School Door Barriers

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Abstract

There have been many shootings at schools with a lot of lives lost. To combat the shootings, trainings and ideas were developed to protect the students and staff. Originally teachers were told to block the doors with objects available in the classroom. Needing to block the doors led to the development of devices to that could be deployed faster than say a filing cabinet or several desks. The use of door barrier devices for schools in the event of an active shooter is a topic that has both advocates and opponents. Those who advocate the use say that door barriers will ultimately save lives because they will act as both a deterrent and as a safety device. Those who oppose the use are concerned about the possible misuse and if they will affect those trying to exit a building in the event of a fire. Those with disabilities are concerned over their ability to operate door barriers in the event of an emergency as well. Much legislation has been proposed and codes put into place on the use and regulation of these devices.
Table of Contents

Introduction 5

Background 5

Figure 1 6

Devices available 7

Figure 2 8

Figure 3 8

Figure 4 8

Figure 5 8

Figure 6 9

Figure 7 9

Alternatives 10

Arguments Against 10

Arguments in favor of 11

Legislation and Code 12

Conclusion 14

Contact information and Additional Resources 15
Introduction

Columbine, Sandy Hook, Virginia Tech and Chardon; all schools that said it can’t happen here! All of these schools had mass shootings of students and teachers, many died or were wounded. It is a scary world that we are living in where mass shootings have become so common place. Could a door barrier device have saved these lives? The experts in public safety are conflicted on whether it would have an effect. This subject has a very large political and legal effect on the fire service as the fire codes that we enforce are very much against the use of anything that blocks a door used for emergency egress. There are also concerns as to the safety of actually using these. Could they be used inappropriately? What about those with disabilities, can they use them in a safe and effective manner? Do they even meet American with Disabilities standards? In response to the shootings law enforcement experts have been doing classes that specifically say to use objects from the classroom to block the door. This has led many people to look for a better way to block these doors with less effort and time. With better ways come questions. So why do we need to block doors to begin with?

Background

The United States has had several mass shootings in the past several years that have led many to look for ways to stop the killings one way or another. The training movement to help reduce the number of lives lost is what is called ALICE training. ALICE training was created by a police officer whose wife is a teacher (ALICE). The officer wanted his wife to have a better plan in the event of an active shooter than the one provided by the school. In the 1990’s the plan was to call or sound an alert, then for teachers to get all the students in a corner of their classroom, turn all the lights off and lock the door (ALICE). For a shooter the students and
teachers were now fish in a barrel. All they had to do was find an unlocked door of an occupied room. The shooter had plenty of time to kill many people between this method and the response times of law enforcement.

The FBI says that the average time a shooter is active or hostile is about 11.5 minutes and the average response of police is 12 to 18 minutes (Bearacade). Keep in mind the reason for the delayed response from law enforcement is has many aspects, someone needs to call 911, they have to be dispatched and many law enforcement agencies are spread thin nationwide. The other concern is that with many aging schools the locks on the doors were not working or had been disabled for many reasons. This is why the idea for door barricades was brought about.

The door barricade devices have led to a lot of discussion by the fire service industry as to whether they should be used. The National Fire Protection Agency did a poll on the NFPA exchange to see what the thoughts and opinions of their users where. Below is a graph of the results, there were 240 votes cast as of the day it the data was gathered for this report (Roman).

![Graph showing opinions on door barricades](image)

Figure 1 (Roman).
The results of the poll were mixed. Being ok to use under certain circumstances has gathered the most votes with 99 people in support of it (Roman). The next highest votes received are that they are a fire danger and should be banned (Roman). The biggest complaint by code officials is that the devices violate the common code rule that an emergency exit door must be operational in one motion and without any special knowledge. This can be found in most codes including the Ohio Fire Code.

**Devices available**

There are several devices on the market however to date none of them seem to meet the standard set in many fire codes. One of the devices was developed by a firefighter and SWAT MEDIC named Troy Lowe in Ohio is called the Barracuda Intruder Defense System. This system has three different devices that you can use. The first is a device (figure 2) that is designed for outward swinging doors that hooks over the door handle and uses the frame as a support. During an interview with inventor Troy Lowe he said that the idea for this device came from making something that will be stronger and safer than someone trying to simply stand and hold the door (personal communication, September 27, 2016). The second device (figure 4 and 5) is for inward swinging doors and uses the frame of the door as well as bars to hold the door in place. When interviewing inventor Troy Lowe he said that the idea for this device came from hearing a story about how during the Virginia Tech shooting, a student laid down with his feet against the inward swinging door to block it (personal communication, September 27, 2016). Troy said that he pictured a way to make the feet flat so that they would wrap around the frame of the door and help to hold it shut (T. Lowe, personal communication, September 27, 2106). The last device (figure 3) goes on the auto closers on doors and secures them by not allowing the door to open as it is help in place. The idea for this was due to the fact that most women do not
tend to wear belts and since teaching is a female dominated profession Troy wanted a way for them to be able to secure the self-closer if that was an option (T. Lowe, personal communication, September 27, 2016).

