



ZEROEYES

SAVE TIME. SAVE LIVES.

DETECTION IS PROTECTION

RESEARCH REPORT

JULY 2023

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INTRODUCTION



In an active shooter situation, critical seconds count. These seconds can mean the difference between locking a door before an attacker can get inside, police engaging a shooter before reaching victims, or providing life-saving treatment.

WHAT DOES "DETECTION IS PROTECTION" MEAN?

Protection via proactive detection means more than an alerting system. It means better situational awareness that a school, business, hospital, warehouse, shopping center, or any public place can use to keep people as safe as possible—all while maintaining critical operations, preserving property, and avoiding additional risks.

>>> DETECTION IS PROTECTION MEANS:

1. Knowing where a person brandishing a gun is on your property
2. Alerting first responders and authorities within seconds
3. Using that intelligence to help people on the property and in the area

GUN-RELATED VIOLENCE IN SCHOOLS

There are approximately 60 million students who attend 130,000 public and private K-12 schools in the country. On top of that, another 18 million students attend more than 4,000 public and private colleges and universities.

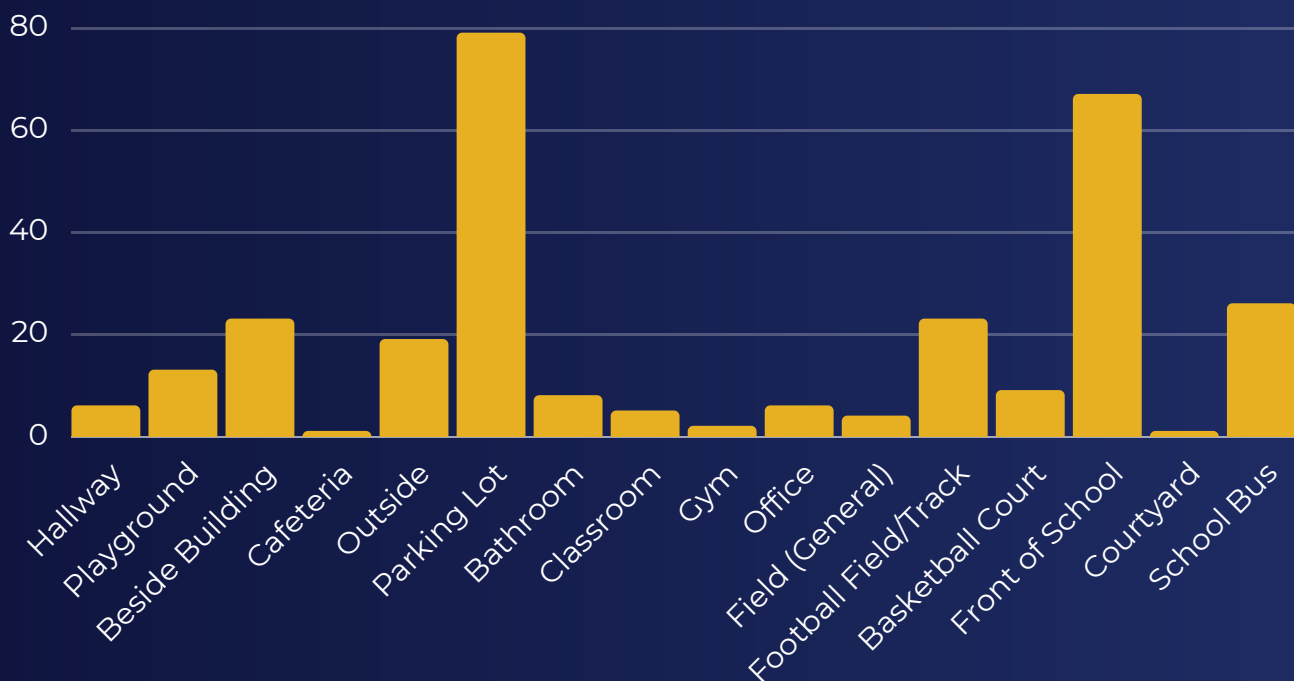
UNIQUE CONSIDERATIONS

When a parent puts their child on a school bus or drops them off at the front door, the school is legally responsible for that child's well-being until the end of the school day.

There are very few places where a government entity is solely responsible for the safety of children. If a mass shooting occurs at the school, it is the school's moral and legal responsibility to keep kids safe during the attack.



SCHOOL SHOOTING LOCATIONS (2022-2023)

