



Cypress-Fairbanks Independent School District

**One of the largest public school districts in
the U.S. uses Zonar to keep students safe.**



Organization

Cypress-Fairbanks Independent School District

Industry

Public Education

Location

Houston, Texas

Operation

- 3rd largest in Texas
- 15th largest in the U.S.
- 80,000 students bused daily
- 1,200 school buses
- 800 daily bus routes

Website

www.cfishd.net

Solutions

- Zonar Connect™
- Zonar EVIR®
- Zonar Ground Traffic Control®
- Transfinder Routefinder
- Zonar V3™
- Zonar Verify™
- Zonar Z Pass®
- Transfinder Servicefinder
- Petro Vend

Benefits

- Greater student safety
- Empowered bus drivers
- Peace of mind for parents
- Efficient use of bus fleet
- Efficient bus routing
- Accessible inspection results
- Efficient maintenance workstreams
- Available funds for other initiatives

Cypress-Fairbanks Independent School District (Cy-Fair ISD) has grown from a sprawling collection of small, wooden, one-room schools in 1941 into today's third largest public school district in Texas—and the fifteenth largest in the nation. More than 80,000 of the district's 117,000 students, in grades from elementary to high school, ride the school bus every school day.

Getting these students from Point A to Point B takes five transportation depots and several hundred buses and bus routes. For years, Cy-Fair ISD's student transportation system managed well enough, but without using a telematics or student tracking and rider verification system.

The district's top priority is student safety. Knowing where they are, making sure they're safe, giving parents peace of mind. And for that, Cy-Fair ISD turned to Zonar.

The need for greater student safety

There was no way to electronically verify which students were on which bus. Or if they were getting on and off at the right stops. Instead, each student was responsible for boarding the right bus and disembarking at the right time. Intentionally or not, it didn't always happen.

Younger students were at higher risk because if they got off at the wrong stop, they may not know how to get home, no matter how close they were. Plus, Cy-Fair ISD covers a large area outside of Houston; what if they got off at the wrong stop miles away?

There was little drivers could do.

Like many school districts, Cy-Fair ISD faced widespread driver shortages. Substitute drivers faced new challenges every day. Each day was spent on a new bus with a batch of new student faces. With no time to memorize, substitute drivers had no practical opportunity to get to know the children and their routines.

Parents needed updates.

If the district and drivers couldn't tell which students were on which bus, neither could parents. Despite its size, Cy-Fair ISD had no central call center at the time. Parents who wanted to know if the bus was running on time—and if their child was on it—had to call the campus or transportation office.

Cy-Fair ISD wanted to give parents more transparency so they could stay in the know more easily.

Bus routing could be more efficient.

Before implementing Zonar, Cy-Fair ISD had no telematics system. However, the district did use a three-tier routing system, which included

Transfinder as their routing solution provider.

Cy-Fair ISD ran normal bus operations with limited data and little transparency between the district, drivers and parents regarding the location of students and buses. Route assignments were printed in batches as needed; supervisors would notify drivers of changes with a newly printed route.

Brenda Renken, the transportation systems and technical analyst for Cy-Fair ISD, was determined to find a more efficient, effective and transparent solution.

A big ask for a big district

Looking at trends in student transportation, Cy-Fair ISD saw an opportunity to implement current technologies to keep students safer and more secure.

To do so, the district needed a solution that:

- identifies which students are on which bus at any given time
- protects students from being accidentally left on the bus
- gives the district visibility into bus locations and ETAs
- helps drivers make sure only eligible students board the bus
- makes it easier for substitute drivers to view their routes
- notifies drivers when students get off at the wrong stop
- keeps parents informed about their child's bus

Sound simple? Far from it, especially for a school district of Cy-Fair ISD's size. Remember, its 1,200 buses transport more than 80,000 students every school day—and those numbers grow as the district grows.

Funds for the classroom

Cy-Fair ISD is a public school district. The solution it chose had to accomplish everything on the list and still be cost effective.

Funding for this endeavor, along with other large-scale initiatives at that time, was coming from a bond levy, which the public had overwhelmingly approved. Every dollar the district saved on new transportation technology would directly result in more revenue to reinvest back into the classroom.

Cy-Fair ISD saw only one provider whose solution did it all and still left money for educational initiatives—Zonar.

Partnering with Zonar

Cy-Fair ISD is an award-winning, innovative district; it needed an innovative partner. In Zonar, it saw a market leader that has already developed technology such as Zonar Z Pass. Moreover, Zonar was willing to partner with Cy-Fair ISD to develop new technologies—from scratch—to meet the district's needs.

"Because of our district's size," says Renken, "they knew we needed to do something to identify where these students were and that we were putting them on where they needed to get on and off where they needed to get off."

