Dispatch Solution Improves Operations At Washington School District
Driver Management and Pay Transformed with Bytecurve360

Gregory Dutton is similar to many student transportation leaders. The Washington state-based district invested in a routing solution to solve one problem: building intelligent routes for his fleet of buses to run while transporting the district's 12,000 students.

And then a GPS telematics solution to tackle another challenge: better understanding the exact location of every bus in real-time as well as the performance of buses to increase safety and efficiency. But something was still missing, he realized after years of leveraging both tools to meet the transportation department at Renton School District 403 ultimate goal: delivering first-class customer service. "We're in the customer service business," Dutton said. He always knew there was a missing piece of technology that could bridge the gaps between routing and GPS systems. And maybe even improve adjacent challenges like driver communications and payroll management.

"Enter Bytecurve 360: the simple yet powerful software solution that merges the data between the two systems to create a dispatching system that delivers real-time alerts about vehicle and driver status, increased driver communications and the ability to better respond to parents and district leadership. Bytecurve is creating a new category in the school bus fleet management industry by merging the data from routing and GPS fleet tracking to create a dispatcher's proactive dashboard, helping fleet managers better respond to late and/or absent drivers, switch routes and vehicles in real-time and drive efficiencies in payroll management.

Dispatching may seem an obvious solution for the industry, but it's still not as widely adopted despite the apparent challenges of working from spreadsheets and whiteboards to orchestrate the daily challenges of connecting drivers to buses and to routes across a dynamic environment like student transportation.

Bytecurve 360 is, to date, the only technology solution provider capable of connecting these two disparate systems into a seamless interface that makes them greater than the sum of their parts.

The software trusted by dozens of school districts like Renton as well as many private contractors delivers many benefits, including:
- Better Driver communications so that employees can check in/out remotely, view their schedules and respond in real time to route changes
- Easier payroll management so that fleet managers no longer have to manually calculate employee guarantees/contracts and overtime and the ability to consolidate payroll for drivers, aides, subs, mechanics and support staff.
- Improved management of daily operations, including assigning/reassigning drivers and vehicles, using real-time integration with GPS and routing systems. This allows all routes and runs to be easily reconfigured when a bus breaks down or a driver can't come in.

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"Engineered by Experts in the Student Transportation Industry

GP Singh, founder and CEO of Bytecurve, built the software solutions from the ground up with a vision only an industry veteran could acquire. He spent years supporting operations at First Student and many of the staff are also veterans of the industry or spent time working with other technology companies supporting student transport professionals. "We knew firsthand the limitations of each system. As innovative and powerful as they were at their introduction, routing and GPS tracking suffer significant limitations that present gaps, especially for the larger fleets where the gaps present themselves as the potential for dozens of missed stops and unsatisfied parents every day," Singh said. "I've sat in the seat of a dispatcher and recognized what each system can and cannot do, so we set out to engineer a new solution that was focused on the tireless work of daily dispatch, leveraging the data from each system to forge a fresh visibility that dramatically improves operations."

Today fleet managers like Renton in Washington State as well as South Bend Public Schools, Poway Unified School District as well as Student Transit and Krise Transportation, private bus contractors, rely on Bytecurve to improve daily operations and payroll management.

Our Solution — School Bus Operating Platform

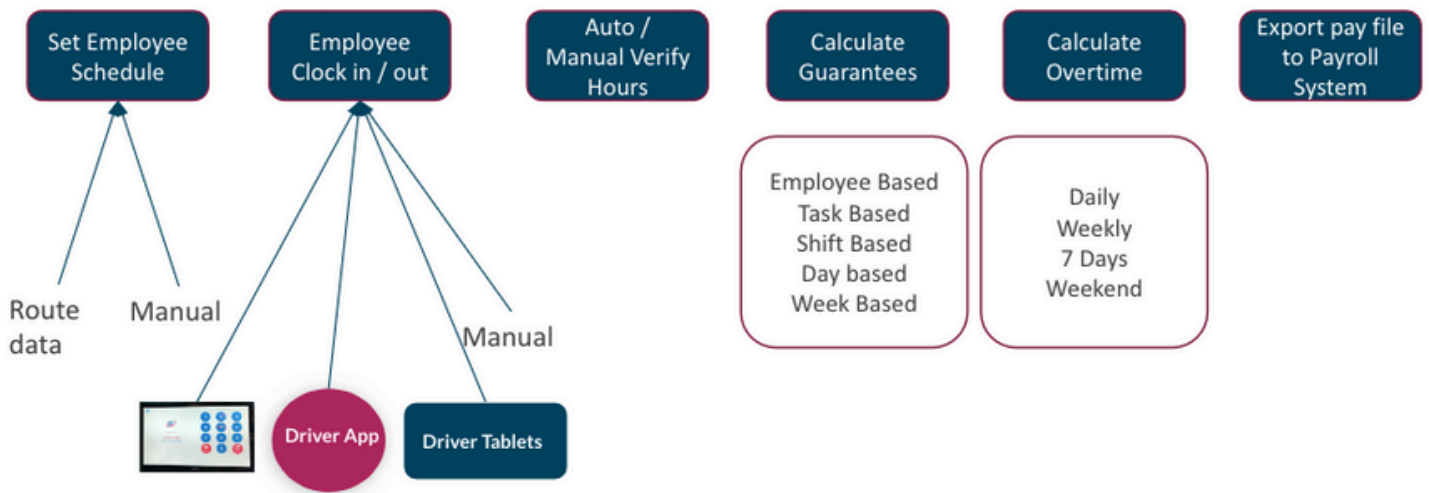**Exception Management: Enhanced Late Driver Response**
Driver management remains the largest challenge for transportation leaders.