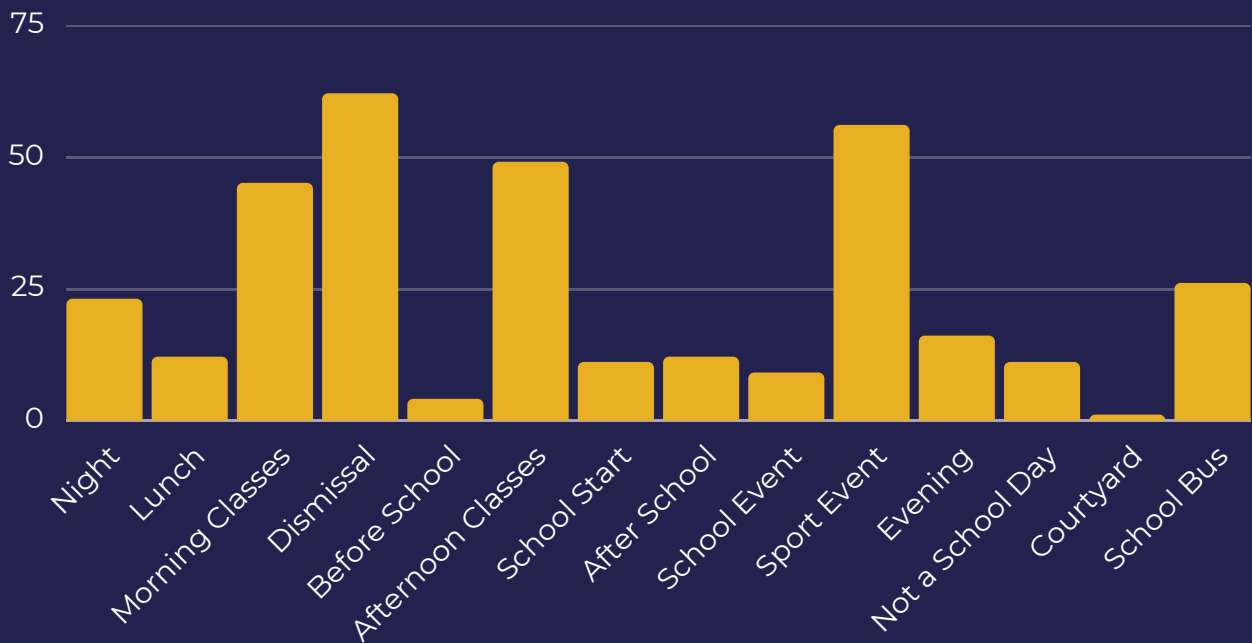


Source: [K-12 School Shooting Database](#)

K-12 INCIDENT HIGHLIGHT: LAMAR HIGH SCHOOL, ARLINGTON, TX

At 6:55 am in March 2023, a 15-year-old student shot two classmates (one fatally) near the doors to Lamar High in Arlington, TX. The shooting was recorded on the school's security camera system— but no one was actively monitoring it. Many school security plans continue to overlook that most shootings happen outside school buildings on the campus and before or after the school day.

SHOOTING TIME PERIODS (2022-2023)



Source: K-12 School Shooting Database

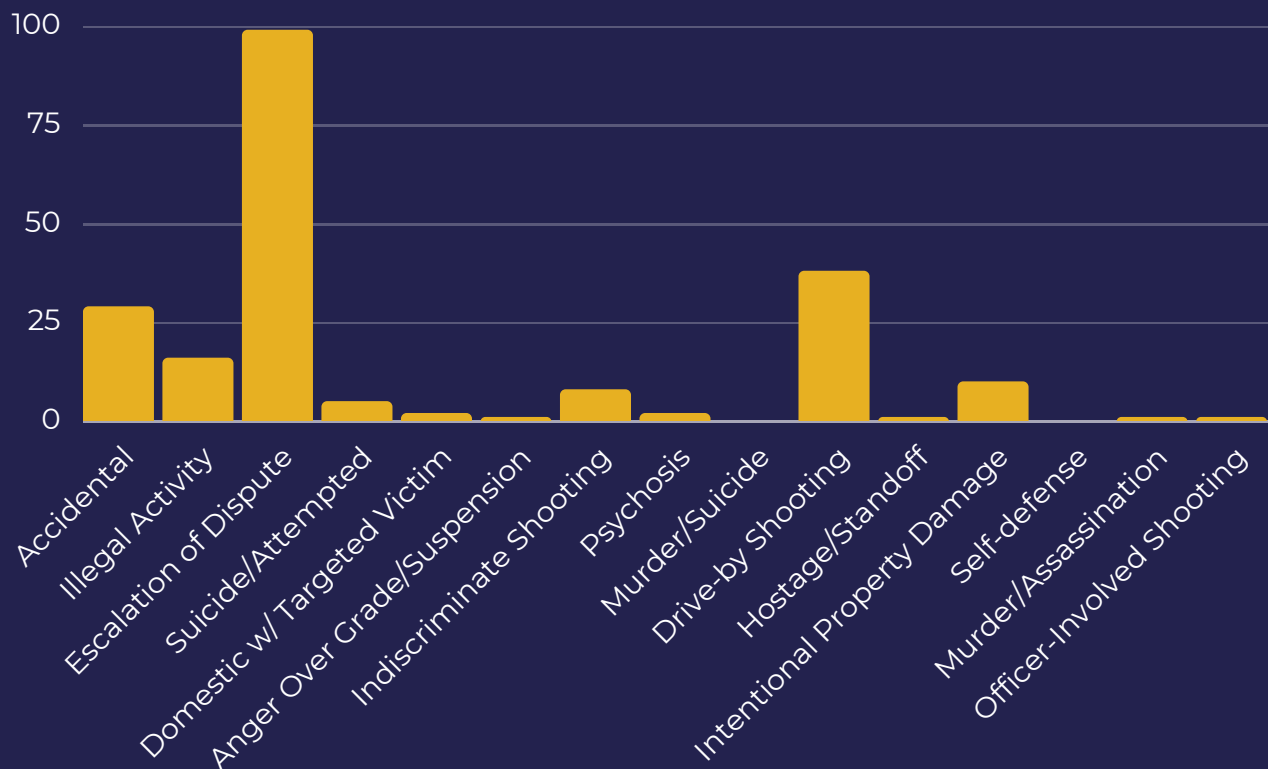
The SRO's shift did not start until 7:00 am, causing a delay in the response. Without staff in their offices, the school went on lockdown but an alert was not sent until 7:30 am. Meanwhile, for 35 minutes following the beginning of the fatal shooting, buses and parents continued to drop children off at the school.

Despite having a backpack full of ammunition, the shooter fled the campus rather than waiting to ambush other students as they arrived. This was the shooter's decision without any intervention or contact with law enforcement. School security should not depend on luck or the decision making of a shooter.

KEY TAKEAWAY

To get to the doors where the shooting occurred, the teen walked past more than a dozen high-resolution cameras on the exterior of the large campus. With a situational awareness tool like ZeroEyes' AI gun detection, which provides a picture and location of the shooter to police and school staff, an emergency notification could have been sent to students and parents who were about to walk into an ambush and would have gotten first responders to victims faster for life-saving care.

SHOOTING SITUATIONS (2022-2023)



Source: [K-12 School Shooting Database](#)

HIGHER EDUCATION INCIDENT: MICHIGAN STATE UNIVERSITY

In February 2023, at 8:18 pm, an adult man holding a 9mm handgun with 10 loaded magazines in his backpack walked through a rear service area door into Berkey Hall on the Michigan State main campus. He fired 14 shots inside the building, killing three students and wounding five others.

