

WORKPLACE SOLUTIONS

From the National Institute for Occupational Safety and Health

Reducing Workplace Violence in Gasoline Stations and Convenience Stores

Summary

Workers in the retail trade sector are at a higher risk of violence and homicide than in other industry sectors [BLS 2022]. Within the retail sector, workers in gasoline stations (often involving sales of convenience store items) are at a higher risk compared with workers in other types of retail and the overall workforce [BJS/BLS/NIOSH 2022]. The National Institute for Occupational Safety and Health (NIOSH) recommends steps to prevent and reduce workplace violence incidents in gasoline stations and convenience stores. NIOSH also encourages employers to implement and improve workplace violence prevention programs. These recommendations are based on a study of convenience stores that implemented elements of Crime Prevention Through Environmental Design (CPTED) [Davis et al. 2021]. This document describes strategies to reduce the risk of injuries and deaths associated with robbery-related violence at gasoline stations and convenience stores.

Background

Workers at gasoline stations and convenience stores are at increased risk of both severe and multiple incidents of violence. Small retail businesses may have limited resources for reducing the risk of robbery and other violent incidents or for dealing with their effects. Income is lost when operations are disrupted, and resources might be spent on assessments, trauma recovery, etc. [NIOSH 2021; DeFraia 2015; Anderson et al. 2010].

The Department of Labor (DOL) **Workplace Violence Program** gives more information about the effects violence may have on a workplace, employer responsibility, and the various stages of violence.

Health Effects of Workplace Violence

The **Occupational Safety and Health Act of 1970** (Public Law 91–596) states that workers have a right to a workplace “free from recognized hazards that are causing or likely to cause death or serious physical harm.” Violence in the

workplace increases the risk of severe stress among employees. In addition, workplace violence has been associated with a lack of quality sleep, depression, fatigue, insomnia, and post-traumatic stress disorder among employees [Andersen et al. 2021; Lanctôt and Guay 2014; Konttila et al. 2021]. Exposure to violence should never be accepted as part of any job [NIOSH 1996, 2004].

Workers at Higher Risk of Violence

Demographics

Of the 3.5 million workers in the gasoline station subsector, nearly 20% identify as Hispanic, 12% as Black, 7% as Asian, 3% as multiracial, and 2% as American Indian, Alaskan Native, or Hawaiian/Pacific Islander. Nineteen percent were born outside of the United States (compared with 17% of the overall workforce) [CDC 2021]. Retail workers who are Black, Asian, or born outside of the United States experience higher homicide rates than workers who are White or born in the United States [BJS/BLS/NIOSH 2022; Chaumont Menéndez et al. 2013].



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Workplace factors

The following store characteristics are associated with robbery and violence [Hendricks et al. 1999; Casteel et al. 2004; Amandus et al. 1997; Davis et al. 2021; Schaffer et al. 2002]:

- Open 24 hours
- Open between 9pm and 3am*
- A history of robbery and other violent incidents
- Limited visibility of the entrance or exit
- No bullet-resistant shielding or security systems
- No robbery prevention training for employees
- Cash availability
- Independently owned or operated

Types of Violence

Research has identified four types of workplace violence that are based on the perpetrator's relationship to the victim(s) or the place of employment [Cal OSHA 1995; IPRC 2001; NIOSH 2006]:

1. **Criminal intent:** The perpetrator has no legitimate relationship with the business or its employees and is usually committing a crime along with violence. In these situations, active employee resistance to the robbery is significantly associated with employee injury [Jones et al. 2015].
2. **Customer/client:** The perpetrator has a legitimate relationship with the business and becomes violent while being served by the business.
3. **Worker-on-worker:** The perpetrator is an employee or past employee of the business who attacks or threatens other employees or past employees in the workplace.
4. **Personal relationship:** The perpetrator usually does not have a relationship with the business but has a personal relationship with the victim.

Active shooter events were not included in the original research about types of violence [Cal OSHA 1995]. However, these events are becoming more frequent [FBI 2021]. In retail settings, employees may need to run, hide, or fight. Employers and employees should be aware that there are different responses needed for different scenarios [FBI 2021]. The Federal Bureau of Investigation (FBI) reported that in 2021, 28 "active shooter incidents" occurred in businesses open to pedestrian traffic, including some convenience stores and gas stations [FBI 2021].

*Amandus et al. [1997] found that more than half (59%) of robberies in convenience stores occurred between 9pm and 3am, and 47% occurred in stores that had been robbed before.

Prevention through Design and the NIOSH Hierarchy of Controls

Reducing the risk of violence can be considered in terms of **Prevention through Design** and the **hierarchy of controls** [NIOSH 2013, 2015]. In these models, design or engineering controls, which prevent workers from coming in contact with hazards, are considered more effective than practices or controls that require individual action by the employee [NIOSH 2013, 2015].

Crime Prevention Through Environmental Design (CPTED)

CPTED can reduce violence through design choices. On a large scale, CPTED uses the natural environment, built environment, and community involvement to deter crime and reduce victimization [ICA 2021; Jeffrey 1971]. On a smaller scale, CPTED principles can be used to make a building an unappealing target for crime by increasing the chances that a potential perpetrator might get caught, or by reducing the "rewards" for robbery [Davis et al. 2021].

For retail buildings, general principles of CPTED include highly visible work areas, controlling access to commonly stolen items, controlling entry of customers, and keeping a workplace well maintained. Repairing broken windows, cleaning graffiti, replacing light bulbs, keeping the parking lot clean, etc., sends a message that employees are alert to what happens in and around the store. For example, keeping clear lines of sight from retail cashier areas to the outside, or to areas of high-value merchandise, can dissuade thefts and potential violence [Bach 2022]. Having a drop safe allows employees to drop cash into the safe without the option of retrieving or accessing the cash. Employees typically don't have the code to open the drop safe.

