



## Case study: Big tech for small transit

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Do more with less. It's a common refrain for companies of all sizes across the country. Improve efficiency, streamline operations, increase productivity—and reduce the bottom line.

Perhaps nowhere is this call for optimization as loud as it is in the public transportation market. Factor in environmental concerns to both fuel costs and a winnowing middle class, the need for public transportation continues to grow in communities both big and small. In many situations, technology can be the flashpoint to realize significant advances toward meeting the goals of doing more with less—especially in smaller rural settings or institutional settings where resources are limited and numerous interests are lobbying for an ever decreasing share of funding.

It's a familiar story we hear time and time again from transit agencies across the country; there's plenty of money available for the large urban or national transportation entities, but the little guy should get accustomed to scraping by—even when it's in these areas the service is needed the most. The big guys have the luxury in upgrading to the newest technology and offering riders with the spoils of modern convenience. Real-time vehicle tracking, station signage, infotainment systems, and on-board Wi-Fi are commonplace in high-density populations where such amenities are expected. In smaller markets such offerings are often viewed as an unnecessary trappings—especially when it comes to keeping the basic services up and running.

In short, the technology gap is viewed as a budgetary one. Larger cities can invest, smaller ones cannot. Even with grants available to improve operations, the expense of adding these modern conveniences can be interpreted as standing to achieve a poor return on investment.

In the last five years however, we've seen a dramatic shift in both the cost and availability of technology solutions to smaller transit, university, and shuttle operations. New systems with open architectures and cloud-hosted services have not only make incorporating these oft-demanded features attainable, but practical as well. If the Lassen Rural Bus in Lassen County California, and University of Memphis' Blue Line are any indication, the boon of technology to smaller transit settings is just beginning.

### University of Memphis

There are only a handful of buses that serve the students and faculty at the University of Memphis campus in Memphis, Tennessee. When an app was introduced in 2009 that provided students arrival times for incoming shuttles, ridership began to flourish. The response from the students was so great from this small upgrade, that the university began to explore other improvements to its shuttle service. Tommy Miller, Director of Transportation at the University of Memphis, began searching for an Intelligent Transit System that could build on the momentum of the rider app. He strongly felt that on-board announcements would be a welcome addition to the core service, and the inclusion of Automatic





Passenger Counters (APCs) would help track and justify the increased ridership of these technological improvements.

He was right.

The solutions provided by ETA Transit and their SPOT® Intelligent Transit System (ITS) was able to offer a proposal and pricing option that gave University of Memphis everything on its wish list—and well within its stated budget. All the integrated tools for vehicle tracking and data gathering—which were once thought to be reserved for the largest transit agencies—were soon being installed on the UM buses and in campus shelters.

“Once we learned that this type of technology could fall within my budgets the next most important thing to our team was finding a group to deliver the technology that can help me use the technology effectively,” says Miller. “ETA Transit really delivered. It’s really nice to have someone I can rely on to not only be there if an issue arises but stay ahead of the curve by providing me detailed managers reports and analysis. These folks make me feel like I have another member on my team.”

[Report photos]

Not only was Memphis able to evaluate improvements to its service by analyzing patterns and trends in ridership, they also improved its rider experience by providing shelter signage that integrated with its existing phone app and on-board vehicle announcements.

University of Memphis student Justin Grimes says of his new passenger experience. “It’s nice to be working in the lab and look at my phone and know exactly when I can get up and stop working to head to the bus shelter. Once there, the arrival time is shown on the station signs so I know just how long I’ll be waiting. I’ve seen this stuff in Downtown Memphis, but I never thought we would have something like this here.”

Adding to the UM shuttle experience are on-board announcements of major stops and intersections which helps to deliver an ADA-compliant environment that provides equal access for all passengers.

With a student population of 22,500 and only a handful of shuttle buses, Memphis required a budget-conscious and effective technology-driven solution. With its new SPOT ITS and ETA customer advocates, UM is now able to analyze service at a far higher level.

### **Lassen Rural Bus**

In Lassen County California, Lassen Rural Bus (LRB) only has a handful of fixed route buses—12 to be exact. What’s different about this community is that its ridership primarily consists of commuters —many of whom are elderly. In this scenario, a smartphone app and tracking website would be a feature that would more often than not go unused—at least that’s what Kelly Mumper, Director of Lassen Rural Bus, thought. at least at first thought. “I was surprised to learn the the Lassen buses didn’t utilize some of the transit technology options I’m familiar with.”





When Lassen was awarded funding that could be allocated toward adopting some advanced technology, it was extremely important that the solution helped the community LRB served—and not become a distraction.

The first major breakthrough in the system was discovered before ETA's SPOT® Intelligent Transit System (ITS) was installed. It was during a meeting of the transportation commission where a member of the Office of Emergency Services helped the community understand just how SPOT could be used to relay important service information to the public in real time. "The benefit of being able to use a 'service announcement module' was a real game-changer. Not only can we communicate real-time bus status, schedules, and delays to our riders, but we to also deliver important information directly to the community," says Mumper. "All it takes is any Internet-connected device."

[Service alert module]

As residents became familiar with the new tools in 2015, another benefit was revealed. The Office of Health and Social Services discovered the importance of knowing the real-time location of vehicles. Typically, the office would dispatch a county van to pick up a rider in need, but now with access to Lassen's new SPOT ITS, they can view the location and status of vehicles nearer to the customer and re-route to assist riders far more quickly. It's a service that had delivered direct returns to Lassen County in the form of fuel savings, depreciation, and payroll expenditures. In previous instances, a solution using transit would never be considered because of the long chain of events of approvals and communications from management to approve and coordinate the change, would result in system-wide delays.

Additionally, with the new SPOT system in place, Lassen Rural Bus has added a non-public facing route to the console in order to view and collect data on drivers training with the DMV for their commercial license. In previous years, Lassen drivers would be forced to drive 106 miles to Red Bluff, CA to ride on a DMV-approved training route. This new functionality has allowed Lassen will cut training hours, training staff, and fuel costs, while adding a feature that had never been present on prior DMV course routes—accountability.

[Driver training photo].

The improvements for Lassen's operations do not end there. LRB can now monitor their own operations by utilizing ETA's GPS analytic software, which provides records of speed, location, idle, arrival times, and more. It's a powerful new set of metrics that not only will help improve driver behavior, but ultimately guide changes in its training process.

Lassen Rural Bus is a prime example of how the capabilities of an AVL product can be extended in smaller (and larger) communities to better leverage the investment cost, make better use of resources, and save money. Mumper adds, "ETA went above and beyond the call of duty. We are constantly finding interesting and new ways to utilize their product. They are immediately responsive to my needs; they're like family."

Lassen, like Memphis, is benefiting from big technology solutions in a small operating environments. Both agencies intend to keep working with ETA while working on discovering new solutions designed to solve the unique challenges that face their small transit operations.