Even though the police were not yet inside the building and he had extra ammo, he left just 5 minutes later and walked to the Student Union, where he fired three shots, claiming the life of a third student.

Astonishingly, despite possessing more ammunition, and still not encountering officers, the shooter abruptly departed from the Union and walked away from the campus within two minutes.



Camera footage of the shooter walking through MSU campus with a gun visibly exposed

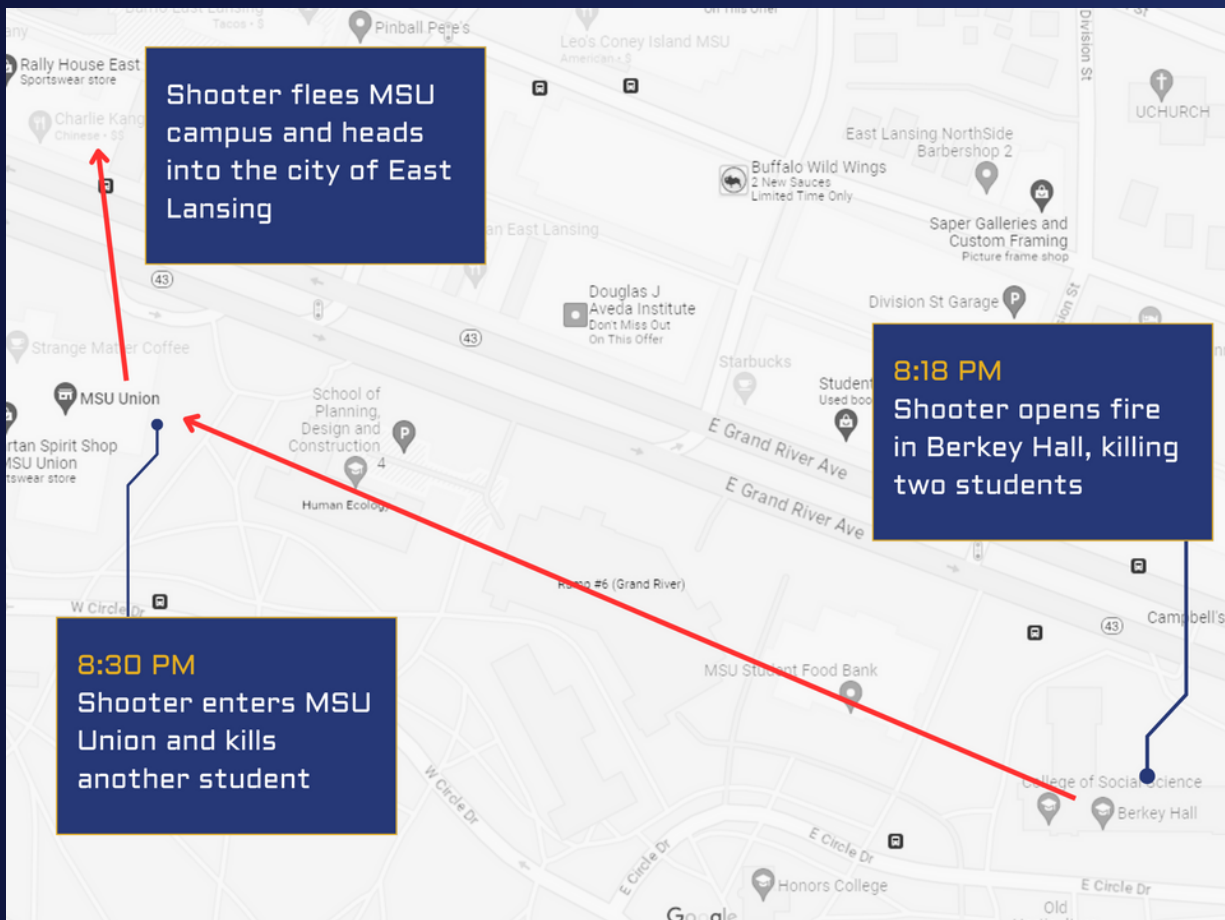
At 8:31 pm, several minutes after the shooter had left campus, the first emergency alert was sent to students, advising them to "run, hide, fight." Delays in the approval process for sending alerts resulted in a significant lapse in warning students. Subsequent alerts provided conflicting instructions, urging students to both "run" and "shelter in place," while also disseminating inaccurate descriptions of the shooter. The shooter's body was found five miles away (suicide) at 11:35 pm.

During the 5-hour period after the first shots were fired, police responded to more than 2,100 emergency calls with different descriptions and locations of the shooter in dozens of campus buildings while students barricaded in bathrooms, closets, and dorm rooms.

KEY TAKEAWAYS

If a campus alert was immediately issued based on a ZeroEyes proactive gun detection alert:

- Students inside Berkey Hall would have had time to block doors or evacuate the building before the shooter walked into their classroom.
- Students outside would have known to stay away from Berkey Hall.
- Other campus buildings could have been secured, preventing the shooter from entering a second location.
- Instant alerts with images of the shooter would have cut through confusion caused by thousands of 911 calls with different descriptions of the perpetrator.
- Police would have immediately known there was a single attacker with the building name and location of the shooting.
- Students in hundreds of unaffected campus buildings wouldn't have needed to barricade inside closets and bathrooms—simply locking the exterior doors would have been enough.



K-12 INCIDENT HIGHLIGHT: FRANKLIN HIGH SCHOOL, ROCHESTER, NY

Just before classes started in January 2023, a 16-year-old student was approached by a teen in a ski mask with a handgun on the campus of Franklin High in Rochester, NY. The gunman fired more than a dozen shots as he chased the student towards the school.

This was one of 15 shootings during the 2022-23 school year that happened before classes started. Campus security at the front door heard the shots and put the school on lockdown, which included locking the front doors. The gunman chased the teen all the way to the front steps of the school where he ran into two female students who were trapped outside by the locked doors.

