

Improving efficiency is essential to mitigating rising school transportation costs



Q&A with **Tammy Cook**, Founder of TravelTracker, and **Jason Wang**, Lead Product Development Manager for TravelTracker, TransACT Communications



What challenges are facing school districts when it comes to busing and transportation?

Certainly, budget pressure is an issue for school transportation, especially with rising fuel prices and other expenses. Many districts are trying to find ways to cut costs and operate more efficiently. An even greater challenge is bus driver shortages, created by large numbers of retirements and the difficulty finding and hiring new drivers during the pandemic. This is the most significant and overarching challenge, because it creates many other related problems. Shortages can negatively impact higher level management because they must spend so much time and effort finding solutions, or even driving routes themselves in some cases.

Another serious challenge is the use of outdated technologies, and this is often overlooked. Modern, full featured transportation software can significantly improve efficiency, but using outdated software can limit efficiency. There are a variety of new considerations when it comes to school transportation today, from ensuring equity in ride times to addressing safety by creating safer bus routes. Outdated software is not going to be up to the task and can even compound the challenges.

As a result, transportation is affecting more and more of the school district. More district leaders and school boards are getting involved and taking an interest in improving transportation in their school systems, because it can impact the entire community.

Any transportation software first implemented more than five to seven years ago should be reviewed for its efficiency, security, value, and how well it is meeting the needs of the district.

How can school districts address their most significant transportation costs over time?

Fuel and driver pay are by far the most significant costs to any school transportation program. When there is significant budget pressure, one solution is to find ways to reduce those costs, by analyzing and improving the efficiency of bus routes. This can reduce the costs of fuel, mileage and maintenance, but can also reduce driver costs.

For example, bus drivers are typically paid an hourly wage. We have conducted analyses of driver usage and found that in some cases, a driver could be paid for five hours but only driving for three hours, because the routes are not as efficient as they could be. If you don't have modern technology that has enough capabilities, you aren't going to be able to maximize driver productivity. And there is no way to do this manually, because it would take a prohibitive amount of time and effort.

Most school districts need to react quickly to driver absences, for example. TravelTracker enables you to consolidate multiple routes temporarily and in the most efficient way possible, without altering the original routes, and all within a few minutes. This is critical, because transportation departments often have very little time to react when a driver calls in sick, and there are a lot of other responsibilities that people must manage. It's very important to have a tool that can help you adapt within a few minutes.

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Our technology also allows you to understand where the most efficient bus stops are, and improved efficiency is another significant way to reduce costs. The student population changes every year, as some students could move or live in different locations, so using the same bus stops year after year may not be the most efficient system. You can enter different parameters, such as being within 1,000 feet or 500 feet of a bus stop, and it will automatically build a route that uses stop points that pick up the most students at once and is most efficient.

Upgrading your software to a modern platform like TravelTracker will have the most significant impact on your costs and provide the biggest return on investment.

How can running “sandbox scenarios” help district leaders to maximize the efficiency of a school transportation program?

A sandbox scenario is a feature in TravelTracker that allows a school transportation department to run different scenarios to test and evaluate any potential changes or disruptions, using a wide variety of variables. For example, you could test a route for a specific group of students, with a certain maximum number of riders, and without exceeding a maximum ride time or distance to walk from a stop. By entering all these criteria into the system, it will generate the most efficient routes in a sandbox scenario, so you can run, test and analyze those routes. To do that manually could take days of effort.

Using scenarios like this allows you to experiment and even strategize for the future by exploring potential changes in the district, but without impacting your day-to-day operations or routes.

The prime example of this was our experiences during the pandemic. Most school systems had to figure out how to operate with a hybrid schedule, so you had students alternating days and locations, you had to reroute everyone based on ride times, or reduce maximum ridership, and take many other variables into account. Sandbox scenarios in our software help you envision what the potential options are, looking at variations in routes, or numbers of buses and drivers required.

Summer school is another example. A student might require busing to multiple schools, attending one school, then a different one during the summer, and yet another school in the fall. Making these adjustments can be very time-consuming if you are using outdated technologies, and even more so if you are using manual processes.

How would it impact transportation if you closed or consolidated schools? What if you wanted to move bell times? Our sandboxing feature allows you to easily switch between scenarios to visualize the potential impact.

What are the advantages of the open-source mapping and the proprietary mapping algorithms that are part of TravelTracker?

We custom built the mapping technology in our solution, TravelTracker. We include detailed, automatically updated maps of the entire country as the foundation of our platform. Other systems on the market charge their users additional fees for maps or require them to download and update maps themselves. Some districts end up doing this very rarely, so their transportation maps are often out of date.

Our open-source mapping system is automatically updated, with no maintenance or additional fees required. This allows you to have total control end to end with a system that is designed specifically for schools. Some transportation software used by school districts uses mapping technologies from other industries, such as package delivery, for example. But the needs of school systems are totally different. Maps are the foundation of any transportation system, so it is vital that they are always up to date to ensure maximum efficiency.

To learn more about TravelTracker, go to www.app-garden.com/travel-tracker.