Special Report: Security (Burglar) Bars

Authored by: Jennifer Roberson

This is Report 138 of the Major Fires Investigation Project conducted by Varley-Campbell and Associates, Inc./TriData Corporation under contract EMW-97-CO-0506 to the United States Fire Administration, Federal Emergency Management Agency.

Homeland Security

Department of Homeland Security
United States Fire Administration
National Fire Data Center

U.S. Fire Administration

Mission Statement

As an entity of the Department of Homeland Security, the mission of the USFA is to reduce life and economic losses due to fire and related emergencies, through leadership, advocacy, coordination, and support. We serve the Nation independently, in coordination with other Federal agencies, and in partnership with fire protection and emergency service communities. With a commitment to excellence, we provide public education, training, technology, and data initiatives.

Homeland Security

TABLE OF CONTENTS

EXECUTIVE SUMMARY

Burglar bars, also known as security or window bars, can be found on any type of structure – single-family home, apartment building, storefronts. The bars provide a visible sign of security serving as both a deterrent to potential burglars, and a reassurance to those who had the bars installed. However, burglar bars can also be dangerous, preventing residents and other occupants from escaping in the event of a fire and leading to fatalities.

Based on data obtained from the National Fire Incident Reporting System (NFIRS), on average about 25 civilians are injured or die each year in fires where escape is compromised by unauthorized bars or gates. The actual numbers may be larger than that, due to the fact that the presence of burglar bars is not always collected in a way that is recorded by NFIRS (e.g., written in text but not coded). The most recent version of NFIRS, version 5.0, allows for the collection of data concerning burglar bars; however, data from the new version is not yet available.

Most fatalities/injuries involving burglar bars occur in residences, when people become entrapped by the very bars that are supposed to protect them. Children, the elderly, the mobility impaired, and firefighters are especially vulnerable. The bars also can hamper rescue efforts, especially the efforts of those who arrive before public safety personnel.

Due to the fire egress risk posed by burglar bars, most building codes regulate their installation/use. Several states have passed legislation specific to burglar or security bars. Generally, the codes and legislation require that burglar bars have some form of quick-release mechanism, enabling rapid escape *in case of fire*. Furthermore, the National Fire Protection Association (NFPA) Life Safety Code 101 addresses the risk posed by unauthorized bars, stating that a window or other means of escape should be operable from the inside "without the use of tools, keys, or special effort."

The cost of retrofitting or replacing existing burglar bars, along with a lack of awareness, has hindered the compliance to these regulations. The fear of burglary, theft, and/or physical attack presents a greater perceived risk with people than the threat of fire, especially among those who have been previously victimized.

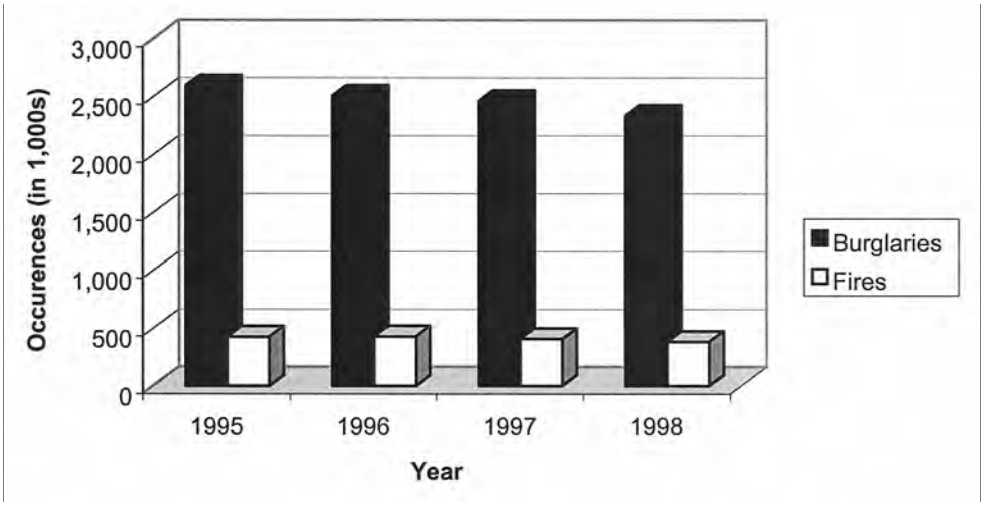
Several fire departments have experienced success in reducing the presence of *unsafe* bars by actively working with the public to provide information about the devices. The public can be educated actively (door-to-door information), passively (websites, posters, etc.), and at points-of-sale. While pre-planning in neighborhoods, firefighters should note structures that have burglar bars on their windows/doors, and make a note of them for use in a response. They may also consider proactively providing safe practices information to the location noted.

