Protecting Soft Targets: A Case Study and Evaluation of High School Security

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Abstract

Civilian targets present a range of challenges for security policy. By their nature, many civilian targets must be to some extent open to public access, and cannot impose onerous security requirements on employees or clients of their services. We examine one class of soft target — public high schools — through a case study of the Chula Vista High School in San Diego, California. We consider vulnerabilities, adversaries, countermeasures, and costs, and give policy recommendations.

1 Introduction

Civilian targets present a range of challenges for security policy, whether defending against terrorists, criminals, or other potential attackers. By their nature, many civilian targets must be to some extent open to public access, and cannot impose onerous security requirements on employees or clients of their services. In some cases — especially for public sector institutions, i.e. government buildings or public universities — civil liberties and other legal constraints may limit the measures that may be imposed by site administrators.

Nevertheless, the vast majority of people conduct the vast majority of their lives inside soft targets, and the vast majority of society’s human and economic capital is invested in soft targets. Therefore, society must develop a coherent set of policies for defending these targets from attack.

In this paper, we analyze one particular aspect of the “soft targets” problem: that of defending educational institutions from violent attack. We examine a single public secondary school as a case study, and use this example to draw (carefully qualified) broader conclusions for securing other educational institutions, and for defending soft targets more generally.

For our case study, we will examine Chula Vista High School, located in San Diego, California. We
choose this institution for several reasons. First, a public school presents, in some sense, the “hardest case” for security problems. By design, in order to fulfill their mission, schools are among the most open-access institutions in society; and as branches of government, are also highly constrained in how they may restrict the liberties of employees, students, or other people present on campus. Second, the “soft” value of the high school is quite large; the public does not tolerate any loss of life well, and everyone has or will have gone through high school at some point in their lives – the target is quite familiar. Finally, Chula Vista in particular presents three interesting environmental factors: it is near major military installations; it is near a major airport and seaport; and it is near the U.S./Mexico border.

The rest of this paper is organized as follows. In Section 2, we examine in more detail the resources and vulnerabilities of CVHS, relative to possible terrorist attacks. In Section 3, we profile the likely motivations and methods of adversaries. In Section 4, we examine the existing state of defensive measures, and propose possible modifications or additions to these measures. In Section 5, we discuss the broader social, legal, and economic contexts and costs of the proposed defensive measures. Finally, we summarize our conclusions in Section 6.

2 School Characteristics and Vulnerabilities [Huang]

As with all other possible civilian targets that are categorized as being “soft”, the main vulnerability of a school is that there are no military defenses or personnel on site to defend against possible attacks. Since the amount of access differs between different types of schools (e.g. universities versus K-12 grade schools, public versus private) we decided to focus our analysis towards public high schools, performing a case study on Chula Vista High School, part of the Sweetwater Union High School District in San Diego County. The decision to evaluate the current policies dealing with an attack on an American public high school is due to relevant historical attacks (both domestic and international) and the public’s natural sympathy towards attacks towards children.

Chula Vista High School is located in the city of Chula Vista, situated south of the City of San Diego in a community that stretches from the Pacific Ocean to the foothills and six miles to the international border. Chula Vista High School’s 2,500 students are composed of Hispanic (68%), White (13%), African American (6%), Filipino (4%), Asian (1%), Pacific Islander (1%) and American Indian (1%) 9th to 12th grade students. It is also served by a certificated staff of 110 teachers, 7 counselors, 5 administrators, and a classified staff of 31 employees [9]. The school is actually built on an old naval air station, Brown Field. There are 9 gates
surrounding the outside perimeter of the school which is surrounded by metal bar fence in the academic courtyard and a chain linked fence around the sports fields (see Appendix A). There are no metal detectors or other security check points of any kind one would go through to get into the school during normal school hours (5 a.m. to 7 p.m. although certain buildings remain open later for sporting events, dances, and other special school events.) The campus contains a variety of specialized labs including an auto shop, a number of computer labs, as well as science classrooms. Some of the science classrooms include natural gas sources for experiments that could be used in an attack on the school. The school has two main parking areas, one in front of the main administrative office and one on the side of the school between the academic courtyard and sports fields. All cars parked in the lot are required to display Chula Vista High School parking permits but no school personnel is assigned to check the cars regularly. School buses provided by the Sweetwater Union High School District all load and unload in the front parking area, making this a high population density area before and after school.

The Chula Vista Police Department is responsible for responding to and settling any disturbance relating to the school. In case of a fire or other school evacuating situations, the Chula Vista Fire Department is notified and responds for assistance. Once a semester the school participates in a fire drill where teachers lead students to designated evacuation areas [27]. They must follow evacuation guidelines described in the Emergency Procedures document (see Appendix B) as well as fill out an emergency absence report form (see Appendix C). The CVFD also arrive and walk around the school campus, staying familiar with the school’s layout. The CVPD and CVFD are also responsible for after school activities, such as sporting events and school dances. These school sponsored events also gather a large number of students and faculty in a relatively small area, making it a prime target for attack. After school events also come in the form of student run, teacher advised clubs. Although most of these clubs gather to discuss academic and sporting interests, there are a few that relate to religion and cultural background which might create a reason for attack. The school has a closed campus policy, meaning once students are on campus they are not allowed to leave without a parent or guardian escort. This also means any non student personnel must check in with the front office and receive a visitor’s badge before proceeding on to school grounds. The students and teachers of the school do not wear any visible badges or uniforms but do carry school identification cards. In an effort to create a safe and secure environment, a security background check is performed on all new faculty and staff. This check verifies past credit history, criminal records, education verification, as well as residential addresses.

