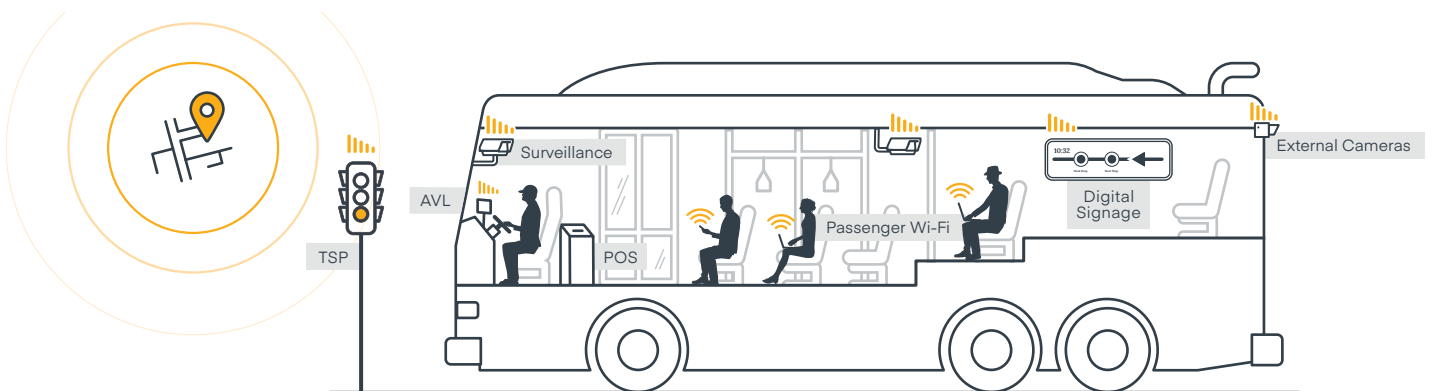


Using In-Vehicle Networks to Securely Connect Modern Public Transportation Technologies

5G and LTE solutions for highly reliable, secure, and centrally managed connectivity

To increase ridership, optimize operations, and drive new revenue streams — all with public safety and growth in mind — public transportation agencies are finding more ways to use connected devices and applications in vehicles. From buses and light rail to trolleys and ferries, mass transit authorities see the value of in-transit security, digital signage, touchless fare collection, public Wi-Fi, telematics, and GPS, GNSS, and AVL. However, all of these technologies depend on highly reliable connectivity.



Mass Transit Networking Challenges

Insufficient bandwidth for expansion of connected technologies

The sheer volume of video, credit card, navigation, and vehicle performance data — not to mention passenger streaming — flowing from transit vehicles to the cloud makes it difficult not only to accommodate existing devices and applications, but to continue adding more as needs arise and evolve. Flexible, high-bandwidth wireless 5G and LTE networking solutions are essential.



The biggest obstacle in our bus system was inconsistent connectivity.

Nick Moran, ITS administrator,
Valley Regional Transit

Inconsistent connectivity

Frequent connection drop-offs make real-time data visibility impossible, which is disastrous for applications such as GPS/GNSS data for AVL systems and passenger apps, streamed video surveillance footage, and Traffic Signal Priority systems. Dual-modem 5G and LTE solutions enable active connections to multiple cellular carriers, greatly improving network uptime.

Network management limitations

With many vehicles spread across an entire city or county, IT and fleet management teams don't have time to visit vehicles in person to manage connection problems, configuration changes, security updates, and other issues. They need centralized, cloud-based access to online dashboards and the ability to make network adjustments from anywhere.

Wireless Networking Solution Checklist for Public Transportation Vehicles

Cloud management services for centralized control of all routers

Set policies for entire group (security, data usage, captive portal)	●
Dashboards for security, health, mapping, and application visibility	●
Full security including zone firewall, IDS/IPS, and content filtering	●
Location tracking and cellular health mapping	●

Ruggedized Routers

5G and Gigabit-Class LTE modem with support for multiple carriers	●
Dual modems with simultaneous dual carriers available	●
Active GPS and simple integration with AVL/telematics software	●
Dual-band, dual-concurrent Wi-Fi 5 or Wi-Fi 6 (2.4/5.0 GHz)	●
Supports up to 100 Wi-Fi clients	●
Wi-Fi as WAN for video offload	●

Cradlepoint’s NetCloud Service for Mobile

Cradlepoint NetCloud Service for Mobile provides the enterprise capabilities that public transit agencies need for their wide-ranging onboard connected technologies. Delivered through purpose-built ruggedized routers, NetCloud provides connection reliability, manageability, and security — at scale — at the converged network edge.

Learn more at [cradlepoint.com/public-transit](https://www.cradlepoint.com/public-transit)



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