While burglar bars may slow rescue they are not impenetrable. Fire departments have found success with a variety of strategies to gain entry, or prepare a route of egress, through burglar bars.

INTRODUCTION

Many people feel they have a greater risk of being robbed than of being trapped in a fire. Reports in the media tend to accentuate this fear, as robberies are generally more well-publicized than fires. According to the Uniform Crime Report compiled by the Federal Bureau of Investigation, over two million people, or 18 percent of the population reporting, were burglarized in 1998. According to information provided by NFIRS, that same year only 381,000 residential fires were reported.

Figure 1. Burglaries vs. Residential Fires



Comparative information for burglaries and fires from 1995-1998 can be found in Figure 1.

Burglar bars are used as a visible reminder of security. In many cases where bars are used, residents have had personal experience as a victim of robbery, while having had little to no experience as the victim of a fire. *The threat of being burgled or having their residence broken into is more real to them than the threat of being trapped in a fire.* Burglar bars provide a quick, obvious, and relatively easy solution. The presence of non-compliant burglar bars-those not consistent with modern code-results in many difficulties. The hazards primarily affect those who live behind them, but can affect both civilian and fire department rescuers once a fire has started.

The installation of the bars leads to the creation of a prison-like condition-the occupants may feel safe, but they have severely limited their avenues of egress. By blocking windows with bars, they are ensuring that alternative escape paths through windows are no longer an option.

In addition to those who have recently installed unsafe burglar bars (not code-compliant), there are homes that have had burglar bars since before any legislation came into effect governing their installation and safety. Most legislation governing the installation/use of burglar bars was enacted after 1993; burglar bars installed prior to that year are mostly likely not complaint with current legislation. Despite the fact that such legislation is often retroactive, many homes are not retrofitted because of the cost involved in making existing installations complaint. It may cost up to $300 per window to either install complaint bars, or to retrofit existing ones. In contrast, the cost of installing unauthorized bars may be no more than $100 per window.

Enforcement of codes relative to burglar bars, while important, often is not a top priority for building officials or fire inspectors, and so property owners are often unaware of non-complaint with such laws. Most homes are not re-inspected once built, unless they undergo major renovation. Immediately after fires involving fatalities, enforcement of burglar bar codes often increases sharply. However, due to other demands on inspector's time (e.g., new construction, public assembly properties), the enforcement of the laws often fades. While most legislation is drafted in the wake of multiple-fatality fires involving bars, public demand for the passing of such legislation often diminishes as the memory of the fire tragedy fades.

The occupant's risk from the unsafe burglar bars is compounded greatly where there is no working smoke alarm. With the early warning provided by a working smoke alarm, people have a chance to extinguish an incipient fire or leave through exits. Anecdotal evidence suggest that when there are multiple fatalities due to burglar bar entrapment, there often is not a working smoke alarm. It should be noted that the model building codes will often require smoke alarms be installed in dwellings where security bars have been installed.

Several firms offer "aesthetically pleasing" burglar bars that have been treated or coated with a substance so that they do not detract from the overall appearance of the house. These aesthetic enhancements are designed to increase the appeal of burglar bars for property owners.

Just as burglar bars keep criminals out, they also keep rescuers out. Neighbors of victims entrapped by bars frequently state that they tried to rescue the people as they called for help, but were denied entry due to the presence of burglar bars. Pry bars, axes even car jacks have been known to be used by neighbors in an attempt to gain entry to assist victims prior to the arrival of fire department units… sometimes with success, often without. Regardless, the bars often significantly delay entry into the structure, and rescue, by neighbors.