Zonar understood what was most important to Cy-Fair ISD—its students. And was committed to making it happen.

Zonar had the solution.

One piece of technology wasn't going to cut it. Accomplishing everything on Cy-Fair ISD's list required a multi-faceted approach with multiple technologies working together as a seamless solution.

Zonar V3 GPS

Track and trace technology that shows the location of every GPS-enabled school bus in the district's fleet. Also enables remote vehicle diagnostics, and tracks fuel consumption.

Zonar Z Pass

Scanning device that captures the date, time and location when students scan their RFID student ID card as they get on and off the bus.

Zonar Z Pass+

Mobile app that shows parents when and where their child boards and exits the bus—and the bus's location.

Zonar tablet

Distributed to each driver for use during each bus run. Hosts Zonar Verify and third-party applications so the solution can work together.

Zonar Verify

Tablet application that automatically confirms the right student is getting on the right bus and getting off at the

right stop. Alerts drivers visually and audibly if there's an exception so the driver can immediately take action.

On the Zonar tablet, Verify displays the:

- name of the route
- name of the stop
- time of the stop
- number of students to be picked up
- number of students to be dropped off

Ground Traffic Control

Zonar's secure, online portal that stores and provides access to data gathered via Zonar's solutions, including Z Pass, Verify and EVIR. Integrates with third-party technology, and offers customized reports, alerts and dashboards.

Zonar RouteBoard

Verify's online management tool. Enables bus route coordinators and dispatchers to update 'day-of' changes and push the updates directly to Verify for drivers to view. Also enables school officials to review and analyze alerts and rider exceptions.

Keeping Henry safe

Let's walk through a hypothetical scenario to see how each piece does its part to keep students safe.

Before school, fifth-grader Henry steps on the morning bus and taps his Zonar-issued, passive RFID student ID card to the Z Pass scanning device by the bus's door. In real time, his tap is sent to Zonar's V3 GPS device located on the bus, and then to the driver's Zonar tablet, which hosts Zonar's Verify app. It's also sent to Zonar's online portal, Ground Traffic Control, along with the rest of the data being captured for that bus run.

Verify displays Henry's name and whether or not he's on the list of approved and expected student riders. The driver immediately confirms that he's getting on the right bus, and Henry takes his seat. From start to finish, verification only takes a few seconds.

After school, Henry finds his bus and goes through the process again. Verification still only takes a few seconds.

His mother is waiting to pick Henry up from the bus stop after school, but the bus is running a few minutes behind. Zonar's Z Pass+ sends his mother an alert when the RFID card is scanned. Rather than calling the school, she

accesses the Z Pass+ app on her phone and sees when Henry scanned on board. No need to worry; Mom knows Henry is en-route to his drop off location.

The bus arrives at the stop. As other students disembark, Verify alerts the driver that a student who should exit hasn't—and who that student is. Henry, who was busy talking to his friends, didn't notice the bus had arrived at his stop.

Instead of driving away with Henry still on board, the driver gently reminds Henry and tells him, "See you tomorrow." On his way out, Henry taps his RFID student ID card to the Z Pass device again, which captures the event.

From when Henry gets on the bus to when he exits, the school and his parents can see what bus he's on and where that bus is; morning and afternoon.

Implementing Zonar

Cy-Fair ISD is the third largest school district in Texas. And the fifteenth largest in the nation. The implementation was going to be large, and a clean one; Cy-Fair ISD's buses had no existing hardware to uninstall.

However, even with a clean implementation, a solution this size isn't rolled out in a day. Or even a single phase, especially as several core technologies hadn't yet been developed.

Zonar already had its V3 GPS, Zonar tablets, Ground Traffic Control and Z Pass. But Z Pass+, Verify and RouteBoard still needed to be developed.

Phase One

The initial phase took more than a year. Zonar began by installing its V3 GPS devices on each bus, then deploying Zonar tablets to bus drivers. At that time, these tablets were only for messaging because the rest of the solution, Zonar Verify and RouteBoard, were in development.

Next came installing Zonar Z Pass, the scanning device on each bus that students use to scan their RFID student ID card when they get on and off the bus.

Phase Two

While the existing technology was being rolled out, Zonar was developing Verify and RouteBoard. After more than a year, both new technologies were ready for deployment. These technologies now enable dispatchers to conduct daily bus assignment and manage route exceptions. Once deployed, they made the solution complete.

Zonar made support a priority.

Because of Cy-Fair ISD's size, Zonar wanted to make sure it had the support it needed, particularly Renken, who was ultimately in charge of the project. To do so, Zonar dedicated Wes Wamer, supervisor in Zonar's Customer Experience team, to assist Renken.