The gunman approached the three students and fired a point-blank shot that just missed the 16-year-old boy's head. The shooter aimed and pulled the trigger again, but the gun was out of ammo and he fled from the scene. After the shooter fled, a room-by-room search of the campus was unnecessary.



Publicly-released security camera footage that could have improved response if human-verified alerts were sent as the visible gun was detected on camera.



KEY TAKEAWAY

Without a visual detection system, campus security had no idea where the shooter was and was unaware that students were trapped outside as the attacker pursued them.

Having real-time information would have helped responding officers and campus officials know which actions are the best to take and where students are in danger faster and more effectively.

GUN-RELATED VIOLENCE AT THIRD-PARTY LOGISTICS FACILITIES

Third-party logistics (3PL) is a service that receives bulk shipments, manages warehouse inventory, and packs orders to ship to individual customers. Thousands of workers usually staff shifts to provide 24/7 services. In addition to workers coming in and out on shifts, thousands of trucks and delivery vehicles access the facility every day.

UNIQUE CONSIDERATIONS

Third-party warehouses and distribution centers are part of an extremely complex, efficiency-driven infrastructure that is critical to delivering goods. Due to the tightly-coupled design of these logistics networks, an interruption at one 3PL facility can have cascading impacts across an entire city, region, or even the whole country.

A mass shooting and the subsequent investigation of a crime scene can shut down a business for days. That length of closure at a 3PL facility can cause millions, or even billions, of dollars in losses.

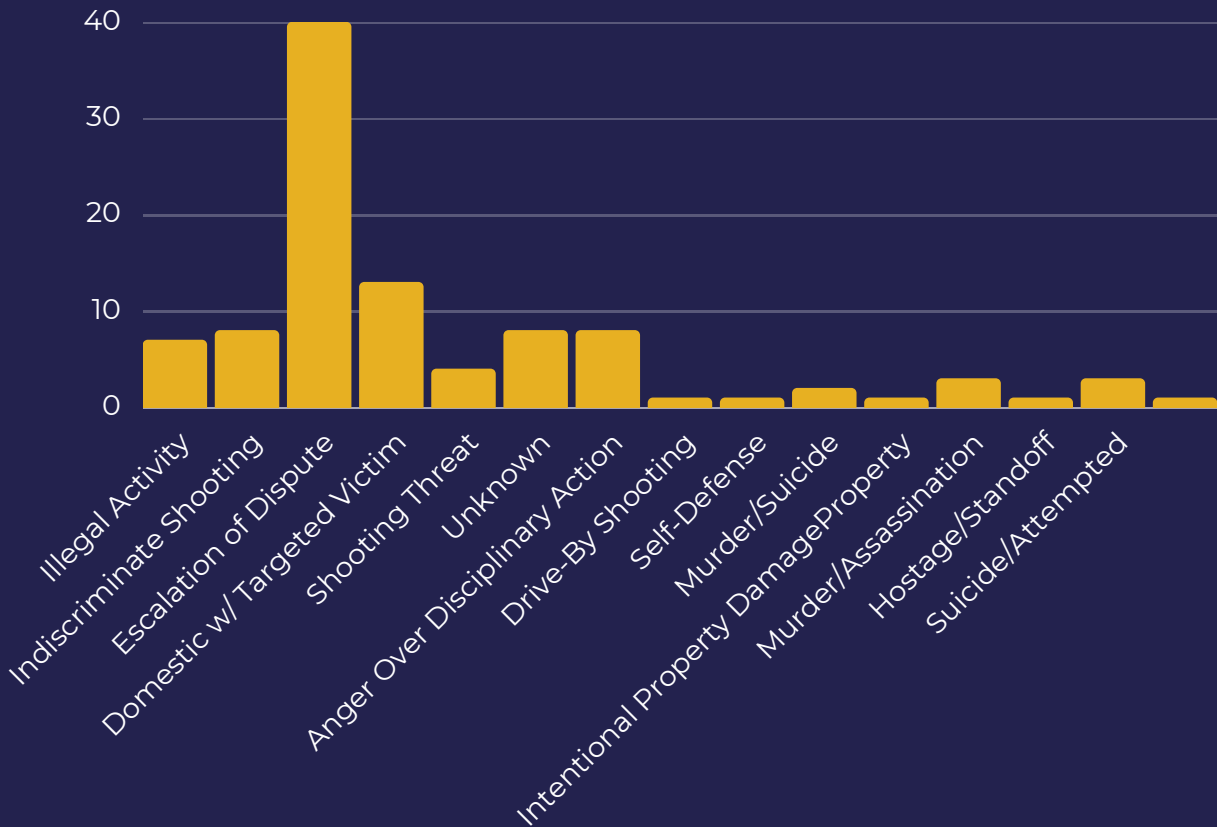
With thousands of workers onsite, escalation of dispute and domestic violence with targeted victims are common motivators of shootings. After these isolated shootings, the perpetrator usually flees rather than firing at random employees.

WHAT THE DATA SAYS

In a sample of 100 shootings at 3PL facilities between 2012 and 2023, it was found that only 8% of shootings were indiscriminate attacks where the shooter targeted as many victims as possible.

Having a visual gun detection system that can quickly identify if the shooter fled allows the rest of the facility to keep operating.

3PL SHOOTINGS: SITUATION



Based on a sample of 100 mass shooting incidents that occurred at 3PL facilities based in the U.S. (including warehouses and distribution centers) between 2012 and 2023.

INCIDENT HIGHLIGHT: INDIANAPOLIS FEDEX SHOOTING

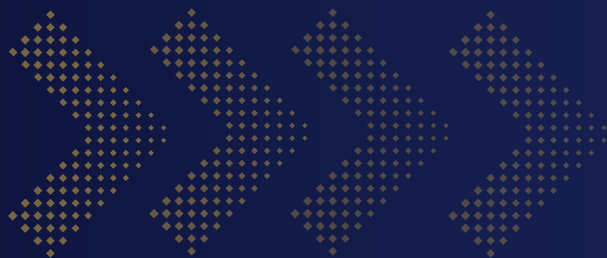
In April 2021, a 19-year-old former employee arrived at shift change knowing that workers would be in the parking lot and outside the building before going through metal detectors at a screening checkpoint.