On the Barracuda website it says that their device is not permanent, but is less expensive than a lockset, and much more secure than smaller more inexpensive devices (Bilco). It could be argued that while those devices are less expensive they do require some installation that can have additional cost. The down side to the barracuda device, they do not have any way of easily over riding them for fire, police or in the event of miss-use. Inventor Troy Lowe said that while they have no easy override, any police officer, or firefighter with forcible entry skills will be able to defeat the system and make access if needed (personal communication, September 27, 2016).
Another device that is on the market is the Night Watch (figure 6). Night lock says that they have a special tool that would allow the school, police, or fire to unlock the device if needed (Taylor Brothers Door Lock). A concern with these is that it could be possible for someone with something as simple as a door hanger these can be deactivated which is an advantage for the attacker. They claim that many State Fire Marshalls approve the use of their device (Taylor Brothers Door Lock). A concern with this device would be that it requires a modification to the door that is fire rated prior to its sale. This modification could change that fire rating and void any and all warranties.

A last barricade device to be discussed is called the Bearacade (figure 7). This device says that designed to prevent the door from opening either direction and has a marking that allows law enforcement to know that the device has been deployed (Bearacade). It says that it does not change the door or frame thus not violating code in that way, it isn’t a trip hazard, and requires no special training or strength to deploy or deactivate (Bearacade). One of the Bearacade models does require the user of an outward swinging door to open the door slightly to activate the device. Night-Lock and the Bearacade both present what could be two major common design issues:
1. Fine motor skills are not present for most people in an emergency and now they must put a pin in a 3/8” or smaller hole

2. Some of these attacks are longer term planned like Columbine and the shooter could break a pencil off in the holes making them inoperable.

Alternatives

ALICE training has several suggestions as to ways to help secure doors if there are no barrier devices available. One method is to simply stack items against the inward swinging doors so that they are if not impossible to open they are at least very difficult (ALICE). The belief is that this will discourage the shooter and they will move on. In the training they say to actually set up and stage your classroom so that items that are large and could be used are close to or beside the door ready to go (ALICE). Another method used with outward swinging doors that have automatic closers is to use rope, a belt or something similar to secure the closer in a way that it won’t allow the door to open (ALICE). The concern with all of these is the same as with most devices, there is no easy way for fire and EMS to enter. There are some who are so against door securing devices or methods that they would rather people run and try and get away. There are many people that argue against these door barriers.

Arguments against

The most common argument against classroom door barricade devices is the potential ability of fire or police to make access to the room in the event that they would need to. Some argue that they are complicated and difficult to install in a high stress situation and could lead to dangerous consequences, including allowing the attacker to use it to barricade themselves in a room (Walsh-Huggins). Ohio building codes board has been critical of the devices saying that
they are “Unlisted Unlabeled, and untested” (Welsh-Higgins). These devices are against the standards set in the Ohio building code due to the fact that require more than one simple mechanism to operate. Those against door barriers go on to say that ensuring that doors lock from the inside and require a key from the outside is a better option as the Sandy Hook commission found that no shooter has ever accessed a locked classroom (Welsh-Higgins).

Groups that represent those with disabilities have concerns as well.

Disability groups in Ohio have said that the door barricade devices that are allowed under a Ohio law are a violation of federal law that require equal access (Walsh-Higgins). They cite “the Americans with Disabilities Act which requires locks to be usable by people with disabilities” but have no exceptions for devices that have functions such as these are designed for (Walsh-Higgins). The concern is that some school employees won’t be able to operate the devices due to a disability physical or otherwise, which would be a violation of their rights and thus discrimination against them (Welsh-Huggins). Not being able to operate these could also have an impact on their safety as well as the safety of the students. While there are arguments against the use of door barricades there are many for the use.

**Arguments in favor of**

The proponents for door barriers are quoted as saying “we can’t make any sense of a ruling prohibiting Southwest Licking Schools from using a new classroom door barrier system during safety emergencies such as active shooters” (Advocate Editorial Board). The Advocate speaks of a decision by the Ohio Board of Building Appeals in 2014 that maintained the devices violate state building and fire codes; after a parental group purchased South West Licking Schools several of the devices so that each classroom had a device, and the school asked for
clarification of the use of the devices. The advocate says that the decision of the building board makes a very limited point but ignores the reason for the solution that these door barriers present. They sight that during normal business these devices would be secured in the room and only deployed in the event of an emergency that would require them such as an active shooter (Advocate Editorial Board).

