CASE STUDY

How FAX Implemented a State-of-the-Art CAD/AVL System

Fresno Area Express (FAX)

Bus

Vontas OnRoute (TransitMaster)

"We have a great account manager who provided us with a great, seasoned project manager and the technical resources from them have been amazing. There was almost not a question they couldn't answer."

Sandy Cetti
Project Manager at FAX

Background

Fresno Area Express dates all the way back to 1889 when it was powered by horses. They've been active throughout the years, from electric streetcars to buses. Their experience and longevity in the transit industry help them play a key role for Fresno, California's ridership.

With a 20-year old CAD/AVL system, FAX was in need of upgrading their old vehicle hardware and out-of-date software. But upgrading their fleet meant they had to replace the system and hardware, which provided a challenge.

Challenges

Since FAX was on version 15 of Vontas OnRoute (TransitMaster), they wanted to upgrade to version 21 and their maintenance agreement allowed them to do so. However, due to the legacy hardware onboard, they faced an uphill battle. “They were stuck,” said Andy Wakefield, Director of Transit Operations at Intueor.

“They couldn’t move forward and take advantage of the new things that TransitMaster was capable of performing in its latest software release until they took the upgrade path on a lot of that hardware.”

This acted as a catalyst for FAX to work with Vontas on upgrading their system centered around 5G cellular data infrastructure.

Over 7 Million Annual Ridership

18 Routes

Over 100 Buses

Solution

By working closely with Vontas, FAX successfully implemented a CAD/AVL solution that met the needs of their ridership, providing them with new capabilities that were not possible with their legacy hardware.

“We did use the newest Sierra Wireless 5G Mobile Gateway Router available in the market. In fact, we’re the first agency in the US to have it implemented, so that’s a big deal,” said Sandy Cetti, Project Manager at FAX. “It' s going to provide us with t he capability of allowing us to have public Wi-Fi across the whole fleet.”

According to Wakefield, by utilizing cellular data, FAX now has volumes of real-time information that they didn’t have before, including:

- **Ability to push real-time information to passengers**

- **Integration with Automatic Passenger Counters (APCs)**

- **Real-time vehicle information and telematic alerts**

“The volume and access to data that they now have has completely changed how they can manage their operations and communicate with passengers,” said Wakefield.

Another aspect of the project that we are extremely proud of was the integration of TransitMaster with EAM, which now pushes fault data directly to maintenance so they can decide if they need to move it to a work order,” said Cetti.”

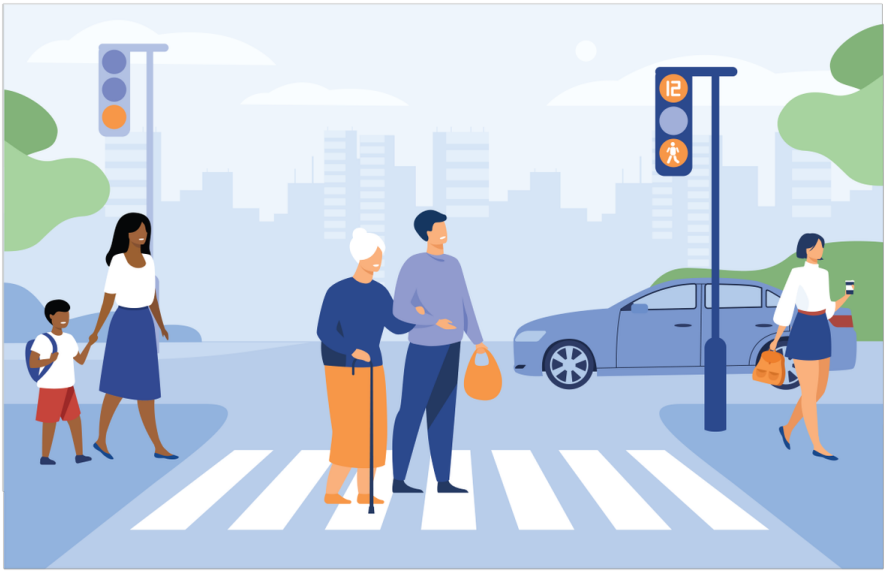
And more exciting prospects are just around the corner with full expansion of on-board Wi-Fi throughout their fleet. “On-board public Wi-Fi is a very important initiative to the City of Fresno and we're glad that we were able to provide that service to the public through this project. We have a large ridership so providing that service is very important and valued,” said Cetti.

FAX also viewed this upgrade as a new opportunity for training. “Fresno, in a really intelligent fashion, didn’t look at this project as an upgrade but a re-implementation,” said Wakefield.

“They took this opportunity to refocus and dedicate resources to training. Even though the system was being upgraded, they actually went back and trained on features and functions that were already in place, which ensured they were utilizing the system to the best capability they could. They trained on all components of TransitMaster so it really brought that capability up across the board in the Operations Control Center.”

“The capabilities are endless really,” said Cetti. “The ability to manage unscheduled detours is a major highlight. this capability creates a lot of flexibility in how we can manage our daily operations.”

The ability to communicate detours are important to both the riders and operators. Wakefield says they can “push that information over cellular data so the MDT is updated automatically and the new trip plan is sent directly to the operator. Real-time information gets sent to the customer, OTP and vehicle performance data is preserved, based on that new detour which would’ve been lost in the legacy system.”



121 Fixed-Route Buses

57 Paratransit Buses

Results

A project of this magnitude can be very time-consuming. FAX was able to get it done in 10 months.

“It was a big change for us,” says Cetti. “It involved a lot of people on our end, but we had a wonderful, seasoned project manager on the Vontas end. We had a combination of strong Vontas resources including the account manager, project manager, and engineers. There was almost not a question they couldn’t answer.”

That level of responsiveness of the team is what Cetti is particularly proud of.

As always with large-scale projects, problems are natural and will occur. “There were missteps along the way on both sides,” says Wakefield. “And it wasn’t about letting that stuff negatively impact the project. We always found ways to move through it.”

Wakefield further elaborated how anytime there was an issue, “we did feel that there was value in Vontas as a true partner to solve those issues and make sure that FAX was getting what they expected on the delivery side and held to budget, schedule, and everything else.”