The 3PL facility had perimeter fencing, CCTV, and security, but a former employee was an insider threat who knew the most vulnerable time to attack. He used a semi-automatic rifle to kill 8 employees and wound 7 others before turning the gun on himself less than 4 minutes after the first shot was fired.



KEY TAKEAWAY

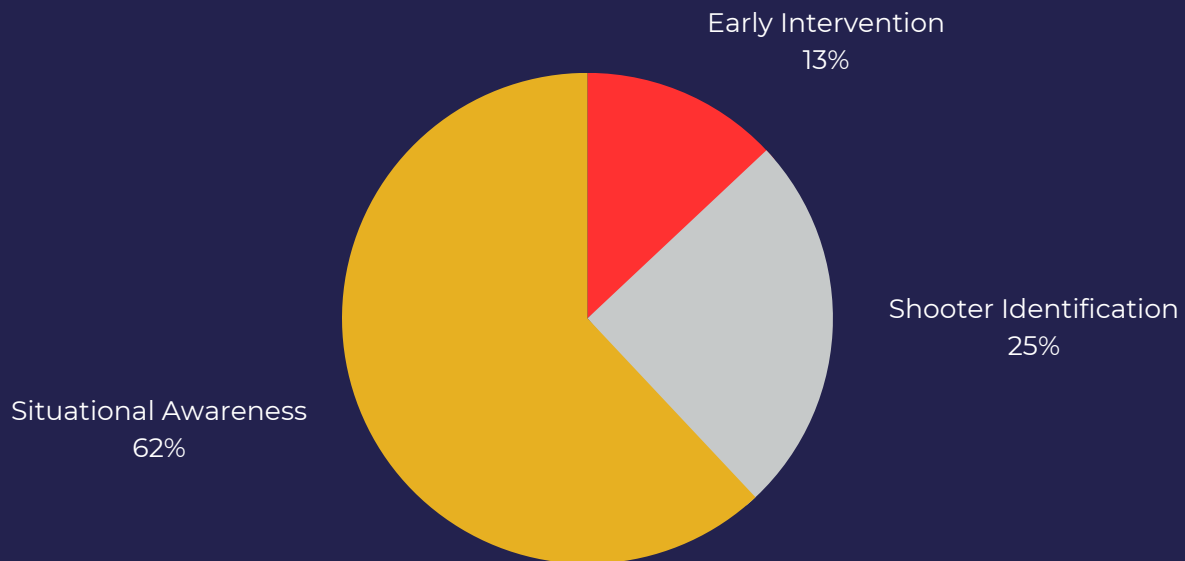
When a shooter is carrying a rifle and walking across a parking lot, there is an opportunity for security camera systems with ZeroEyes' detection software to identify the shooter within seconds. Early detection provides an opportunity for on-site security to make sure that employees are directed to a safe space, relative to the shooter's real-time location.



Early detection paired with situational awareness informs the best actions to get employees to the safest place possible.

3PL SHOOTINGS: IMPACT OF ZEROEYES

We tracked 100 mass shootings that occurred at 3PL facilities based in the U.S. between 2012 and 2023. Based on each situation and timeline, we tracked how ZeroEyes' visual AI gun detection would have had the greatest impact in improving response and/or mitigating the shooting.



- **Situational Awareness:** ZeroEyes would have provided real-time, human-verified situational awareness to cut through the chaos and panic. These were incidents where there was minimal-to-no information about the shooter and uncertainty of the threat.
- **Shooter Identification:** ZeroEyes would have provided information about the shooter's gun(s) and whether they were still on the organization's grounds. These were incidents where the shooter shot a victim outside of a building and ran away immediately.
- **Early Intervention:** Security cameras integrated with ZeroEyes software would have immediately detected visible guns, verified the detection, and dispatched the alert in as fast as 3-5 seconds. These were incidents where earlier intervention could have significantly changed the outcome.

GUN-RELATED VIOLENCE AT CASINOS

Security needs to easily monitor safety threats without inconveniencing patrons with invasive lines and screenings. If someone has a weapon, detecting the gun immediately is critical to not only save lives, but to also allow operations to continue with minimal interruption.

UNIQUE CONSIDERATIONS

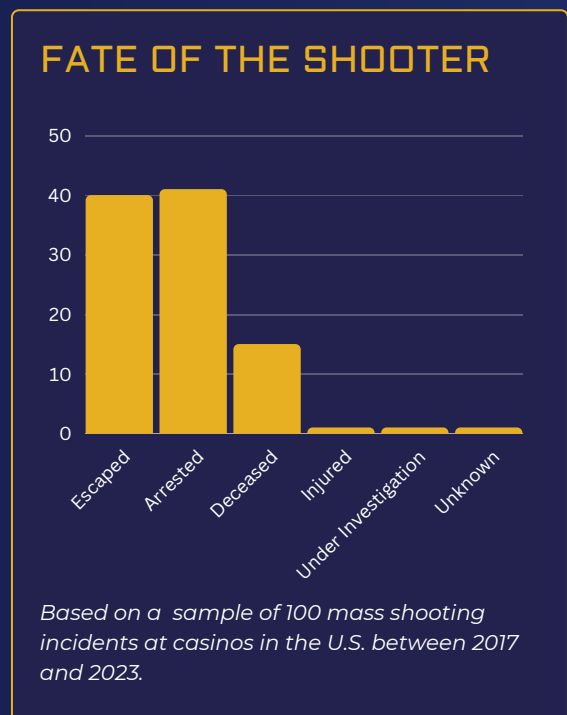
Unlike most restaurants and retailers who want to make a sale and then move to the next customer, a casino wants patrons to stay as long as possible. If patrons stay for a long period of time, spend money, and keep coming back, a casino will invest resources in making customers comfortable.

A casino's profit depends on keeping customers engaged and playing games. If a mass shooting occurs, customers stop playing, the casino is likely to close for hours or days during the investigation, and the high rollers they've invested time and money into developing relationships with may never return.