While fuel and maintenance costs can fluctuate widely depending on many variables outside the control of the district, the difference between a superb transportation department and an average one often depends on the availability and reliability of its drivers.

While the worker shortage impacting so much of the economy has only worsened the driver shortage, recruiting and retaining reliable and trusted drivers has long been the most pressing challenge of the student transportation industry. Dutton said his investment in Bytecurve has helped tackle the challenge of driver reliability. He said Bytecurve displays alerts for immediate issues such as drivers who haven't clocked in or late bus departures. This signature feature is noted by every Bytecurve user as a simple yet powerful feature that has transformed their operations from reactive to proactive.

Instead of wondering who might be late or missing, and hoping these staffing challenges can be managed before parent communication plans have to be deployed, dispatchers rely on Bytecurve to cut through the noise of the morning and find the issues that need to be addressed promptly.

Time Management – Process Flow

| Set Employee Schedule | Employee Clock in / out | Auto / Manual Verify Hours | Calculate Guarantees | Calculate Overtime | Export pay file to Payroll System |

Calculate Guarantees:
Employee Based
Task Based
Shift Based
Day based
Week Based

Calculate Overtime:
Daily
Weekly
7 Days
Weekend

Set Employee Schedule sources: Route data, Manual

Employee Clock in / out sources: Manual, Driver App, Driver Tablets

Some of the most common features used by Bytecurve 360 users include:

- Route-based daily driver/vehicle substitutions or assignments
- Paperless absence management
- Employee absence management
- Real-time access to on-time performance by school and stop

Dutton said the system has made it easier to identify drivers who need additional coaching or routes that need to be amended. With 100 drivers providing multiple different runs per day, Bytecurve helps track driver check-ins and bus departures.

Identifying these issues absent a dispatch system like Bytecurve 360 would prove too cumbersome and time-consuming to pour through the mountains of data. It also makes last-minute schedule adjustments or driver substitutions quick and easy, if needed. In an environment familiar to most transportation departments, where widespread absenteeism challenges on-time performance, being able to quickly and seamlessly shift between drivers, buses and routes can be the difference between students arriving before the school bell rings and a late start to the day.

"This was the issue that presented the greatest challenge to my team during my service as a student transportation leader: how to efficiently manage the daily, non-stop rescheduling that we had to do to make the fleet deliver," Singh said. "I wanted to develop a system that made it far simpler to make these on-the-fly changes that helped us deliver on our commitment. Managing this process from a whiteboard and spreadsheets was fraught with opportunities to make mistakes or miscommunicate between staff and drivers.

Our dispatching system at Bytecurve 360 organizes it intuitively and lets the dispatcher take better control of their operations.

Single view daily dashboard

- Employee / vehicle substitutions
- Real time clock in / out capture
- Real time yard departures / returns
- Red / yellow status alerts for exceptions
- Route break apart
- Messaging and absence management

Saying goodbye to the spreadsheets and whiteboards

The Renton School District school bus fleet uses Tyler Versatrans for routing and Geotab for telematics, both of which integrate with Bytecurve's technology that helps manage and improve its daily operations. Bytecurve integrates with all of the major providers of both routing and GPS fleet tracking, making it easy for any school district or contractor to adopt the solution. But the integration is simply where the value begins.

Many school bus leaders like Dutton say the retirement of reams of spreadsheets to track routes, drivers and various administrative tasks has saved countless hours while the DriveOn app for driver communications has made the whiteboard a similar relic of the era before Bytecurve.

Spreadsheets were cumbersome and always presented opportunities for even the most diligent administrator to make an honest mistake. With all that data stored in Bytecurve as the start of the school year, it's easy to adjust on the fly and ensure the information required is always two clicks away.
Gone too is the stress of hoping every driver saw their assignment changes on the garage whiteboard. Instead, the DriveOn app delivers changes in real-time, and dispatchers receive confirmation messages when the change is accepted, driving better on-time performance.

"We know from experience the plan is never static and being flexible and fluid is how school bus fleets have to operate to satisfy their community's needs," Singh said."The messaging and time clock app is designed around simplicity and functionality. Drivers like it because it keeps them connected before, during and after their routes while dispatchers appreciate how they can know immediately if their routes and run changes are being executed."And when combined with the ability to consolidate payroll for all members of the staff so they can punch in and out via a tablet in the garage or their DriveOn mobile app, the Bytecurve payroll solution equates to significant savings for school bus fleets.

Drive On App Features

- DriveOn employees can check in/out for their specific assigned routes/tasks.

- Leveraging the GPS integration, the app checks to ensure the employee is within a designated geographic area before allowing them to check in/out.

- Dispatchers are instantly notified that the employee is ready to start their assigned route, whether it's from a remote parking location, school, or home.

- Employees can view their schedules for current and future days.

- Times changes or new tasks are added generate auto notifications to reflect changes in dispatch system.

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About Bytecurve

Founded in 2018 by GP Singh after many years on the frontline of student transportation operations with one of the country's largest private student transportation providers, Bytecruve is designed as the 360 view of operations.

By blending routing and GPS fleet tracking data, and adding a payroll capability as well as mobile app for two-ways communications between dispatch and drivers, Bytecurve 360 has created a new category for student transportation excellence: the dispatch command center.

"We believe many school bus operators still don't appreciate all the potential improvments they can deliver by taking two powerful yet independent systems and merging them into a new layer of visibility and action," Singh said. "We're integrated with all the major providers of routing systems and GPS fleet tracking so virtually any school district with both systems can take advantage of our transformative technology."

Trusted by dozens of districts across North America, more than 40,000 school bus rely on Bytecurve technology to improve their efficiency and safety.

"I know from first hand experience what school bus fleet leaders need to perform at their best, and we work tirelessly on our product and with our customers to deliver this experience so they can know they are investing in the safest and most efficient fleet."