



June 18, 2025

To: Transit Committee

From: Darrell E. Johnson, Chief Executive Officer

Subject: Replacing and Expanding Mobile Routers on OC ACCESS and OC Bus Vehicles and at Non-Vehicle Locations

Overview

The Orange County Transportation Authority utilizes mobile routers onboard the OC Bus and OC ACCESS fleet for real-time data connectivity, vehicle tracking, and integration with other onboard systems. Board of Directors' authorization is requested for the purchase of hardware and services to replace and expand mobile routers on the OC ACCESS and OC Bus vehicles, as well as at non-vehicle locations.

Recommendation

Authorize the Chief Executive Officer to negotiate and execute Purchase Order No. C54142 between the Orange County Transportation Authority and CDCE, Inc., in the amount of \$4,207,826, for the purchase of hardware and services necessary to replace existing Cradlepoint IBR1100 and IBR1700 mobile routers on 509 OC Bus vehicles, 31 non-revenue vehicles, and nine non-vehicle locations with new Cradlepoint R1900 mobile routers, to add 252 new Cradlepoint R1900 mobile routers on OC ACCESS vehicles, and to procure nine additional routers to be used as spares and for testing purposes.

Discussion

The Orange County Transportation Authority (OCTA) utilizes Cradlepoint mobile routers on its OC Bus and OC ACCESS vehicles to provide secure, high-speed cellular connectivity that supports a wide range of operational and passenger-facing systems. These routers enable transmission of Automatic Passenger Count (APC) data to support service planning and reporting, and allow transit operations staff to remotely view live video feeds from onboard surveillance cameras for incident response and monitoring. They also support the remote archiving of essential video footage, ensuring timely retention of critical data. Additionally, the routers facilitate the wireless updating of headsign

information, enable onboard fare validation systems for bus pass authentication, and provide public Wi-Fi service to enhance the passenger experience. This integrated connectivity improves operational efficiency, safety, and customer service across the fleet.

OCTA's existing Cradlepoint IBR1100 routers have reached end-of-support, with no further firmware updates, security patches, or manufacturer assistance available. While the IBR1700 routers remain operational, they are no longer available for purchase, limiting OCTA's ability to scale, maintain, or replace existing units.

Staff is recommending that the legacy Cradlepoint IBR1100 and IBR1700 mobile routers be replaced with the Cradlepoint R1900 mobile router, supported by the Cradlepoint RX30 modular modem and Panorama 11-in-1 antenna. This upgrade is essential to maintain a robust, secure, and high-performing communications infrastructure that support OCTA's growing need for real-time data connectivity, vehicle tracking, and seamless integration with other onboard systems.

The Cradlepoint R1900 offers significant technical advantages that align closely with OCTA's Intelligent Transportation Systems initiatives. The router's improved bandwidth and fifth generation (5G) capabilities enable near real-time transmission of APC data over cellular networks, eliminating the current reliance on depot-based wireless offload and allowing faster and more reliable access to critical ridership data. This upgrade will also support reliable live video streaming from onboard surveillance systems, enhancing OCTA's ability to monitor incidents and ensure passenger and operator safety. The Cradlepoint R1900 provides robust backhaul connectivity for new fare collection systems being deployed, ensuring fare data is transmitted to backend systems quickly and reliably. Its advanced architecture ensures OCTA is well-positioned to support future enhancements in data connectivity and fleet communication technologies as needs evolve.

In addition to its technical capabilities, the Cradlepoint R1900 improves operational manageability through Cradlepoint's NetCloud Manager platform, allowing OCTA staff to remotely configure, update, and monitor routers across the fleet without physical access to each vehicle. Its advanced security features and 5G readiness further enhance OCTA's ability to meet current cybersecurity standards while preparing for future mobility applications such as vehicle-to-everything communications and prioritized quality of service over long-term evolution/5G networks.

By investing now in a full upgrade to the Cradlepoint R1900 across all buses, including replacing routers that have reached end of support, OCTA will unify its communications infrastructure, reduce long-term maintenance costs, and eliminate the inefficiencies of a mixed hardware environment. This transition will also improve the overall availability, reliability, and stability of OCTA's onboard systems, supporting more consistent performance across Computer-Aided Dispatch/Automatic Vehicle Location, fare collection, video streaming, and passenger data reporting. This proactive approach reflects OCTA's broader commitment to operational excellence, technology leadership, and providing safe, reliable, and modern services to its riders.

Procurement Approach

The Board of Directors (Board)-approved procurement policies and procedures allow for two options to procure the hardware and services. OCTA can issue a competitive solicitation or piggyback to purchase goods, information technology, rolling stock, or nonprofessional services from the State of California, the federal government, or other appropriate California public agencies, when it is in the best interest of OCTA to do so.

Using the first option, OCTA would issue a competitive invitation for bids containing detailed specifications for the Cradlepoint hardware and related services. However, the competitive process is time-intensive and would extend the timeline for obtaining the required hardware and services.

The second option is an intergovernmental procurement, also known as "piggybacking," which is supported by OCTA policy and procedures when it is in OCTA's best interest. This method enables OCTA to leverage existing cooperative contracts that have already been competitively procured by other public agencies, resulting in administrative cost savings and expedited procurement timelines. Staff determined that the piggyback procurement method would be the most advantageous to OCTA. OCTA identified the State of California's Participating Addendum No. 7-20-70-47-02 (Participating Addendum), which allows state and local agencies to procure Cradlepoint hardware, software, and related services at competitively awarded pricing without the need for further solicitation.

In accordance with the Participating Addendum and state user instructions, OCTA requested quotes on May 1, 2025, from the 18 firms listed as authorized resellers under the Participating Addendum. On May 8, 2025, one quote was received and reviewed by staff from the Contracts Administration and Materials Management and Information Systems departments. CDCE, Inc., an authorized reseller, submitted the quote and confirmed that the part numbers and quantities

matched OCTA's requirements. Per OCTA policy and procedures, outreach was conducted to determine why the other vendors did not submit a quote. Vendors cited reasons including lack of competitive pricing for hardware installation, absence of an assigned sales representative, and limitations in their current offerings, such as not providing mobile hardware without bundled connectivity.

The pricing for the hardware and services is deemed fair and reasonable as the per unit price is less than the pricing listed in the Master Price Summary and Schedule under the Participating Addendum.

Fiscal Impact

Funding for this project was included in OCTA's Fiscal Year 2024-25 Budget. This project will be funded from the Finance and Administration Division/Information Systems Department Account No. 1288-9027-D1111-J8V and is funded through local funds.

Summary

Staff recommends the Board of Directors authorize the Chief Executive Officer to negotiate and execute Purchase Order No. C54142 between the Orange County Transportation Authority and CDCE, Inc., in the amount of \$4,207,826, for the purchase and installation of Cradlepoint R1900 mobile routers across the Orange County Transportation Authority's mobile and field-based assets.

Attachment

None.

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