Another argument that is that modern schools are also required by code to be protected by sprinkler systems and this would provide the extended time needed for students to exit in the event of a fire (Advocate Editorial Board). They also cite the fact that if desks and different items were used as is the recommendation by ALICE training this would take longer than to remove in the event of a fire (Advocate Editorial Board). The advocate also cites that the State of Ohio Attorney General, the FBI and Homeland Security all tell schools to barricade doors in the event of an active shooter for their safety. The Advocate called upon State legislative lawmakers to work to develop a law that would allow the uses of these devices. The inventor of the barracuda door barrier device has said that his device has been tested by a 5 year old and that child could effectively use the devices and remove it safely and effectively (T. Lowe, personal communication, September 27, 2016). Inventor Troy Lowe also said from his observations that children are normally quicker studies on the use and effective placement of the door barricade devices than their teachers (T. Lowe, personal communication, September 27, 2016). While the idea to use them is great are schools allowed? Legislatures are working on allowing it.

Legislation and code

The International Code Council is a major authority in the code industry whether it is the fire code, building code or even electrical code alike. Ohio uses their codes as a basis to form its
own as do many other states. They submitted for change to their codes that when doors in existing buildings, have alterations made to the building, that the doors would have door locks that lock from the inside and require no special knowledge to unlock (Ruth). They are also proposing that no changes can be made to panic hardware that is already in place so that it functions properly (Ruth).

In 2015 several representatives and senators for the Ohio state legislature placed an amendment on the state budget bill to legalize the use of door barricades. The law makers said that sadly in our world today no place is safe from attacks (Roegner). They presented the legislation so that schools could take the necessary steps to protect students in the event of an attack (Roegner). They did include rules for the use of the barricades that passed into law. These are as follows:

- “Prevent both ingress and egress through a door for a finite period of time in an emergency
- Would only be permissible with minimal number of steps to remove after it is engaged
- May require that the device be visible from the exterior of the door
- Shall not be permanently mounted to the door
- Shall require training and that record be kept verifying training
- Shall require administrative authority to notify the police and fire chiefs, or equivalents, prior to the use of such devices in a building.” (Roegner)

Once this legislation passed and the time allotted had passed it was permitted to become law, forcing the Ohio Building Board to create a set of rules to serve as the guideline by which schools will follow until the next editions of the Building and Fire codes are released to reflect
these changes. On April 8, 2016 the Ohio Board of Building Standards approved the use of temporary door locking devices stating that rules governing the use and deployment would later follow (Bearacade). Inventor Troy Lowe said that overcoming laws and codes were his greatest difficulty with the invention process (personal communication, September 27, 2016).

**Conclusion**

Door barrier devices have proved to be a topic of much discussion and debate. It placed the fire service at odds with the community at times due to the public opinion that they will provide safety for the students, while the fire service had to enforce the fire code that prohibited the use of them. Those that feel that they should not be used made many valid points as to why they should not be used but did not offer any alternatives that would be as safe or effective. The recommendation of the International Code Council is an alternative however the cost of panic hardware exceeds that of the devices on the market may be difficult for some school districts to acquire funds for the purchase.

These devices at a minimum provide a sense of security to the users in the event that something would occur. A shooter would have to want to access a room with a purpose to make fighting with the door barricades worth the fight. All of these devices have both positive and negative aspects. Being able to disable it from outside the room is a nice feature but being able to disengage so easy is a concern. The device being sturdy and hard to disable is a safe aspect however have to force a door is not a positive aspect financially. For now these devices offer a temporary solution until something better comes along. Let’s hope for the sake of the safety of our future that this device comes sooner than later!
**Contact information and Additional Resources:**

**Contact information for Inventor Troy Lowe**

Troy Lowe  
Firefighter/Paramedic/SWAT Medic  
740-252-2956  
troy@silverbacksafety.com  
http://www.silverbacksafety.com/

**Ohio State Fire Marshal’s Office and Ohio Board of Building Standards**

The Ohio State Fire Marshal’s Office has said that while the Ohio Fire Code has not been updated to reflect the rules set forth by the Ohio Board of Building Standards, the law passed by the Ohio legislature prohibits those provisions from being enforced (K, Francis, personal communication, November 2, 2016). The Board of Building Standards has issued Memo 935 on the use of Temporary Door Locking Devices. Here is a link to a digital version of the memo, [http://doorbearacade.com/wp-content/uploads/2016/05/State-of-Ohio-BBS-Memo-935-Temporary-Door-Locking-Devices.pdf](http://doorbearacade.com/wp-content/uploads/2016/05/State-of-Ohio-BBS-Memo-935-Temporary-Door-Locking-Devices.pdf). For further guidance you can contact the Ohio Board of Building Standards or the Ohio Fire Marshal’s Office Code Enforcement Bureau via the information provided below.

**Ohio Board of Building Standards:**  
6606 Tussing Road  
Reynoldsburg, Ohio 43068  
614-644-2613  

**Ohio Fire Marshal’s Office:**  
8895 East Main Street  
Reynoldsburg, Ohio 43068  
888-276-0303  
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http://www.bilco.com/barracuda-intruder-defense-system.html


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