Case Study: Effectiveness of a CPTED-Informed City Ordinance

In collaboration with the University of Iowa, NIOSH evaluated the effect of a city ordinance on crime rates in convenience stores and small retail grocery stores in Houston, TX [Davis et al. 2021]. The city implemented the ordinance in 2010 and it is still in effect. The ordinance was based on CPTED guidelines and had the following requirements:

- Register each store with the police department.
- Offer training videos in several languages on de-escalation tactics for employees.
- Have police enforce 'no trespassing' laws at any time, whether or not an employee is present.

- Post security signs indicating that alarm systems are in effect.
 - Install a drop safe.
 - Install surveillance cameras.
 - Increase visibility around the cash register and sales area.
- Convenience stores were randomly selected for the study. The study accounted for risk factors such as store location, type (single owner or franchise), and opening hours. Managers from 358 stores completed a survey about compliance with the ordinance. As a more direct measure of existing safety features, a surveyor completed a site evaluation for 324 stores. Of those, 293 convenience stores were in business when the ordinance took effect. Rates of crime for each store were evaluated before (2006–2009) and after (2010–2015) the ordinance went into effect. Crime rates were based on police reports for robbery and aggravated assault.

There was a significant reduction in robberies after the ordinance went into effect, especially for stores that implemented all elements of the ordinance. However, the study could not determine the effectiveness of any single element of the ordinance. Therefore, the authors concluded that a comprehensive approach, using all elements, may be more effective [Davis et al. 2021].

Recommendations to Reduce Workplace Violence in Gas Stations and Convenience Stores

Building managers, employers, and employees of gas stations and convenience stores can implement measures to reduce the risk of robbery and violence in gasoline stations and convenience stores [NIOSH 1996, 2002, 2004, 2006, 2018; CDC 2020; Davis et al. 2021; Chaumont Menéndez et al. 2013; Hendricks et al. 1999; Jones et al. 2015]. A comprehensive approach, implementing as many measures as possible, may be the most effective.

Building managers can incorporate the following elements into their stores:

Doors and windows

- Active, working alarm systems connected to the local police department
- Entrance/exit doors that are easily seen by store workers for monitoring and may also serve as escape routes for workers
- Exit routes that are accessible and unobstructed by inventory (boxes), etc.
- Doors with fully functioning locks, and a policy about when to lock doors

- Unobstructed windows (not blocked by signs or objects) that allow law enforcement to see in from the outside

Inside the store

- Bullet-proof barriers where payments are made, to provide additional protection for employees
- Trespassing affidavits (agreements allowing police departments to order trespassers to leave the property, even in the absence of the store representative)
- Active, recording surveillance cameras with no blind spots
- Curved mirrors to cover a wider area in the reflection
- In-store shelving that is not high enough to be a hiding place for perpetrators
- A safe area for employees to go if they feel they are in danger (e.g., a hidden room that locks from the inside, has a second exit route, and has a phone or silent alarm)

Employers can take the following steps:

- Post signs indicating that employees do not have access to the safe.
- Reduce available cash on the premises. Maintain a drop safe and ensure that employees make deposits frequently. Time-lock safes cannot be opened until specified times.
- Do not allow signage, advertisements, promotions, stickers, or writing on facility windows. These items obstruct the view into the facility for responding law enforcement officers.
- Provide employees with options to minimize contact with customers.
- Ensure that work areas and money/inventory/storage locations are restricted to employees only.
- Ensure emergency exit routes (including exits employees rarely use) are not blocked or obstructed by inventory, pallet jacks, etc. In the event of an active shooter, these exit routes may be used by customers and employees for survival.
- Provide training to employees about the following:
 - Steps to take in the event of a robbery, including not resisting when the situation is robbery only.
 - Steps to take in the event of an active shooter, including locations of safe zones, exit routes not routinely used, and emergency numbers.

Employees can take the following steps:

If you are in a situation that feels unsafe: Remove yourself from the situation, if possible. Call the police for help.

- Know the location of all exits, alarms, emergency numbers, call buttons, and other emergency information.

- Be alert:
 - Evaluate each situation for potential violence when you enter a room or begin to interact with a customer or visitor. Be aware of anyone who shows signs of possible violence.
 - Report any violent or potentially violent situations to your manager and local law enforcement.
 - Report any person who appears to be “casing” the store, loitering for long periods, or stalking you or another employee.
- Watch for signals that may be associated with impending violence:
 - Verbally expressed anger and frustration
 - Body language such as threatening gestures
 - Signs of impairment from drug or alcohol use
 - Brandishing a weapon or firearm
- Maintain behavior that does not escalate anger:
 - Don’t match threats.
 - Don’t shout commands or give orders to a potentially violent person.
 - Do not resist a situation that involves only robbery.
- Avoid any behavior that may be interpreted as aggressive (for example, getting too close to a potentially violent person or speaking loudly).

Suggested Citation

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Resources

- NIOSH [2021] and OSHA web pages on workplace violence include training on risk factors and prevention measures for various occupations.
- **Recommendations for Workplace Violence Prevention Programs in Late Night Retail Establishments** [OSHA 2009] includes checklists for training, security measures, and incident reporting.

- **Wholesale and Retail Trade Sector** (NIOSH)
- **Active Shooter Preparedness** (Department of Homeland Security)

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