WHAT THE DATA SAYS

If security staff do not immediately know the location of the shooter when shots are fired on a casino property, police may arrive and shut down the entire facility for hours. Based on a sample of 100 shootings at casinos between 2017 and 2023, 40% of the time the shooter was able to escape.

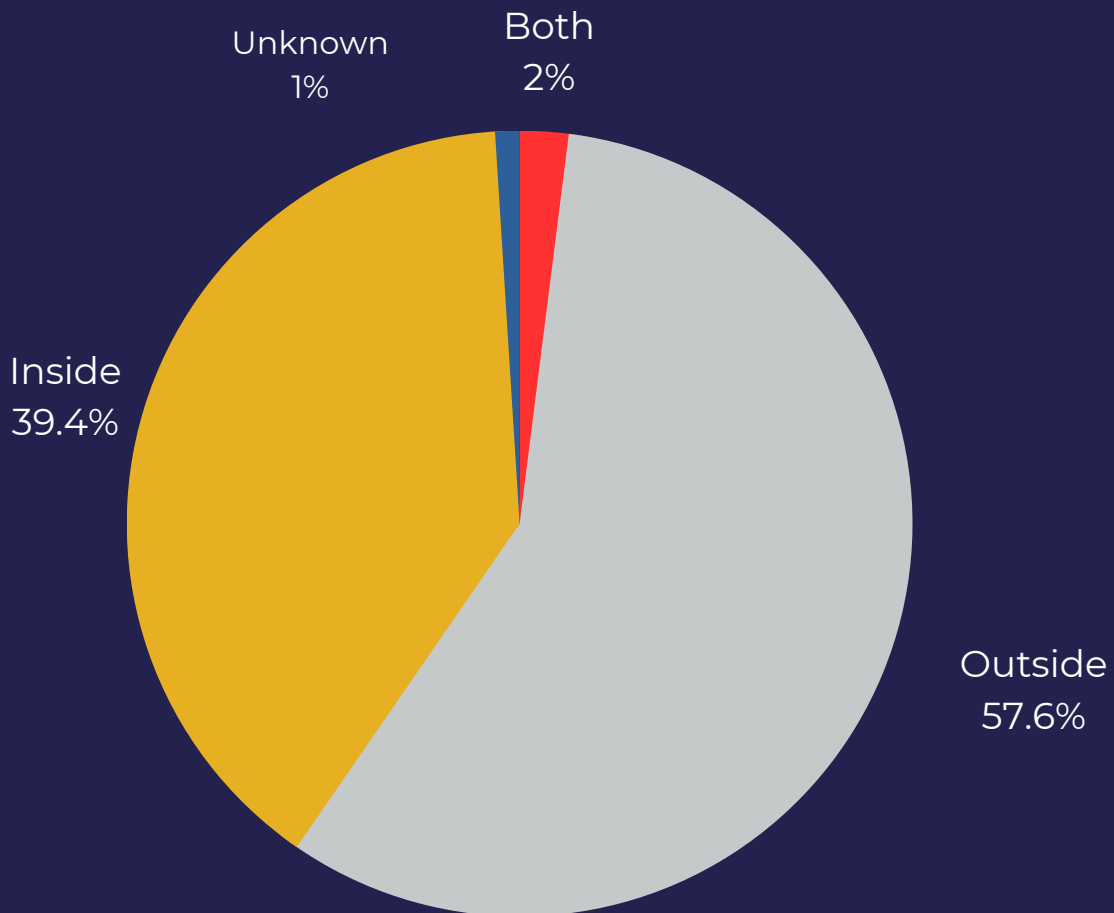
This means security didn't immediately know the identity of the shooter and where the incident took place. It also means that responding officers didn't know who they were looking for and this gave the perpetrator time to evade arrest.



While a common misconception is that most shootings happen indoors, less than half of shootings at casinos happened inside the building.

This means that if a gun is detected by security cameras in the parking lot or perimeter of the building, the doors can be locked and business can safely continue inside the casino while security and police work to apprehend the assailant.

CASINO SHOOTING LOCATIONS



Based on a sample of 100 mass shooting incidents at casinos in the U.S. between 2017 and 2023.

INCIDENT HIGHLIGHT:

ONEIDA CASINO

In May 2021, a 61-year-old former restaurant worker walked into the kitchen of the Oneida Casino Complex in Brown County, Wisconsin and started shooting. He shot two of his former coworkers in the kitchen while others flipped over tables and ran for cover. The shooter then walked out to the parking garage and shot another employee at point-blank range.

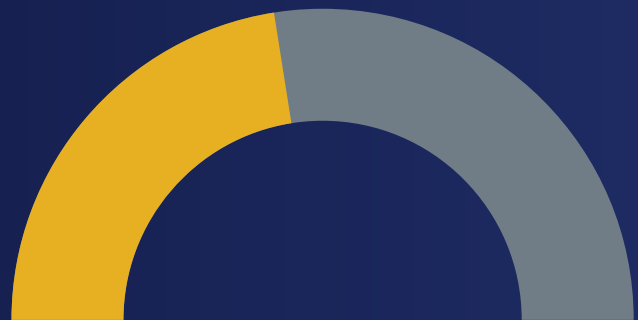
Police were responding to calls for the shooting in the kitchen inside the casino when they heard the gunshots outside and ran to the parking garage. An officer fatally shot the attacker before he could claim more victims. Parking lots account for nearly half of all gun-related incidents at casinos.

KEY TAKEAWAY

The entire Oneida Casino shooting was captured on high-resolution security camera footage. Had those cameras been powered by visual AI gun detection, the casino would have had early warning of the shooter approaching and could have notified responding officers that the shooter left the building.

If casino security staff knew the shooter had left, they could keep patrons safe inside. When a shooting happens in the parking lot, early detection enables protection of both staff and patrons while allowing business to continue inside the building.

45% of casino shootings happen in the casino's parking lot.