"It's been really great to have that support there and to know that at any given time during the day, ... I can pick up the phone and call."

"Zonar's been really good with us and because of our size they've assigned an individual to pretty much be there for whatever I need," Renken states. "In my district I like to call Wes my personal Zonar assistant. It's been really great to have that support there and to know that at any given time during the day, if I have a question or we're having an issue or we have equipment that maybe is not working the way we think it needs to work, I can pick up the phone and call. If Wes is not able to give me the answers that I need, he certainly knows where to go to get them."

Beyond implementation

Renken's scope of responsibility is wide. In addition to spearheading the Zonar project, she's involved in Cy-Fair ISD's Routefinder school bus routing software, Servicefinder fleet maintenance and fueling software, as well as the bus video systems. Renken also ensures software and hardware support—and training—for department and personnel, as related to transportation.

If that wasn't enough to keep her busy, Renken is also the liaison between the district's transportation and central office technology department supporting five transportation facilities, all of which are equipped with the Zonar solution.

But Renken is one person. This working model wasn't scalable and was difficult to manage.

To address the problem, Renken:

- established Zonar Support Teams at each transportation center
- identified and trained charter drivers as her backups
- remained available to help when they needed her assistance

Having more people in more places to handle things more quickly enabled Renken to:

- focus on higher-level priorities
- streamline processes across the board
- ensure support for drivers throughout the fleet

With more support and resources, the implementation went more smoothly than anticipated.

Keeping students safe

According to Renken, the biggest benefit of implementing Zonar has been "having that knowledge of who's on the bus, when they're on the bus, when and where they are getting off the bus, how many students we have on the bus and do we have anyone left on the bus that shouldn't be there. Just having that peace of mind across the board."

Students are verified.

With Z Pass and Verify, drivers know immediately whether or not the student trying to board the bus is supposed to be on that bus—and stop unauthorized students. Plus, drivers can now get to know their regular riders.

When students scan their passive RFID student ID card, Verify automatically displays their name at the top of the tablet's screen, which drivers view faster and more easily than checking against a piece of paper, like they were doing before Zonar.

Security gets another layer.

By law, school bus drivers are required to always confirm that their bus is empty of students at the end of each run. Cy-Fair ISD takes this so seriously that two different drivers check each bus before it's parked for any length of time; that's two inspections, not just one.

Cy-Fair has a zero tolerance policy for students being left on a bus. Student safety is the number one priority when doing these inspections.

With Zonar Z Pass and Verify, no student should be left on one of Cy-Fair ISD's school buses. Z Pass captures which students are on which bus, and Verify notifies the driver at the end of each run if all students have disembarked or not—before inspections even begin.

Transparency for parents

Student safety is critical; so is transparency. Parents who download the Z Pass+ app can see when and where their child's card has been scanned, and have an estimated time of arrival for that bus.

Schools know where students are, and parents can find out where their child is without calling the school.

According to Renken, it's made life easier for schools and parents. "Having the campuses and the parents with some of the same capabilities that we have has helped reduce the incoming calls. Not only from the campus standpoint but from the parent standpoint as well because they can get information they would otherwise have had to call for."

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Empowering drivers

This Zonar solution implementation was a sizable, multi-faceted rollout that changed several aspects of a Cy-Fair ISD bus driver's job—for the better. Adapting to the new technology was easy, due largely in part to how easy it is to use. After a few days, drivers were already catching on.

Drivers don't have much to figure out, but they do have more time to get to know their student riders and help keep them secure.

More Z Pass participation

Cy-Fair ISD students had RFID student ID cards for more than a year before Zonar deployed Verify. However, students would sometimes lose their cards and talk their way onto buses.

Without Verify, which requires students to scan their ID card, drivers had no way to identify these students. And some students would still occasionally get on the wrong bus or off at the wrong stop because drivers had little recourse but to take their word for it.

With Zonar Verify, drivers have what they need to make the call: no card, no ride. If students aren't on the digital list of those who are supposed to ride, they don't get on the bus. Drivers are now empowered to enforce policies and handle events as they happen.

Maximum bus utilization

Zonar's solution also integrated with Cy-Fair ISD's existing Routefinder school bus routing, scheduling, and planning software, as well as the Servicefinder fleet maintenance software. This integration gives the district more detailed visibility into how it uses its 1,200 plus-bus fleet.

District officials can now see:

- which buses are used at what time
- which routes they run
- how many students each one carries

With that data, Cy-Fair ISD made sweeping changes, including changing bell times and consolidating bus routes. Doing so enabled the district to use fewer buses and drivers to transport students, which was especially helpful during driver shortages.