The bars also provide a substantial challenge to fire suppression and rescue efforts. Entry by firefighters should be delayed until at least one set of bars has been removed on each level (and, ideally, each side) of the structure, providing an emergency escape route for occupants and responders. Command/safety officers should relay the location of the emergency egress points to interior attack crews and rapid-intervention teams.

Pre-planning is a crucial key to speeding up action on a fire ground. Anytime a unit is "on the air," be it during driving training or an administrative function, personnel should try to pay attention to the buildings with security bars in their first due area. Any notation about burglar bars on a structure should be shared with all firefighting personnel responsible for responding to that structure, including second due and mutual aid companies. For example, information could be noted on dispatch cards and relayed to responding companies.

Having a coordinated plan for the removal of bars on a structure can result in speedier rescue and fire suppression. Notations about which structures are known to have burglar bars should be kept in a central, easily accessible location for ready reference when responding to an incident. Data collected might be stored in a computer-aided dispatch system, a map book, or a neighborhood information book. If possible, firefighting personnel should target the neighborhood surrounding a structure with burglar bars as an area for fire prevention and safety education, and as a location where smoke-alarm checks and installation should be performed.

Burglar bars should be specifically looked for during arrival and size-up on the fireground. Due to the hazards presented by the bars, firefighters need to be cognizant not only of the presence of bars on the fireground, but how the bars are assembled and attached to the building. Observing the characteristics of the bars and their installation will assist in deciding how best to remove them. It is important for responders to be aware of what is contained in some of these architectural touches as part of their pre-planning, so that rescuers are not facing unforeseen challenges when trying to gain entry to the structure on fire. Department training personnel or training officers should consider establishing standard operating procedures and training-related activities targeted at the removal of burglar bars using forcible entry tools.

CASE STUDIES

Despite the best efforts of fire department personnel and legislators, civilian fire fatalities as the result of burglar bars continue to occur. The burglar bars are just one of a series of factors contributing to the fire deaths; nevertheless, they often are the final step in a chain of events that led to preventable deaths. The following are some representative cases, including ones that occurred as this report was being written. Just these eight fires killed 19 people, and came close to killing more. They are all relatively recent, and be used to illustrate the need for enhanced vigilance by building/code officials, tactical consideration, and public education.

Case Study #1: Detroit, MI
Three Killed in Duplex – December 26, 2001

Three children were killed, and another three people were injured, after an early-morning fire broke out in their duplex. Burglar bars on the windows prevented escape, and thwarted any rescue attempts by neighbors.

The deceased, ages 17, 11, and 5 months, were siblings who were all trapped and killed by the fire. The survivors were a 15-year old girl and a 4-year-old girl, and the mother of the children. The mother, trapped on the roof of the duplex, threw her 4-year-old daughter down to rescuers, and then jumped from the roof. The 15-year-old girl was pulled from the fire by a neighbor.

The duplex, which housed two families, was heavily damaged; two neighboring houses were also damaged. At the time of this report, there was no indication of cause, or whether the duplex had working smoke alarms.

Case Study #2: Baton Rouge, LA
Three Children Injured – December 12, 2001

Three siblings were rescued from a house fire by a neighbor who pried burglar bars off the door to their house. The children, ages 6, 4, and 3, were home alone at the time of the fire, and were found unconscious in the rear of the house suffering from severe smoke inhalation.

Neighbors noticed the fire and, after calling 9-1-1, began attempting to rescue the children. One neighbor instructed the children to go to the rear of the house if the fire started to come near them, while another began to tear the burglar bars from the door of the house. By the time the fire department arrived, the bars had been pried off of the door, and the door kicked in. Fire department spokesmen credited the actions of the neighbors with saving the lives of the children. A cause was not given for the fire.

Case Study #3: Houston, TX
Four Killed in Single-Family Home – July 3, 2001

Four people were killed, and another five injured, after an early-morning fire broke out in a single-family house the day before the 4th of July. The home did not have a working smoke alarm, and several doors and windows of the house had been blocked with burglar bars. The bars were secured with a key, and did not have the quick-release mechanism required by City of Houston ordinance.