GUN-RELATED VIOLENCE IN HEALTHCARE

Healthcare facilities include hospitals, medical offices, labs, outpatient surgery centers, doctors' offices, dialysis clinics, physical and drug rehabilitation centers, nursing homes, and hospice care.

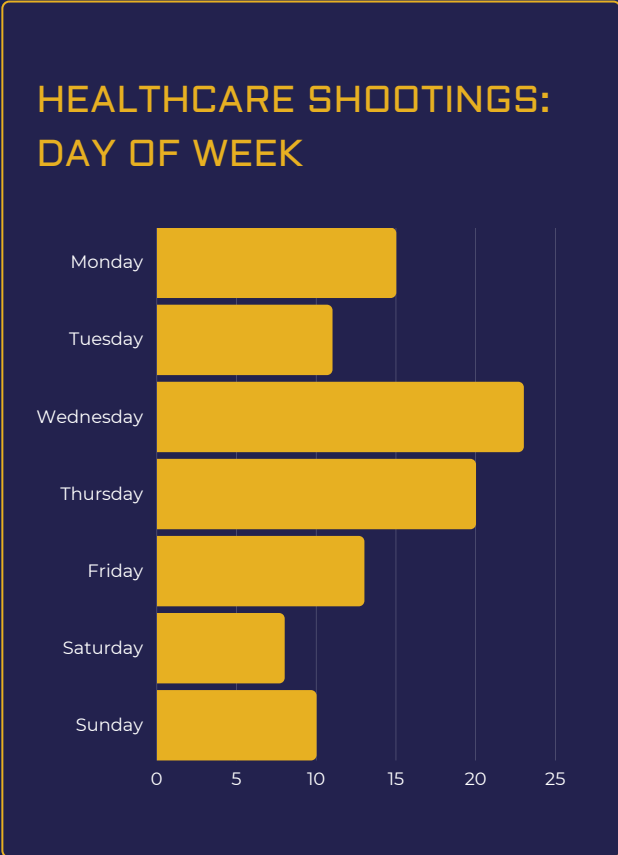
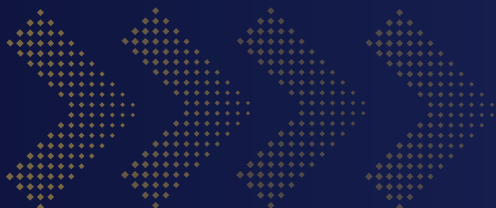
UNIQUE CONSIDERATIONS

Unlike other facilities, many patients and staff at a hospital, medical office, or other type of treatment facility cannot rapidly evacuate the building. Sick patients may be connected to medical equipment, surgeries and procedures may be taking place, elderly and disabled patients are often in beds or wheelchairs, and staff might be providing life-saving care when shots are fired. These critical tasks can't stop, and many of the people inside can't run or hide.

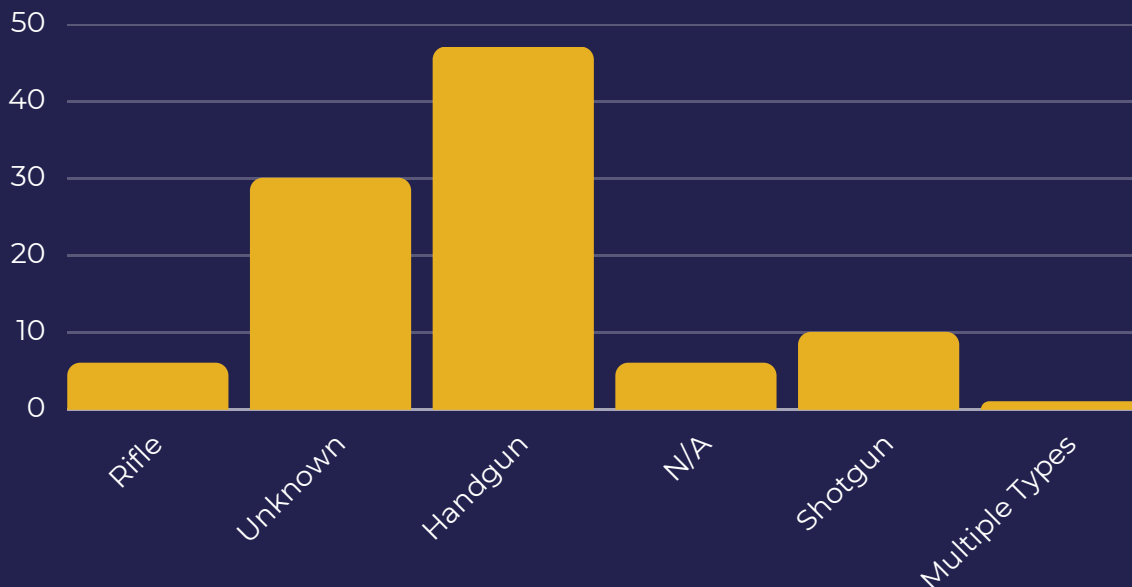
WHAT THE DATA SAYS

Many healthcare facilities operate 24/7/365 with a constant flow of employees, patients, and visitors coming in and out of publically accessible buildings.

Based on a sample of 100 shootings at healthcare facilities between 2018 and 2023, shootings are evenly distributed across all days of the week, meaning that security always needs to be ready.



HEALTHCARE SHOOTINGS: TYPE OF FIREARM USED



Based on a sample of 100 mass shooting incidents that occurred at healthcare facilities based in the U.S. (including warehouses and distribution centers) between 2018 and 2023.

In roughly half of shootings at healthcare facilities, a handgun was the type of weapon used. When facilities are accessible to the general public, an attacker can conceal a handgun inside their clothing or bag to bring it into the building. When shots are fired by surprise, it's critical to quickly detect where the shooter is so that staff can take protective actions.

INCIDENT HIGHLIGHT: ST. FRANCIS HOSPITAL BUILDING, TUSLA, OK

In June 2022, just before the workday ended at 5:00 pm, a disgruntled patient who was upset about continued pain after his back surgery walked into the St. Francis Hospital medical outpatient building in Tulsa, Oklahoma with a rifle handgun, and extra ammo. He fatally shot two doctors and two staff members before killing himself in the lobby.

