Memorandum

TO: Fox Cities Transit Commission, City of Appleton Common Council

FROM: Ron McDonald, General Manager

DATE: June 20, 2025

RE: Award Recommendation for Full Fleet CAD/AVL System Hardware Upgrade and Software Subscription Extension

BACKGROUND

Each Valley Transit bus is equipped with hardware to support the Computer-Aided Dispatch/Automatic Vehicle Location (CAD/AVL) system. The CAD/AVL system provides staff with vital service oversight tools, integrates with multiple onboard systems, and supplies required data for funding partner reports (local, state & federal). Additionally, the system manages important passenger information systems, like onboard stop announcements, text messaging, interior & exterior LED signs, real-time stop/route arrival data, and data feeds for 3rd party apps, like Google and Apple Maps.

Valley Transit's CAD/AVL system vendor is GMV. The current hardware is comprised of a rugged Android tablet, communication cabling and various sub-component devices located in the bus's equipment cabinet. The system integrates and communicates with the farebox, exterior & interior signs, onboard announcement system and automatic passenger counters above each door. Beyond the onboard features, the system provides service data to cloud-based software using cell data provided by an onboard router.

Valley Transit has utilized CAD/AVL technology since 2011. The GMV system was purchased in January 2023. This procurement was reviewed and approved by the FCTC on 1/24/2023. GMV's proposal for hardware included reuse of existing rugged Android tablets (GETAC ZX70) purchased by Valley Transit in 2018 under the previous CAD/AVL vendor. GMV was able to incorporate the mid-life tablets, which resulted in significant initial capital savings. At the time of purchase, Valley Transit's plan was to phase in new hardware after the tablet lifespan was reached.

The existing tablets have surpassed their useful life and are no longer supported by the manufacturer. Valley Transit has experienced a few tablets failures over the past year. A fleet-wide hardware replacement is required to maintain the CAD/AVL system.

ANALYSIS

GMV launched a new onboard hardware solution called GMV Hub ("Hub") in 2024. The Hub is essentially a computer/vehicle logic unit designed for the transit operating environment. With the Hub, the CAD/AVL system no longer relies on an Android tablet to provide computing power and manage onboard systems. The Hub device consolidates all sub-components and processing into a small box that is installed in the onboard equipment cabinet.

The new hardware has several advantages in design and function when compared to the existing Android tablet-based system. The rugged Hub computer has a much longer service life than the tablet system. Rugged tablets

begin to fail after 5 years of transit service. The new Hub system has a service life of 10+ years. The tablet's Android operating system is not controlled by the CAD/AVL software vendor. Android security and operating system updates can happen unexpectedly and require app changes. Conversely, the new Hub operating system was developed and managed by GMV, which eliminates unpredicted operating system changes. The Hub device is designed with multiple interface ports and allows for direct integration with onboard systems, while the tablet has limited ports and relies on many subcomponent devices.

For the bus operator, the new system hardware includes a 10" touch screen with a redeveloped display designed to provide better data, including a mapping feature for navigation, next stop display, ontime performance, clock and large menu icons for other common tasks. The existing tablet-based system has a 7" display, large tablet cradle/mount and multiple cable connections. The cable connections into the tablet cradle cause several areas for potential system disconnect failure. The new display is simply a screen with a hardwired power and cable to the Hub computer. This will eliminate several communication failure points of the tablet-based system.

This hardware upgrade project also includes the replacement of onboard automatic passenger counter (APC) sensors. All Valley Transit buses are equipped with APC sensors above each bus door. The current sensor model was installed in 2018 and is no longer supported by the manufacturer, Dilax. During installation, GMV would replace these sensors with modern 3D scan sensors manufactured by IRIS. Sensor replacement is designed to support future data projects and provides more accurate counting of passenger boardings and alightings.

Since the GMV system deployment, Valley Transit has experienced quality service and found GMV to be a responsible and responsive vendor. Valley Transit also checked the reference from a recent deployment of the Hub system in La Crosse, WI to confirm system reliability. The La Crosse Municipal Transit Utility project manager stated that the system has been successful and provided a positive reference. GMV's current customer base focuses on small to mid-size transit systems, which will continue to benefit Valley Transit as the product evolves over the contract term.

Valley Transit is requesting a sole source purchase to upgrade CAD/AVL system hardware and extension of its contract with GMV. The current software agreement with GMV ends in 2028. Since the new hardware has a useful life well beyond 2028, this project seeks to extend the existing annual SaaS (software as a service) agreement by 3 years with 2 option years. This extension is also designed to allow Valley Transit to re-evaluate CAD/AVL solutions prior the next bus replacement process. Valley Transit staff completed a sole source justification and cost reasonableness analysis of the proposal received from GMV. The sole source decision was reviewed and approved by City of Appleton purchasing staff.

If approved, Valley Transit anticipates hardware installation to occur in the fourth quarter of 2025 or early in 2026.

FISCAL IMPACT

The full fleet hardware upgrade has a total cost of $296,996. This amount includes upgraded hardware (Hub/vehicle logic unit, driver display, APC sensors, small network switch and cabling), installation, training and engineering for Valley Transit's full fleet of 28 buses. Valley Transit requests an additional 10% contingency for unknown costs that may occur during implementation. This brings the total fiscal impact to $328,896.

The annual software as a service fee for each year during the five-year extension (2028-2032) would be $38,853.

Existing federal capital grants would cover 80% of the hardware costs. The remaining cost would be expensed from Valley Transit's annual budget. The annual software as a service fee in future contract years are included in Valley Transit's annual budgets and is paid for by State and Federal grants (60%) and local share (40%).

RECOMMENDATION

Staff recommends issuing a purchase order to GMV to include the hardware upgrade and to extend the annual software agreement beyond 2028 for three years and two additional option years.