The deceased, ages 30, 16, 13, and 4, were found in a back bedroom of the house, and died of smoke inhalation. The 30-year old had initially escaped with two of her children, but returned to the house to try to save the other children. It appears that she became overcome trying to get back out of the house. The victims were found near a window, leading investigators to theorize that they were trying to escape that way, however, the window was blocked by burglar bars. The woman's mother escaped with two other children.

Neighbors reported that they had tried to gain entry to the house, but heavy fire through the front door prevented entry via that route. Burglar bars blocked entry through windows. The fire, started by one of the children playing with a fireplace lighter, was quickly extinguished upon the arrival of firefighters.

As a result of the fire, firefighters went door-to-door throughout the neighborhood to check smoke alarms, warn residents of the dangers of burglar bars, and hand out fire safety information. Residents were advised to conduct Exit Drills in the Home, practicing opening burglar bars.

Case Study #4: Houston, TX
Three Killed in Single-Family Home – June 20, 2001

One person was injured and three killed after a fire broke out in their home at 3:00 a.m. A 65-year-old female, a wheelchair-bound 70-year-old male, and a 42-year-old male all died from smoke inhalation, suffered after they were trapped in their home by burglar bars. A 44-year-old female survived, although she too suffered from smoke inhalation. The fire is reported to have spread rapidly through the house, which did not have working smoke alarms.

Neighbors reported hearing the family scream for help, but were unable to gain entry to the house due to heavy fire and burglar bars. One neighbor reportedly tried to pry the bars off, but was unsuccessful. The bars did not comply with city ordinances mandating quick-release bars. City officials canvassed the neighborhood in the wake of the fire, providing information on burglar bars and smoke alarms to neighbors of the victims.

Case Study #5: Tampa, FL
Two Injured in Residential Duplex – April 3, 2001

Two people were rescued by firefighters after fire broke out in their apartment. The front of the duplex was well-involved, with fire blocking the primary entrance to the building. Police officers reported that two people could be heard calling for help, leading firefighters to mount a rescue effort. Firefighters used a sledgehammer to break through burglar bars on the rear window of the apartment and gain entry to the building. The two victims, a 47-year-old female and a 52-year-old male, were removed from the building and transported to the hospital.

The duplex did not have a working smoke alarm. Although both victims recovered, and were released from the hospital three days after the fire, this incident narrowly avoided another tragedy.

Case Study #6: Shreveport, LA
One Injured in Single-Family Home – April 1, 2001

Eight of nine residents escaped a house fire, which started in the front living room of the house. The ninth resident, a nine-year old boy, was trapped in the house by burglar bars. The boy's father was able to pry the bars off of the window; however, by that time the boy succumbed to smoke inhalation, and burns to his face, upper body, and hands.

Firefighters arrived to find all occupants of the house out, but the house fully involved. The house did not have quick-release burglar bars, and lacked a working smoke alarm.

Case Study #7: Lafayette, LA
Five killed in single-family home – December 24, 2000

Five people, a 52-year-old female, a 21-year-old male, a 9-year-old male, a 7-year-old female, and a 4-year-old male were all killed due to a fire caused by the kitchen stove. The stove, which had two burners left on to provide heat for the house, caused the kitchen to catch fire; the fire then spread to the rest of the house. An adult male was rescued, although he suffered severe burns.

Security bars on the house were equipped with latches. The type of latch was unspecified in the investigative report. The family was unable to open them either due to panic or confusion. Neighbors were able to pry the bars off of the front door, resulting in the rescue of the adult male. Additionally, furniture was found to be blocking one of the windows of the house.

Firefighters arrived to find the house well involved, with heavy fire preventing rescuers from making entry into most of the house. There was no report of a working smoke alarm.

Case Study #8: New York City, NY
Two Killed in Apartment – December 23, 2000

Two children died of smoke inhalation, and their parents were critically injured, after the family Christmas tree caught fire. The family lived in an apartment whose window to the fire escape was blocked by a padlocked gate. The gate was non-compliant. The family and several of their neighbors had them installed to prevent burglars from entering from the fire escape.

Despite the fact that several laws had been proposed in New York City to reduce the number of locking window gates, none of the laws had been passed. Enforcement of the laws currently in use in New York is difficult, due to the fact that the tenants are often the ones installing the unauthorized bars.

