

# Kent County School Bus Drivers Help Keep Students Safe and Provide Emergency Evacuation for Residents with MOTOTRBO™



Poor radio coverage and interference were making it difficult for Kent County School District's bus drivers to stay in touch, keep students safe and comply with a request from the county to provide emergency mass evacuation services for residents. With its new MOTOTRBO digital radio system, school bus drivers now have access throughout rural Kent County to communicate with the district's transportation office as well as collaborate directly with the county's first responders.

## **Situation: Aging radio system; rural coverage area; interference from shared channels**

Kent County Public School District in Maryland serves over 2,200 students in grades pre-K through 12. Located on a scenic peninsula, surrounded by Chesapeake Bay, Kent County is largely rural and one of Maryland's least populous counties. The school district's 36 buses provide transportation to its students who live throughout the county's 414 square miles.

For the past twenty years, Kent County School District's school bus drivers have depended upon two-way radios to keep in touch with each other and with the district's transportation office. In 2000, the district received a request from the county's public safety agencies to use its buses to provide residents with emergency mass transport service in the event of hurricane evacuations and other crises.

"Our buses are on the road typically between 6:00 AM and 6:00 PM, as well as for athletic events after hours," says Fay Miller, Assistant Superintendent, Kent County School District. "Because the county doesn't have mass transit, whenever there is an event such as a hurricane, where people with no other mode of transportation must be evacuated, we were happy to provide that service as well."

With the security of its students and the safety of county residents at stake, the school district wanted to ensure reliable two-way radio communication for its bus drivers. However, in the past few years, the age of the existing radio system had begun to show. Although the district continued to invest in regular maintenance, despite their best efforts the radio system had become unreliable.

Coverage was also an issue in the rural county due to the tree-covered, rolling terrain and compounded by the distance the buses had to travel daily. In addition, due to the county's proximity to Baltimore on the other side of Chesapeake Bay, bus drivers experienced unacceptable levels of interference from that city's municipal communications.

"We were using shared channels," Miller says. "Even though Baltimore was 25 miles away, signals travel well across the water and often the drivers could not get through due to interference from other users."

## **Products**

- MOTOTRBO XPR™ 6550 portable radios
- MOTOTRBO XPR™ 4350 mobile radios
- MOTOTRBO XPR™ 8300 repeater
- MOTOTRBO XPR™ 4550 control station
- GPS Application: Hermes TRX-PRO location tracking

## **Benefits**

- Coverage throughout entire school district
- GPS location tracking for school buses
- Enhanced security for students and staff

"In a small school district like ours, we don't have the budget to change out equipment every two or three years. When we needed a new radio system, we went with Motorola because of the dependability, reliability, and quality of the product."

- Fay Miller, Assistant Superintendent, Kent County School District



### **MOTOTRBO meets FCC Mandate for 12.5 kHz**

*To increase spectrum efficiency and accommodate more users, the FCC is mandating 25 kHz licensees to operate using 12.5 kHz efficiency by January 1, 2013. MOTOTRBO digital radios offer a seamless path to 12.5 kHz, allowing customers to transition at their own pace.*

### **Solution: MOTOTRBO digital radio system**

Jeff Vadakin of Magnum Electronics, a local Motorola channel partner, introduced the district to the MOTOTRBO digital radio system with increased capacity, extended range and GPS capability. Utilizing GPS-based location tracking applications, the district's Transportation Supervisor would be able to easily identify where every school bus was at any time. And with MOTOTRBO's increased capacity and clear communication throughout the coverage area, bus drivers would be in constant contact, increasing the safety and security of the district's students.

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### **Getting everyone connected**

Magnum Electronics installed MOTOTRBO mobile radios in every Kent County school bus, as well as vehicles used by the transportation supervisor, assistant superintendent, maintenance technicians and food service department. Control stations and portable radios were installed at each school to enable continuous communications between administrators and bus drivers. The Transportation Supervisor's and Assistant Superintendent's vehicles were outfitted with full display mobile radios programmed to provide mobile control station capabilities.

"This was highly important to the district," says Vadakin. "If there is any kind of emergency at all, for example a lost child, the individual schools wanted the ability to take action immediately and talk directly with both the central office and the bus driver."

To ensure maximum cost effective coverage Magnum deployed XPR 8300 repeaters on the district's existing tower. The district also purchased a spare repeater as a failsafe against potential downtime caused by weather or other unforeseen outage.

“We receive positive comments from parents quite often. They appreciate what we have done in terms of putting the MOTOTRBO system in place because it creates a safer, more secure environment for their children.”

– Fay Miller, Assistant Superintendent, Kent County School District

**Results: Better communications for bus drivers, enhanced safety for children**

Upholding student safety is a prime directive of any school. In Kent County this promise extends beyond school grounds virtually to the child’s front door. The school district maintains a policy of not allowing any Pre-K or kindergarten student to get off the bus unless a parent or designated escort meets the child at the bus stop.

“With our new MOTOTRBO system, if we get a call from one of the bus drivers reporting that a child has no one waiting, we can immediately take action,” says Miller. “MOTOTRBO’s data capability enables a wide variety of applications allowing us to use Transfinder bus routing software to track every child associated with that bus route. With the push of a button we have the name, photo and contact information of each rider of each bus so we can immediately reach their parents.”

The MOTOTRBO radio system provides additional benefits to the school district, including the following:

- **Expanded range and coverage:** The expanded MOTOTRBO radio coverage blankets the entire county, even in areas where previously there was no coverage at all. Signal strength is powerful enough that structural and environmental interference is virtually non-existent.
- **Location tracking for school buses:** The GPS capability of the system has become an invaluable resource to the school district. Not only does the new system support the ability to track the riders on each bus, it also allows school administration to track where the buses are and how fast they are going. The units in the district’s other vehicles enable tracking of their cars and service trucks as well. This functionality came in handy last winter when one of the worst storms in recent memory covered the area with heavy snow. Knowing the location of each bus and vehicle enabled school administration to coordinate roadway snow removal operations and tow trucks in case any became stranded. Tracking the buses also helped in the event of weather-related or traffic problems that delayed transporting students to and from the schools. By supporting third-party applications that uniquely support the district’s specific needs, MOTOTRBO radios help track the location, speed and passengers of each bus for added visibility and protection.



Motorola MOTOTRBO XPR Digital Radios



#### About Channel Partner

*Magnum Electronics is an Authorized Motorola Sales and Service Provider, Manufacturer's Rep, Federal Sales Specialist, and Motorola Warranty Service Center. Magnum Electronics specializes in mission-critical communications systems for commercial, government, and industrial applications. The company earned Motorola's 2006, 2007, 2008 and 2009 MOTOSTAR Excellence Award for their business results, customer focus and employee training.*

- **Multiple call groups to increase availability and productivity:** MOTOTRBO's increased capacity enables dedicated communication channels for each school under the umbrella of the district's radio system. The buses, maintenance personnel and administrators of each school have their own call groups but can seamlessly operate interdepartmentally as well. Everyone involved in the student's school day, from transportation to administration to building maintenance, is linked together on the MOTOTRBO system.
- **Direct link to first responders:** The added safety provided by the system goes beyond reliability and coverage. The inclusion of a Kent Central 911 channel in the radio system means that with the push of a button on the bus-installed radios, drivers have a direct link to the county's 911 dispatch center. Dispatch operators can then patch the drivers directly to the sheriff's office, local police department, paramedics or area hospitals, depending on the nature of the emergency.

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To learn how MOTOTRBO can help your school

[www.motorola.com/mototrbo](http://www.motorola.com/mototrbo)

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