Outside the bus

Zonar's Z Pass solution features Zonar-issued passive RFID cards, which some individual Cy-Fair ISD schools use to make other areas of school life easier.

Each RFID student ID is printed with a unique barcode, which corresponds to that student's unique ID. When that barcode is scanned, the data is linked back to the service without the student manually entering a student ID number. Makes the process faster, easier and more reliable.

Nurses' offices

Students scan their ID card as they enter and leave so the school can record who comes and goes.

Cafeterias

Students scan their ID card as they enter and leave so the school can record who comes and goes.

Tardy sweeps

Teachers can scan a tardy student's ID card and track how many times that student has been late. On the spot, they then print a consequences slip based on the infraction and frequency instead of making the student wait to see an administrator.

Ticket buying

Students who have their ID card when they buy tickets for school events get a reduced price. Otherwise, they pay an adult price.

Tutorial sessions

Students scan their ID cards to make sure they get credit for attending after-school tutorials. And, teachers scan their own ID cards so the school knows which teacher stayed after to host which session.

Funds for the classroom

When looking for a solution, Cy-Fair ISD knew it needed one that would leave as much as possible to reinvest in education initiatives.

Zonar was cost effective enough to be that solution. It fit with the district's overall plans and initiatives to invest in itself and students while making the most of publicly-approved funds.

The partnership grows with EVIR

With Zonar's student verification solution deployed and operating, Cy-Fair ISD and Zonar looked for other ways for the district's fleet to run more efficiently.

Bus inspections became more efficient.

Cy-Fair ISD bus drivers used a paper-based system for pre- and post-trip inspections. As they went through their checklist, they'd record their findings on printed forms, which informed maintenance workflows.

Zonar's Electronic Verified Inspection Reporting (EVIR) enabled Cy-Fair ISD to:

- move its book of printed forms to Zonar tablets
- save thousands of dollars in printing costs
- ensure that the latest versions are always available

Also, inspection results are now uploaded digitally and stored online, where appropriate personnel can access them anytime, anywhere through Ground Traffic Control. That means immediate access to each bus's inspection results without rifling through paper files or waiting for drivers to turn in forms.

Maintenance workflows became smoother.

Cy-Fair ISD integrated the EVIR-captured data with its Servicefinder maintenance software to make workflows more efficient. The district's maintenance professionals can spot chronic problems and find solutions, as well as move vehicles in and out of the shop faster.

That means more uptime, less downtime and reduced risk of a bus breaking down while on route.

However, if a bus does break down while on route, maintenance and routing professionals can decide more easily—and more quickly—whether to send a mechanic or a replacement bus. More efficient for everyone.

Students were safer.

However, more importantly, using EVIR also adds yet another layer of safety and security for students.

As mentioned, Cy-Fair ISD has zero tolerance for students being left on the bus. The two-check process requires the bus driver and a charter or substitute driver to check each bus independently to make sure it's clear of students.

When drivers are done with their individual inspections, they use EVIR to capture the results electronically. Nothing is skipped or forgotten, and every result is captured in a way that's easily accessible online by all appropriate personnel.

Still growing, still partners

When asked if she'd recommend using Zonar, Renken's answer is simple. "If you don't already have a GPS solution or student verification system such as Zonar, if the funding is there and if you're able to make it work and happen for your district, then I absolutely recommend it."

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When asked why, Renken continues. “It has been really great for Cy-Fair to have Zonar on our buses. The safety and security of our students and staff, and the level of customer service and customer support that we receive, no matter what time of day it is, is above and beyond.”

Cy-Fair ISD is still one of the fastest-growing school districts in the nation. Supported by a bond referendum, the district’s building more schools, supporting more facilities, developing more of its 186 square miles—and serving thousands of more students of every grade level.

With new growth comes new challenges. As it has for several years, Zonar will be ready to help Cy-Fair ISD meet those challenges head on.

About Zonar

Zonar exists because you and your student riders deserve the best. We're the trusted leader who helps protect our nation's children every day. And we're the clear choice for small to mid-sized businesses, enterprise fleets, and public sector organizations across the Americas. To some, you're a sale to make. To us, you're a partner to stand by. Our proven fleet management solutions help you run better, safer and more efficiently. We help you save more of everything. We work late, push harder and deliver what's really needed, faster—for you.

Zonar has been here for you, for more than 20 years and counting. You call? We answer, 24/7. Because you have the most important responsibility a fleet can have: transporting schoolchildren safely. Whatever your fleet's size, rely on us to help solve real-world problems.

Zonar HQ: Seattle, WA. Other locations: Cincinnati, OH, West Chicago, IL & Lakeland, FL. Top priority: You.

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