Case Study #9: Chicago, IL
Three Killed in Single-Family Home – October 20, 1999

A woman and her two grandchildren were killed after the woman ran back into her home to save the children. The fire, reported to have been caused by candles burning in the basement and a faulty boiler, spread rapidly through the house, preventing neighbors from entering through the door. Windows were covered with burglar bars, which neighbors unsuccessfully tired to remove in a rescue effort. The burglar bars lacked quick-release mechanisms and objects in the house may have also blocked egress.

Case Study #10: San Antonio, TX
Two killed in single-family home – September 28, 1998

Two people died and three more were seriously injured after being trapped by burglar bars. Neighbors were unable to rescue a three-year-old male and a twenty-three month old infant due to heavy fire and burglar bars. An adult male, also trapped in the house, survived although he was seriously burned over fifty percent of his body.

A teen-age female and a five-month old female, also trapped by burglar bars, were rescued after a neighbor used a sledgehammer to gain entry through the back door of the house. Both suffered from smoke inhalation, but otherwise were not seriously injured.

The burglar bars did not have quick-release mechanisms; there was no report of a working smoke alarm.

Despite the dangers presented by unsafe burglar bars, they continue to be installed across the country. Fearful residents see them as a saving grace against having possessions stolen, or being assaulted in their home. However, residents often fail to see the *fire-related* danger presented by these bars until it is to late. Even if residents do see the danger, the fear of having their home robbed often outweighs their fear of fire. The next section addresses what can be done to deal with the problems illustrated by the case studies.

PUBLIC EDUCATION

Burglar bars are a common security measure taken by homeowners and tenants across the country. Although building codes and many states and municipalities have strict codes governing the sale and installation of burglar bars, they continue to be a problem because of a lack of education of the public about the units, and the alternatives available.

Despite the best efforts of fire personnel to educate the public through the Internet, pamphlets, and face-to-face discussions, many citizens remain unaware of the hazards associated with unsafe burglar bars and the laws regulating them. Departments should consider developing a citizens awareness program, incorporating not only the fire department but local building code and fire inspection officials, to increase the public's awareness of these dangers.

Public education and enforcement of existing codes and legislation must continue to be the focus of firefighters in their efforts to reduce fire injuries and death as a result of burglar bars. Effective pre-planning, and familiarity with the most effective ways to remove burglar bars to gain entry, can also work to reduce the number of deaths.

SOURCES OF INFORMATION

The United States Fire Administration (USFA) and the National Fire Protection Association (NFPA) both provide public education information and materials on the dangers of burglar bars. The USFA offers a document entitled "Fire Safe and Secure: A Factsheet on Security Bar Safety." The fact sheet lists six tips to help reduce the number of fire injuries and deaths associated with security bars on windows and doors preventing escape. The tips include using quick-release devices on barred windows or doors, retrofitting current bars, and being aware of issues resulting from the presence of security bars during fire escape drills. A copy of the fact sheet is provided in Appendix A and may be ordered by contacting the USFA at http://www.usfa.dhs.gov.

The NFPA's Center for High-Risk Outreach has publish a report on burglar bars, and offers a community information packet on their risks. Information can be obtained by visiting the NFPA's website at http://www.nfpa.org.

Professional organizations representing manufacturers and sellers of burglar bars provide information on the hazards associated with burglar bars on their web pages. For example, the National Burglar and Fire Alarm Association (NBFAA) includes information on the dangers of burglar bars under its statistics section (http://www.alarm.org/Industry/Statistics_Burglar_Bar/burglar_bars.html).

Some local fire departments such as Houston, TX, and Los Angeles, CA, have taken information contained on the above web pages and added it to their own websites. Included as part of their information on fire safety, the pages provide a brief yet comprehensive overview of the primary dangers associated with the presence of unsafe burglar bars. These web pages also provide information to the public on local laws governing the types of burglar bars.

The American Red Cross offers information on the dangers of burglar bars under the disaster services section of its website (http://www.redcross.org/services/disaster/). Bearing in mind that many

people do not have access to the web, fire departments should consider other ways to educate the public. Providing information at an annual open house is one method for doing this, although it relies upon citizen-driven initiative. A more proactive strategy would be to utilize door-to-door information campaigns in conjunction with smoke alarm programs or home fire safety programs in high-risk areas.