With ZeroEyes software integrated into high-definition security cameras in the parking lot, garages, entryway, and lobby, a shooter with a rifle would be detected before he entered the building—giving doctors, staff, patients, and building security time to lock the doors, get people to a safe place, and enable immediate police response.



In an LA Times article, Tulsa Police Capt. Richard Meulenberg said that multiple people were wounded and that the medical complex was a “catastrophic scene.”

INCIDENT HIGHLIGHT: ATLANTA NORTHSIDE HOSPITAL OUTPATIENT OFFICE

In May 2023, a man became agitated in the waiting room at an outpatient medical office in Midtown Atlanta. He pulled a handgun from his bag and shot 5 women in the waiting room. A 39-year-old woman died at the scene of the shooting and four women — ages 25, 39, 56, and 71 — were critically injured. The shooting was recorded on the building's security camera system.



Image from camera footage released to the general public by the Atlanta Police Department.

The shooter immediately fled from the building and stole a vehicle at a gas station across the street. He was arrested 8 hours later in a residential area 13 miles away.

If other building occupants immediately received an alert about the shooting, they would have time to lock office doors to prevent the attacker from entering other parts of the building. This saves time and resources during the police response preventing officers from searching the entire building.

Medical personnel can also be deployed to the correct area of the facility faster, potentially saving lives of those with wounds.

From having an image of the shooter, police could connect him to the vehicle theft at the gas station across the street more quickly. By determining the shooting was isolated to one location, a lockdown of the entire Midtown commercial district would not be necessary.



KEY TAKEAWAY

If ZeroEyes software identifies a shooter, other parts of the building or campus can lock down so the attacker can't get inside.

A quick lockdown and knowing the location of the shooting means that critical services can continue while taking quick actions to get people away from the shooter to the safest places possible.

SECURITY CONSIDERATIONS ACROSS INDUSTRIES

Over the last 50 years, installing security camera systems has become a standard practice in nearly every store, office, and public venue. As more cameras are added, it becomes nearly impossible for security officers to watch all of them at the same time—and that’s assuming the building has dedicated security to monitor cameras.

Regardless of a shooting happening at a school, distribution center, casino, or hospital, every situation is going to have a better outcome if a shooter who is brandishing a gun is detected immediately, police are notified as quickly as possible, and people know whether they should stay inside or get away from the building. Without an automatic system to detect a visible gun, by the time a human sees the attack happening, it is probably too late.

Anywhere a mass shooting happens permanently changes the reputation and etches the name of the place into the public consciousness. Names like Sandy Hook, Pulse, Virginia Tech, Harvest Festival, MGM, Century 16, or Parkland are associated with mass shootings above all else. When the shooting becomes the primary association for a brand, institution, or community, the damage is immeasurable.

WHY DETECTION IS PROTECTION

When a shooting starts, critical seconds count.

The data tells us that people can't wait for a bystander or victim to make a 911 call, and that first responders grapple with inaccurate information that inevitably slows down response.

Early, verified detection of illegally-brandished guns—especially when paired with real-time situational awareness—is critical to improving active shooter response and allows organizations to make the safest decision.

If a shooter is detected by ZeroEyes before entering a building, locking the doors makes the inside a safe place for people to stay until police arrive. If there's a surprise attack inside the building, knowing the location of the shooter within seconds informs an organization of what wings they may want to lockdown and how to direct their people to safety.

Additionally, first responders will know exactly where to go and who to look for, significantly improving active shooter response.

HOW VISUAL AI GUN DETECTION WORKS

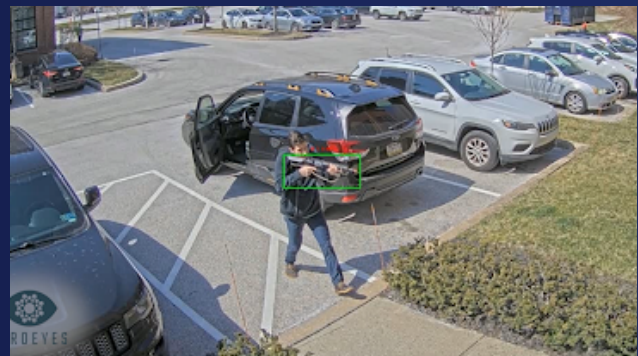
ZeroEyes' Visual AI (artificial intelligence) gun detection technology is used across organizations nationwide. Here's a quick breakdown of how it works:

STEP 1: ANALYZE

AI-powered security cameras analyze for visible, illegally brandished guns 24/7/365.

STEP 2: DETECT

When a potential gun is detected, a keyframe image is captured, along with critical details like geolocation.



STEP 3: VERIFY

Keyframe images of potential gun detections are reviewed by highly-trained military and law enforcement veterans at the ZeroEyes Operations Center.

STEP 4: ALERT

Once a threat is verified, a true alert is sent to authorized personnel and local first responders in as fast as 3-5 seconds.

STEP 5: RESPOND

ZeroEyes provides you with real-time, ongoing situational awareness of the threat—including the active shooter's geolocation, photograph, and direction of travel.

All of this happens in as fast as 3 to 5 seconds, giving schools, healthcare organizations, casinos, warehouses, and any other type of organization the critical time necessary to get people to a safe area—because **detection is protection.**

CONCLUSION

Early detection and situational awareness are core pillars of an effective active shooter response. ZeroEyes' visual AI gun detection solution provides you with these tools and can be installed on your existing digital security cameras, maximizing the effectiveness of the protected areas of your building.

VISUAL AI GUN DETECTION FOR YOUR ORGANIZATION



ZeroEyes is a powerful, affordable, and easy-to-use platform that significantly improves security and law enforcement response times to mitigate shootings.

To see how our platform improves response by providing immediate, human-verified gun detection and real-time situational awareness, request a live demo by clicking the button below.

[GET STARTED](#)