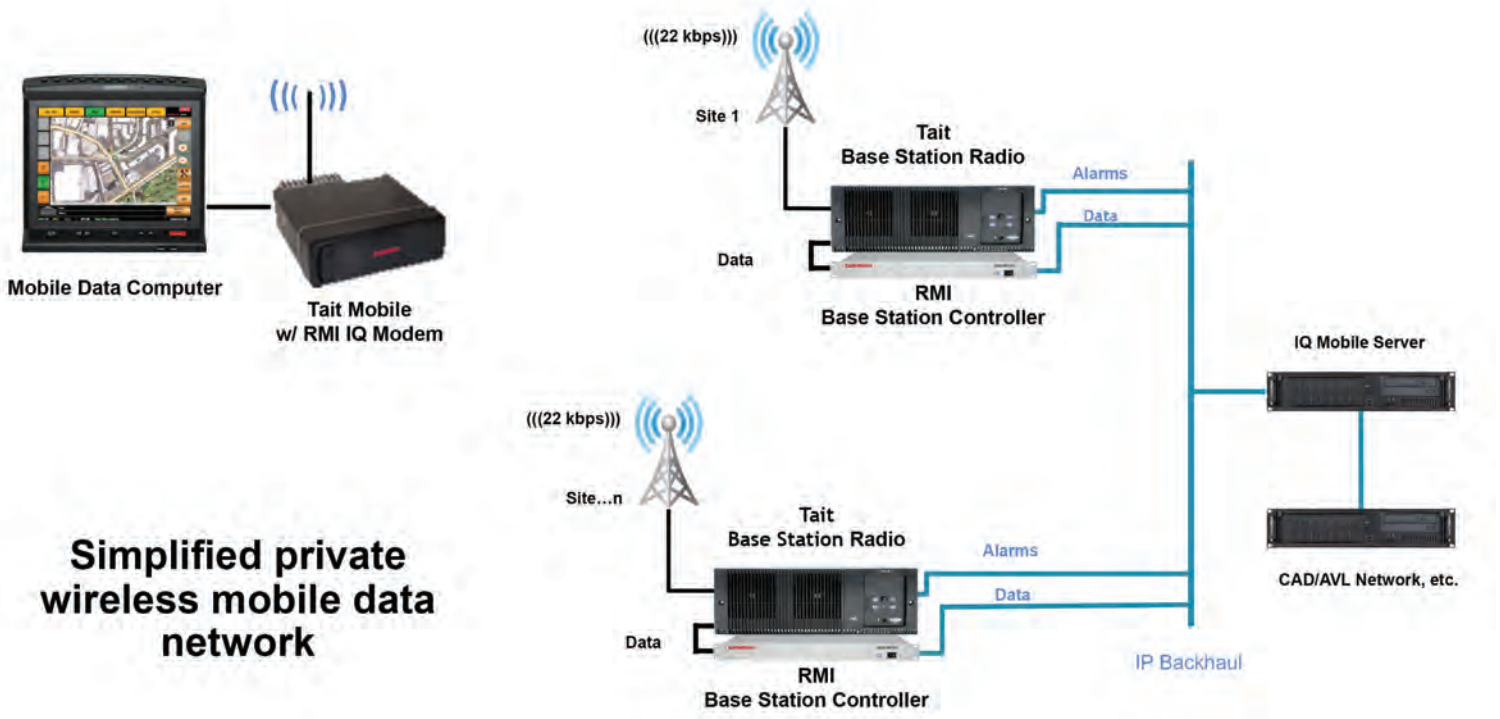
Each site includes:
- A Tait base station radio
- RMI's Base Station Controller (BSC)
- IP backhaul integration with CAD/AVL

Tait base stations were selected for their sensitivity, selectivity, and adjacent-channel performance — critical in Los Angeles County's high-noise RF environment.

Mobile and Station Equipment

Every apparatus is equipped with:
- A mobile data computer (MDC)
- A Tait mobile radio with an integrated RMI Modem

The RMI Modem converts digital AVL and status data into a format suitable for analog transmission over LMR, ensuring continuous location reporting even when LTE is unavailable. This keeps units visible to dispatchers and status updates flowing in areas without LTE coverage.



Simplified private wireless mobile data network

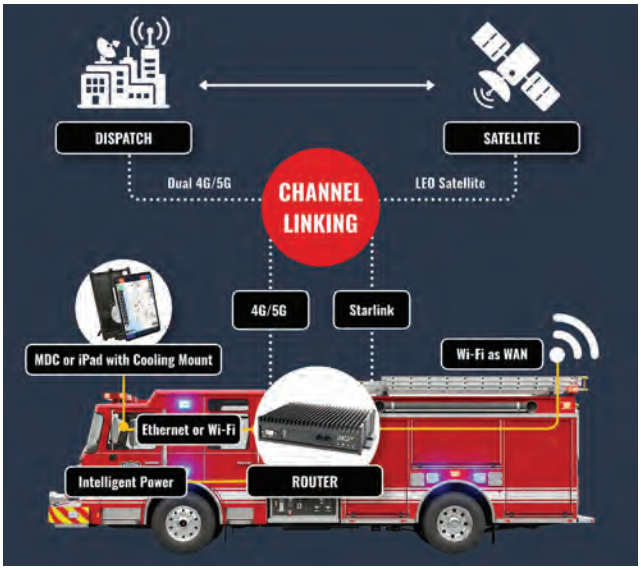
© 2026 RadioMobile, Inc.