Pamphlets continue to be a useful tool in public education and information campaigns, especially when produced in several languages and made readily available to the public. The Metropolitan Tenants Organization in Chicago, IL provides information on burglar bars in a pamphlet provided to renters. The pamphlets inform tenants of their rights and responsibilities regarding security mechanisms, and are available in several languages.

Information may also be available from insurance companies. State Farm Insurance Company also offers pamphlets outlining the risks involved in the use of unsafe burglar bars (Appendix B).

CODES AND LEGISLATION

Awareness of the dangers posed by burglar bars has increased over the past decade, in part due to several multiple-fatality fires. Various building codes address the installation of burglar bars, and several states and municipalities have passed legislation concerning the bars.

CODES

Several model building and fire codes address the dangers posed by the installation of unsafe security bars. Table 1 lists these codes, their edition, and the location of the relevant section.

Table 1. Model building and fire codes

Model Code	Edition	Section
Standard Building Code	1997	1005.5
Standard FirePrevention Code	1997	802.1.6.1
Uniform Building Code	1997	310.4
Uniform Fire Code	1997	1206
BOCA National Building Code	1997	1010.4
BOCA National Fire Prevention Code	1997	F-609.3
International Building Code	2000	1009.4
International Fire Code	2000	1009.4
International Code Council Performance Code for Buildings and Facilities	2001	1901

Unobstructed means of egress are also addressed in NFPA 101, the Life Safety Code. Chapter 24.2, Section 24.2.2.3, Secondary Means of Escape, states, "[the means of escape] shall be an outside window or door operable from the inside without the use of tools, keys, or special effort and shall provide a clear opening of not less than 5.7 ft^2."

LEGISLATION

Several states have recognized the importance of legislation governing where and what types of burglar bars may be used. State building regulations have long referenced the model codes. Many states are concerned enough about the problem to have taken the step of creating a separate code governing burglar or security bars, since the model codes are not mandatory and may not be in effect everywhere in their state. In addition to the state laws, come cities have enacted their own regulations. Based on building codes for cities, these regulations frequently echo the language found in state codes. Examples of state legislation on burglar bars are given below.

Mississippi

In 1993, the State of Mississippi passed House Bill 1678. The bill came about as the result of a fire in Bruce, MS, where seven people were killed due to entrapment by burglar bars. Mississippi Code, title 45, Chapter 11 *Fire Protection Regulations, Fire Protection and Fire Safety in Buildings,* cites the Standard Building Code while addressing the sale of burglar bars. Specifically, § 45-11-71 states, "In the interest of

public safety, any person who engages in the sale of burglar bars to the public shall comply with 1105.7 of the Standard Building Code of the Southern Building Code Congress International, as revised."

Section 45-11-73 provides the State Fire Marshal with the authority to promulgate rules and regulations concerning the sale of burglar bars. However, the section also provides an exception by stating, "These rules and regulations shall apply except in any county or municipality which has adopted the Standard Building Code of the Southern Building Code Congress International, with standards not less stringent than the Mississippi Fire Prevention Code."

Finally, in § 45-11-75, the State provides for a penalty for violation. Upon conviction of a violation of the regulations governing the sale of burglar bars, the violator is to be fined no more than $1,000. However, the section goes on to state, "[I] n the case of continuing violations without reasonable effort on the part of the defendant to correct such violations, each day of violation thereafter shall be a separate offense."

Mississippi's codes, while brief, provides a flexible framework in which to regulate the sale of burglar bars.

California

The current California law was introduced as a direct result of a fatal Oakland house fire in 1995, in which five children died. The resulting law, found in California Health and Safety Code, Section 13113.9 references the California Building Standards Code's requirements for fire safety, but also includes further requirements for those selling or installing burglar bars:

> 13113.9 (c) Burglar bars shall not be sold in California at wholesale or retail unless the burglar bars are either labeled or their packaging contains the warning information specified in the regulations adopted pursuant to subdivision (b).
>
> 13113.9 (d) Any contractor or installer of burglar bars shall provide the owner of the residential dwelling a copy of the warning information required pursuant to subdivision (b) prior to installing burglar bars.

