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In Texas, 28,000 Students Test an Electronic Eye

By **MATT RICHTEL**

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SPRING, Tex. - In front of her gated apartment complex, Courtney Payne, a 9-year-old fourth grader with dark hair pulled tightly into a ponytail, exits a yellow school bus. Moments later, her movement is observed by Alan Bragg, the local police chief, standing in a windowless control room more than a mile away.

Chief Bragg is not using video surveillance. Rather, he watches an icon on a computer screen. The icon marks the spot on a map where Courtney got off the bus, and, on a larger level, it represents the latest in the convergence of technology and student security.

Hoping to prevent the loss of a child through kidnapping or more innocent circumstances, a few schools have begun monitoring student arrivals and departures using technology similar to that used to track livestock and pallets of retail shipments.

Here in a growing middle- and working-class suburb just north of Houston, the effort is undergoing its most ambitious test. The Spring Independent School District is equipping 28,000 students with ID badges containing computer chips that are read when the students get on and off school buses. The information is fed automatically by wireless phone to the police and school administrators.

In a variation on the concept, a Phoenix school district in November is starting a project using fingerprint technology to track when and where students get on and off buses. Last year, a charter school in Buffalo began automating attendance counts with computerized ID badges - one of the earliest examples of what educators said could become a widespread trend.

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Michael Stravato for the New York Times
Sandra Martinez, 10, uses her ID card to indicate that she is getting off her school bus in Spring, Tex.

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At the Spring district, where no student has ever been kidnapped, the system is expected to be used for more pedestrian purposes, Chief Bragg said: to reassure frantic parents, for example, calling because their child, rather than coming home as expected, went to a friend's house, an extracurricular activity or a Girl Scout meeting.

When the district unanimously approved the \$180,000 system, neither teachers nor parents objected, said the president of the board. Rather, parents appear to be applauding. "I'm sure we're being overprotective, but you hear about all this violence," said Elisa Temple-Harvey, 34, the parent of a fourth grader. "I'm not saying this will curtail it, or stop it, but at least I know she made it to campus."

The project also is in keeping with the high-tech leanings of the district, which built its own high-speed data network and is outfitting the schools with wireless Internet access. A handful of companies have adapted the technology for use in schools.

But there are critics, including some older students and privacy groups like the American Civil Liberties Union, who argue that the system is security paranoia.

The decades-old technology, called radio frequency identification, or RFID, is growing less expensive and developing vast new capabilities. It is based on a computer chip that has a unique number programmed into it and contains a tiny antenna that sends information to a reader.

The same technology is being used by companies like [Wal-Mart](#) to track pallets of retail items. Pet owners can have chips embedded in cats and dogs to identify them if they are lost.

At the Spring district, the first recipients of the computerized ID badges have been the 626 students of Bammel Elementary school. That includes Felipe Mathews, a 5-year-old kindergartner, and the other 30 students who rode bus No. 38 to school on a recent morning.

Felipe wore his yellow ID badge on a string around his neck. When he climbed on to the bus, he pressed the badge against a flat gray "reader" just inside the bus door. The reader ID beeped.

Shortly after, he was followed onto the bus by Christopher Nunez, a 9-year-old fourth grader. Christopher said it was important that students wore badges so they did not get lost. Asked what might cause someone to get lost, he said, "If they're in second grade they might not know which street is their home."

But on the morning Felipe and Christopher shared a seat on bus No. 38, the district experienced one of the early technology hiccups. When the bus arrived at school, the system had not worked. On the Web site that includes the log of student movements, there was no record that any of the students on the bus had arrived.

It was just one of many headaches; the system had also made double entries for some students, and got arrival times and addresses wrong for others. "It's early glitches," said Brian Weisinger, the head of transportation for the Spring district, adding that he expected to work out the problems.

But for the Enterprise Charter School in Buffalo, where administrators gave ID cards with the RFID technology to around 460 students last year, the computer problems lasted for many months.

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The system is set up so that when students walk in the door each morning, they pass by one of two kiosks - which together cost \$40,000 - designed to pick up their individual radio frequency numbers as a way of taking attendance. Initially, though, the kiosks failed to register some students, or registered ones who were not there.

Mark Walter, head of technology for the Buffalo school, said the system was working well now. But Mr. Walter cautions that the more ambitious technological efforts in Spring are "going to run in to some problems."

In the long run, however, the biggest problem may be human error. Parents, teachers and administrators said their primary worry is getting students to remember their cards, given they often forget such basics as backpacks, lunch money and gym shoes. And then there might be mischief: students could trade their cards.

Still, administrators in Buffalo said they had been contacted by districts around the country, and from numerous other countries, interested in using something similar.

And the administrators in Buffalo and here in Spring said the technology, when perfected, would eventually be a big help. Parents at the Spring district seem to feel the same way. They speak of momentary horrors of realizing their child did not arrive home when expected.

Some older students are not so enthusiastic.

"It's too Big Brother for me," said Kenneth Haines, a 15-year-old ninth grader. "Something about the school wanting to know the exact place and time makes me feel kind of like an animal."

Middle and high school students already wear ID badges, but they have not yet been equipped with the RFID technology. Even so, some bus drivers are apparently taking advantage of the technology's mythical powers by telling students that they are being tracked on the bus in order to get them to behave better.

Kenneth's opinion is echoed by organizations like the A.C.L.U. and the Electronic Frontier Foundation, a nonprofit group that promotes "digital rights."

It is "naïve to believe all this data will only be used to track children in the extremely unlikely event of the rare kidnapping by a stranger," said Barry Steinhardt, director of the technology and liberty program at the A.C.L.U.

Mr. Steinhardt said schools, once they had invested in the technology, could feel compelled to get a greater return on investment by putting it to other uses, like tracking where students go after school.

Advocates of the technology said they did not plan to go that far. But, they said, they do see broader possibilities, such as implanting RFID tags under the skin of children to avoid problems with lost or forgotten tags. More immediately, they said, they could see using the technology to track whether students attend individual classes.

Mr. Weisinger, the head of transportation at Spring, said that, for now, the district could not afford not to put the technology to use. Chief Bragg said the key to catching kidnappers was getting crucial information within two to four hours of a crime - information such as the last place the child was seen.

"We've been fortunate; we haven't had a kidnapping," Mr. Weisinger said. "But if it works

one time finding a student who has been kidnapped, then the system has paid for itself."

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