The Departments 177 fire stations use RMI's Fire Station Alerting System (RMI FSA), which receives dispatch and alerting data through the same mobile data network for immediate station notification. The same information is also distributed to 1200 vehicles via the private wireless network.

Intelligent Multi-Network Architecture

RMI's architecture supports simultaneous use of:
- LMR
- LTE/4G/5G
- Low-Earth-orbit (LEO) satellite connectivity

Using data channel aggregation, the system combines multiple broadband connections into a single, wider data path — ideal for bandwidth-intensive applications such as real-time video streaming, AVL map updates, and large data transfers.



This layered approach gives LACoFD flexibility to use the best path for the type of data being transmitted. AVL and essential status information can continue over LMR when broadband coverage is limited, while higher-bandwidth applications can use LTE, 5G, or satellite links when available.

The RMI AVL system dynamically scales network usage based on real-time connectivity — using online maps, video streaming, and cloud services when broadband is present, and automatically relying on locally stored maps, navigation, and map layers when only LMR is available.

THE RESULTS

A More Visible, Connected, and Resilient Fleet

With its LMR-augmented AVL network, LACoFD is better equipped to protect lives, property, and the environment. The system gives dispatchers a more dependable view of where units are located, helps field personnel maintain data connectivity across difficult terrain, and strengthens the Department's ability to coordinate resources during routine calls as well as large-scale emergencies.

For an agency operating across one of the most geographically diverse regions in the country, that visibility is more than a convenience — it is a mission-critical capability. When incidents unfold quickly, knowing the location and status of available resources can improve routing decisions, support faster coordination between responding units, and give command staff a clearer operational picture.

Key Outcomes Include:
- Continuous AVL visibility even when LTE is unavailable or compromised
- Reliable data sharing including preplans, dispatch details, and responder locations
- Enhanced security through a closed, Department-controlled network
- Lower operational costs by reducing dependence on commercial LTE Countywide Interoperability and Multi-Layer Connectivity

LACoFD has integrated its private wireless mobile data network into the Los Angeles Regional Interoperable Communications System (LA-RICS), which operates 22 high-site LMR towers across the county. This integration enables seamless cross-agency communication and AVL visibility among fire, law enforcement, EMS, and regional partners.

> *"Now that LA-RICS is fully deployed as a countywide system, our firefighters — and all LA-RICS member agencies — can share lifesaving data and communicate seamlessly across jurisdictions."*
>
> - Scott England, LA County Telecom Consulting Engineer

© 2026 RadioMobile, Inc.

THE FUTURE

Ensuring Long-Term Operational Readiness

LMR remains a reliable backbone technology connecting thousands of public-safety vehicles nationwide. Today, it operates alongside LTE/5G and low-Earth-orbit satellite systems such as Starlink, giving agencies multiple resilient connectivity options. RMI's custom AVL platform is engineered for long-term operational readiness, continuously integrating new capabilities as they become available.

> *"By building on LACoFD's proven LMR network, we've created a flexible foundation that can grow with future operational and technology demands."*
> – Jim Moore, CEO, RMI

That adaptability is central to the value of the solution. As LACoFD's operational requirements evolve — whether through new applications, expanded data needs, additional partner agencies, changing coverage priorities, or emerging broadband and satellite technologies — the network can evolve with them. The architecture is not limited to a single transport method or fixed operating model; instead, it provides a flexible foundation that can incorporate new connectivity paths, support additional field devices, and scale to meet future demands while preserving the dependable LMR backbone that public safety operations require.



ABOUT RMI

RMI provides technology solutions for fire and EMS agencies, specializing in fire station alerting, apparatus tracking, and operational connectivity. RMI's solutions connect dispatch centers, fire stations, and field personnel to support faster, more coordinated emergency response.

Built around speed, reliability, and interoperability, RMI's technology is designed to work with agencies' existing systems and infrastructure while supporting evolving operational needs.

Through software-driven capabilities, system integration, and ongoing support, RMI helps fire and EMS agencies maintain operational readiness, improve visibility across their operations, and access the information they need when seconds matter most.

Explore fire station alerting for your department. Talk with our team: 858-444-1330 | radiomobile.com

RMI RadioMobile Inc. — Trusted Provider of Mission-Ready Technology for Fire & EMS

www.radiomobile.com
8801 Kenamar Drive, San Diego, CA 92121
858-444-1330

© 2026 RadioMobile, Inc.