In California Health and Safety Code, Section 13114.1, the State Fire Marshal is given the authority to "[P]repare and distribute for use by local agencies, community groups, and private firms, public education materials about the dangers of unsafe burglar bars." The materials are to be provided in a variety of languages and formats, including "Braille, 18-point type, cassette tape, and computer disk for those who are print impaired." An example of public education material prepared by the State can be found in Appendix C of this document.

Section 13114.2 (a) directs the State Fire Marshal to "adopt regulations and standards to control the quality and installation of burglar bars and safety release mechanisms." Section 13114.2 (b) further states, "[N]o person shall install, market, distribute, offer for sale, or sell burglar bars and safety release mechanisms for emergency escape/rescue windows or doors in this state unless the burglar bars and safety release mechanisms have been approved by a testing laboratory recognized by the State Fire Marshal."

Section 13114.3 of the California Health and Safety Code limits the installation of burglar bars on buildings owned or leased by a public agency (defined as a state agency, department, board or commission; the University of California; and a local agency). Specifically, "[N]o burglar bars shall be installed or maintained on any residential dwelling that is owned or leased by a public agency, unless

the burglar bars meet current state and local requirements, as applicable, for burglar bars and safety release mechanisms."

Finally, § 13114.5 allows, "The governing body of any city or county [to] enact ordinances or laws imposing restrictions greater than those imposed by Sections 13113 and 13114."

Texas

Like California, Texas has a thorough state code governing burglar bars or, as they are called in the Texas code, security bars. Found in Chapter 756 of the Health and Safety Code, Subchapter F clearly delineates the regulations governing the installation of security bars on bedroom windows and doors.

Section 756.082, Security Bars on Residential Dwelling, states,

> A person may not install security bars on a door or window of a bedroom in a residential dwelling unless:
>
> (1) the security bars on at least one door or window in the bedroom have an interior release mechanism; or
>
> (2) at least one window or door from the bedroom to the exterior may be opened for emergency escape or rescue.

Like California, Texas has a labeling requirement for security bars. Per Section 756.083, security bars sold in the state must be labeled, "in accordance with rules adopted by the State Fire Marshal. The required label must state the requirements of Section 756.082." Section 756.083 further states, however, "A person who is not regularly and actively engaged in business as a wholesale or retail dealer may sell or offer to sell security bars in this state provided that proper written notice of the requirements of section 756.082 is provided to the buyer in a form approved by the State Fire Marshal."

Subchapter F of Chapter 756 also addresses the recommended release mechanism for the security bars. Under § 756.084 (a), "The State Fire Marshal or a testing laboratory under conditions and procedures approved by the State Fire Marshal may recommend an interior release mechanism that has been shown to be effective." Section 756.084 (b) adds, "The State Fire Marshal shall adopt rules to implement this section."

❖❖❖

Despite the presence of legislation and building codes, burglar bars still present a challenge to fire-fighters. The next section addresses common tactics for the removal of burglar bars on the fire ground.

TACTICS TO DEAL WITH BARS

Burglar bars are designed to prevent entry, even by forcible means. This limits the tools that can be used to effect quick entry into a structure. Traditional forcible entry tools (flathead axe, Halligan bar) might be used, but they require a significant amount of time and effort to be successful.

The Fourth Edition of Essentials of Firefighting, published by the International Fire Service Training Association (IFSTA), addresses the challenge posed by burglar bars. Chapter 8, 'Forcible Entry,' states "Forcible Entry through burglar bars is a difficult and time-consuming task." The book then suggests three methods for the removal of burglar bars:

- Using a flat-head axe and a Halligan-type bar to shear off the bolt heads of the bar assembly (if the bolt heads are visible)
- Using a circular saw to cut either the bar assembly or its attachments
- Using an oxyacetylene torch to cut the bar assembly

Shearing off the bolt heads securing the bars to a structure can be accomplished using forcible entry tools. By using the blade of the axe as a wedge, and the Halligan bar as the hammer to force the wedge between the bolt head and the wall, the bolts holding the bars to the wall can be removed. While effective, this method can be time consuming. The difficulty lies in how the bars are mounted to the exterior wall of the structure in question.

