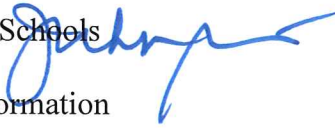


Office of the Superintendent of Schools
MONTGOMERY COUNTY PUBLIC SCHOOLS
Rockville, Maryland

October 17, 2018

MEMORANDUM

To: Members of the Board of Education

From: Jack R. Smith, Superintendent of Schools 

Subject: Real-time School Bus Arrival Information

Question

Ms. Ortman Fouse requested information about Montgomery County Public Schools technology in the Department of Transportation as compared to surrounding large school districts and why districts such as Prince George's County Public Schools and Fairfax County Public Schools are able to provide real time school bus arrival information on websites and apps.

Response

The programs to provide arrival information that Prince George's County Public Schools, Fairfax County Public Schools, and Ride On use require the bandwidth offered by cellular-data communication and range in price from \$30 to \$60 per month, per bus. Staff in Montgomery County Public Schools (MCPS) Department of Transportation (DOT) purposely has eschewed such methods of communication as part of our cost avoidance strategy. Instead, MCPS worked with a digital two-way radio provider to build a real-time Global Positioning System (GPS) into an analog-to-digital radio upgrade that eventually will provide countywide communication to security staff in schools and other buildings, improved communication with school buses and MCPS vehicles, and interoperability with police and other emergency services. This allows the GPS data to be transmitted over radio frequency, avoiding costly monthly cellular charges. Once the transition to the digital system is complete, the location of every bus will be known; however, GPS data flow, due to capacity limitations of available radio frequencies, will not be fast enough to power a parent app.

DOT staff has been attempting to reduce expenditure growth as the student population continues to increase as a strategic use of resources. For the past few years, additional routes have been required to serve the growing student population following several years of absorbing student growth into the existing fleet. All ability to absorb student growth into existing resources has been exhausted. As it has been necessary to increase the number of school buses, bus operators, and bus attendants in recent years, same services budgets have had to decrease.

Through the years, DOT also has invested in recruiting, training, and supervision of school bus operators and bus attendants. This has been a high-priority area as the region and nation face a growing shortage of commercial drivers. With so many other employment opportunities within MCPS and the region in general, DOT is having to bring in 30 bus operator candidates per month just to keep pace. While other systems such as Prince George's County Public Schools, face daily shortages of more than 100 school bus operators, MCPS remains at or near one driver for each bus. Cost avoidance in technology has allowed for employee-related expenses that lead to full or near-full staffing.

Currently, DOT staff is working with our existing stop arm enforcement camera vendor to explore less expensive ways to gain the technology to provide planned versus actual data analysis, on-time arrival data for all school buses every day, turn-by-turn directions that incorporate the safety built into our bus routes to bus operators, and a bus locator parent app. The stop arm enforcement camera system that will be on every school bus by the start of next school year already employs GPS and cellular communication; therefore, we are hoping these system components can be used for multiple systems at a much lower cost than using other stand-alone systems that would provide those same components redundantly. In addition, DOT staff will continue to explore other opportunities to fund this type of technology solution.

If you have any questions, please contact Dr. Andrew M. Zuckerman, chief operating officer, at 240-740-3050 or Mr. Todd M. Watkins, director, Department of Transportation, at 301-840-8130.

JRS:AMZ:TMW:slda

Copy to:

- Dr. Navarro
- Dr. Statham
- Dr. Zuckerman
- Mr. Civin
- Dr. Johnson
- Ms. Diamond
- Mr. Turner
- Mr. Watkins