CASE STUDY 08-17-2022

Innovative technology helps New Mexico charter school transportation workers safely and quickly disinfect their school busses in less than a minute

INTRODUCTION

Turquoise Trail Charter School (TTCS) is New Mexico's oldest charter school and one of the highest achieving schools in the state. TTCS's achievements are due to the challenging, research-based, and data driven environment that fosters strong engagement and student well-being. TTCS serves a diverse population with students from Rio Rancho, Las Vegas, local tribes and pueblos, artist communities in the mountains, and from all over Santa Fe.[1]

"We protect the pack."

Across the nation, more than 40 precent of school districts report severe shortages of school personnel ranging from teachers and classroom assistants to custodians, bus drivers and food service workers.[2] 26 million children are being transported daily on approximately 480,000 school buses in the United States; the school bus fleet is 2.5 times the size of all other forms of mass transportation combined.[3] It is important that school districts prioritize the health of current and in demand bus drivers that are essential to the successful running of schools.

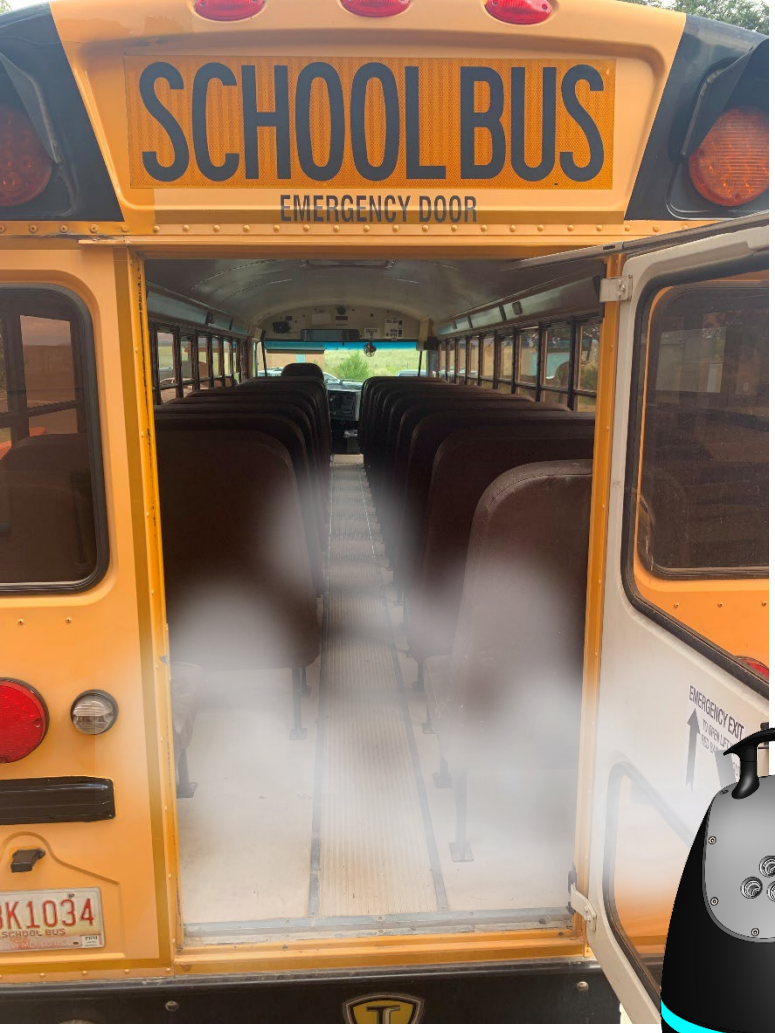
CHALLENGES

There are eight buses serving the Santa Fe area (three serving middle school only), 32 routes to be completed in the morning and afternoon, and drivers are on a strict schedule due to additional bus stops. These busses are at maximum capacity with 52+ students and many high touch surfaces. With the likelihood of exposure to harmful pathogens significantly increasing with times greater than 15 minutes[4] and busses not being typically equipped with HEPA filters, a consistent and efficient disinfection method is a must.

School bus drivers undergo extensive training including behavior management of students, emergency procedures, crisis intervention, communication skills, vehicle inspection, and training in first aid.[3] It was important to TTCS that their drivers have a quick and easy solution that doesn't interfere with their already demanding responsibilities. The team was previously using handheld pump sprayers, which dispense disinfectant ineffectively and are subject to significant human error. TTCS also wanted the efficacy data to support their disinfection efforts.

Located remotely, it is crucial to have safe and reliable transportation to and from school. TTCS is committed to providing the highest quality

1) https://www.turquoisetrailcharterschool.org/
2) https://www.aft.org/news/new-mexicos-education-moonshot-addresses-teacher-and-school-staff-shortage
3) https://s3-us-west-2.amazonaws.com/nsta/6571/Yellow-School-Bus-Industry-White-Paper.pdf
4) https://www.sciencedirect.com/science/article/pii/S2590198220302013#bb0055



transportation service by supporting their transportation workers.

SOLUTION

Build With Robots Inc. (BWR) partnered with TTCS in their mission to serve a diverse community of students and families in a safe and supportive environment. Breezy Blue Response by BWR, provides a stationary disinfecting solution that makes disinfection easy in less accessible locations. This technology can be easily integrated into the school bus driver's morning and afternoon routines.

Efficacy testing performed by BWR showed that the fogging technology evenly distributes disinfectant throughout the school bus; on particulates suspended in the air, handrails, windows, driver's compartment, seats, lift area, and emergency exits. The disinfectant utilized is EPA List N certified and Green Clean Institute certified. Several schools, K-12, are utilizing Breezy BioCare disinfectant with no reported incidents or reports to date. Breezy BioCare leaves no residual disinfectant on surfaces. The harmful pathogens are eliminated, then the environment returns to its natural state and isn't fouled with odor or remaining disinfectant.

Based on efficacy field testing results, it is recommended that to ensure 99.9% efficacy throughout the school bus, fogging should be done from three locations within the bus for 10 seconds each (1/3 of the way back, 2/3rds of the way back, and from the back of the bus). In addition, we recommend that the front of the bus be fogged for 10 seconds through the front door and towards the driver's compartment. For 40 seconds of total fogging time, 99.9% efficacy is provided throughout the school bus. Efficacy results can be seen by scanning the QR code below.

Breezy Response is a supplemental device to be used in conjunction with Center for Disease Control and Prevention (CDC) guidelines and face covering guidelines. BWR strives to support its community by providing safe, consistent, and innovative disinfectant technology that is backed by laboratory efficacy testing!

breezy biocare RTU

Efficacy Results

www.BuildWithRobots.com