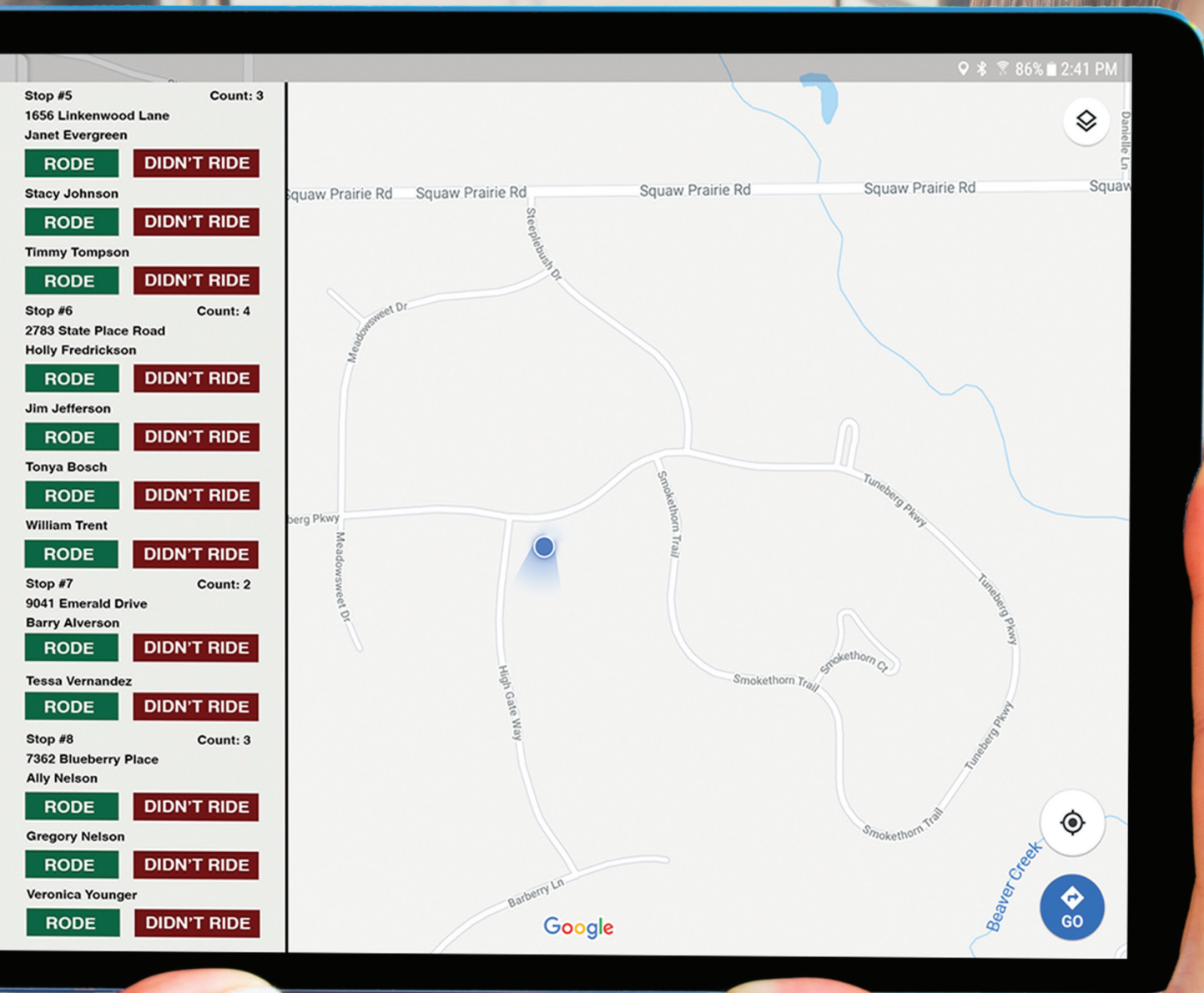


# Transforming Transportation Through Technology



## RouteList is a software solution that prioritizes student safety in transportation while creating a better driving experience for school bus drivers.

Prior to 2015, there had been more than a few instances at Harlem Consolidated School District 22 when students were mistakenly dropped off at the wrong bus stop. Situations like these created a real concern for the safety of students, especially at the beginning of the year, while drivers were learning the students and the routes. It became apparent that the current process was ineffective in keeping all of the kids safe and we realized that we needed to do more to support our drivers. Previously, the only information our drivers received was their route and a paper list of student names and most of the time, this information was sufficient. We knew that we could not continue to have a process in place that would create potentially unsafe situations for our students. We needed to implement a better system that would keep our students safe and our drivers equipped with the most up to date and accurate information possible.

### The Creation of RouteList

We set out to find something that would meet our needs and considered many different available student ridership tracking options such as RFID systems, which required students to carry a physical card. We also researched biometric scanning options, which required students' irises to be scanned. After extensive research, we could not find a feasible option for our district, so we decided to create our own.

Once we came up with the concept of a tablet-based software that allowed our drivers to tap the students' picture on and off the bus, we approached our technology department to see how they might be able to support us. It turned out they were capable of creating this system and within a few months; we soon had a prototype to start testing.



**“I think the tablets are safer for the students, because we know exactly who is on the bus.” - Julie S., Bus Driver**





We named the system RouteList. It is a web-based application which links with our routing software to provide real-time driving directions and student data to our drivers. This application allows the district to provide electronic route sheets for the drivers. These route directions also contain the students' picture and drop off information. This is valuable to our backup drivers who may not know the students on the route. When the student gets on the bus, the driver simply clicks on the picture if the student is riding, or if the child is absent at the stop, they can click the "did not ride" button. In the afternoon all of the students on the route show up on the screen the driver checks on all of the students that are riding and clicks the go-to route button. This only puts the students on the route that the driver checks on. This application gives the district the ability to change directions on the fly, through the cellular network, and to add or remove students from a route. We can add a new stop to the route while the route is in progress or if

a driver is lost, we can update the directions to get them help and back on track. If a change is made in the routing software, it is automatically updated on the tablet — the driver simply follows the directions.

The application has a reporting function that allows users to see who is actually riding the bus on a daily basis and provides an accurate load count for each individual route. It displays where and what time the student was dropped off after the driver checks them off. The drivers log in to the tablet, providing districts the ability to potentially complete payroll from the application. This system has also allowed the streamlining of the Medicaid claim reimbursement process because there are no more paper forms to fill out; the software automatically uploads our ridership information to our Medicaid claim processor. With these added benefits, the district has seen an annual revenue increase of over six figures.

## Safety is the Top Priority

After a few years of running the web-based version of the software, we began the development of an app version. This app would allow the district to cache data on the tablet instead of relying on the internet to deliver the information. The app would also allow the implementation of a new feature, a stop proximity alert, where if a driver tried to drop off a student at a stop that isn't their correct stop the software would say "Warning: Stop distance further than 200 ft away. Continue? No or Yes"

Over the last three years, RouteList has virtually eliminated dropping students off at the wrong stop. This has made students, parents and drivers feel safer with our transportation system. It has been critical to the safe and efficient operations of our transportation department.

**"Since implementing the tablet system, bad drops have been virtually eliminated." - Don West, Dir./Transportation**