Another effective method for the removal of the bars is to utilize a circular cut-off saw, outfitted with a carbide-tip or metal-cutting blade rated for fire/rescue work. Firefighters can use the saw to cut through the bars. This process also takes time.

The use of an oxyacetylene torch is faster than the methods presented above, but most first-line firefighting apparatus do not carry the necessary equipment. If a fire department does carry a torch on its apparatus, firefighters need to be familiar with its use in cutting through burglar bars for that approach to be effective.

In extreme circumstances, such as a firefighter entrapment, burglar bars can be removed from a structure using a piece of apparatus (truck) and a chain or cable. However, there are several related safety hazards associated with this tactic-it should only be employed when there is an immediate life safety risk, and not enough time to remove the bars through alternate means. This method poses a danger to the fire department personnel operating on the scene, as the bars are removed in an uncontrolled manner. Safety officers and other personnel operating near the bars should be cognizant of the hazards associated with the force used to remove the bars and the likely recoil; there is a risk of partial structural collapse due to the stress exerted on the building. In addition, this method possesses the likelihood of damaging the structure and/or the apparatus used. Furthermore, there often is not enough room for the apparatus to operate in, or the bars are located on an upper story of a building. **Special care needs to be taken to ensure that appropriate safety precautions are followed when this potentially hazardous method is used.**

CONCLUSION

Burglar bars continue to constitute a deadly problem across the nation, presenting a variety of challenges to building officials, public fire education initiatives, and tactical response. So long as unsafe burglar bars are found on structures, they present a danger to firefighters and occupants alike.

Firefighters can protect themselves by pre-planning their response area, and by practicing efficient methods for removing bars. Firefighters can protect the citizens in their first-due area by working to educate the residents. Passive means, such as websites, can be used to provide a readily accessible information point on legislation, building codes, and dangers. Proactive measures, such as door-to-door tours of the neighborhood, can be used to provide information to those who do not have access to the web. Citizen groups, either existing or newly created, could incorporate fire department, building codes, and fire inspection personnel to educate their members of the dangers of unauthorized burglar bars.

The best weapons against unsafe bars are effective pre-planning, targeted public information, and aggressive code enforcement.

SOURCES

1. *Essentials of Fire Fighting, Four Edition*, International Fire Service Training Association, 1998. Fire Protection Publications, Oklahoma State University
2. "Security Bars Stop Criminals…and Possibly Your Escape from Fire!" State Farm Insurance Company, http://www.statefarm.com, Bloomington, IL.
3. "Houston mother, 3 kids killed in house fire" The Associated Press, http://www.ap.org, July 4, 2001
4. "Four People Perish in House Fire" KPRC Channel 2, http://Click2Houston.com, July 4, 2001
5. "Burglar bars blamed for trapping mom, children in fatal house fire" The Houston Chronicle, http://www.chron.com, July 5, 2001
6. "3 Killed in Houston House Fire" KPRC Channel 2, http://Click2Houston.com, June 20, 2001
7. "Burglar bars prove deadly in house fire" The Associated Press, http://www.ap.org, June 20, 2001
8. "Burglar Bars Trap Child at House Fire" Shreveport Fire Department Press Release, http://www.ci.shreveport.la.us, April 1, 2001
9. "Stove Starts Louisiana Blaze": Acadianow.com, http://www.acadianow.com, December 27, 2001
10. "Fatal Fire Revives Criticism of Padlocked Window Gates: The New York Times, http://www.newyorktimes.com, December 25, 2000
11. "Woman, 2 children she tried to save die in fire" Chicago Sun-Times, http://www.suntimes.com, October 31, 1999
12. "Burglar bars prevent firefighters from reaching two small children": Abilene Reporter-News, http://www.reporternews.com, September 28, 1998
13. National Fire Protection Association Life Safety Code, May 2000 edition, National Fire Protection Agency, http://www.nfpa.org
14. Fire fatality data based on 1996-1998 data from the National Fire Incident Reporting System and the National Fire Protection Association's annual survey, *Fire Loss in the United States*.
15. Burglary data based on 2000 Uniform Crime Report Data, Federal Bureau of Investigation, http://www.fbi.gov/ucr/ucr.htm