Public high schools in America have many characteristics making it susceptible to an attack. When
looking at Chula Vista High School, the first thing one notices is how open the campus is. Any intruder
 can easily walk on to campus and into any of the classrooms or administrative buildings. This is a major
 vulnerability to an attack on the school. The National School Safety and Security Services recommend
 “providing special attention to perimeter security and access control issues.” [29] Having a clearly defined
 perimeter and a staff that is trained to identify and monitor suspicious individuals would be a clear first
 step. Also, the classrooms are all closely spaced together creating a dense population target ideal for a
 high casualty attack. The school, as with almost all other public schools in the US, is also without any
 armed security guards. There are two staff members who are responsible for detecting intruders and act as
 peacekeepers on campus. However, their role is to deal with possible violence between students, and are not
 trained nor equipped for handling a situation like the ones that occurred at Columbine or Beslan, Russia.
 A teacher’s responsibility only extends to shutting and locking the classroom door, blocking any windows
 or glass doors and placing a green or red placard under the door to notify whether there is an intruder or
 not in the room. The only communication to these teachers is through a “crises email Broadcast” account
 where messages and updates are posted.

Another vulnerability the school faces is its close geographic location to the border of Mexico. Being
 only a few miles north of the US-Mexican border brings up issues of possible terrorist attacks by possibly
 smuggling chemical or biological weapons across the border. If thousands of illegal immigrants cross into
 the United States every year undetected, can we stop terrorist from doing the same with said weapons? The
 existence of a number of US military bases (the Marine Base at Miramar and Naval base at Camp Pendleton)
 just a few miles up the coastline also pose an interesting threat. An example of this vulnerability happened
 in 1995 when Shawn Nelson, an army veteran and unemployed plumber, stolen a tank and drove it through
 the residential streets of Claremont, California, a suburb of San Diego similar to Chula Vista [11].

Along with the structural vulnerabilities to a public high school such as Chula Vista are training defici-
 encies. The entirety of training that Richard Mutka, a 9th grade Social Science teacher at CVHS, received
 regarding what to do in case of an attack on school grounds was a one page document. The topic of a
 terrorist attack on the school such as the one that occurred in Beslan, Russia where over 350 people were
 killed (including 156 children) [4], was never mentioned nor are there any plans in the future for training
 to detect and defend against such an attack. This “Ostrich-Syndrome” approach to the problem of not
 addressing the issues at hand will leave our schools unprepared for possible repeats of history.
3 Adversaries [Liebling]

Knowing the enemy is a cardinal rule of battle; unfortunately, perpetrators of school attacks fit a set of profiles as diverse as the populations of the schools themselves. Rather than attempt a specific socioeconomic profile, we can categorize attackers by their origin and aims. They can be domestic or foreign in origin; for our purposes we consider a citizen of the state allied with a foreign organization to be a foreign perpetrator. Domestic attackers can further be grouped into students and non-students, i.e. domestic paramilitary or extremist persons and organizations.

Although as a student, the chances of being killed in a school shooting are only one in six million, fear has risen as the United States has seen a rash of domestic incidents perpetrated by students. According to the Secret Service, these attackers have a high variance in their demographics; both Advanced Placement students and those on the brink of failure, rich and poor, black and white, functional and dysfunctional families. However, their primary motivation in over half of cases cited by the Secret Service appears to be revenge and retaliation [39], rather than the traditional terrorist aim of bringing attention to a plight or furthering a cause. Two-thirds of perpetrators in cases cited in the same survey [39] were victims of bullying, and many were suicidal.

However, administrators should take care not to assume that these are the only causes. The official FBI psychological profile of Harris and Klebold, perpetrators of the Columbine attack, concludes that they were, quite simply, psychopaths[12]. Similarly, (then) 17-year-old Brenda Spencer, who opened fire at Cleveland Elementary School in San Diego in 1979, stated that she “just did it for fun” [33]. In both cases, no group of students in particular was targeted. The indiscriminate nature of firing and IEDs used in the Columbine attacks and random nature of shootings in the Spencer case, as well as many others, support the lack of specific targets. Notably, Harris and Klebold intended to produce a violent event much more significant [17] than any other “school shooting,” and this aligns then with terrorism more so than a wayward individual.

Much unlike the discreet terrorist operatives of domestic paramilitary and foreign organizations, in many cases the student attackers clearly state their intentions to some of their peers. In cases such as Erfut, Germany [10] in 2002 and Columbine [17] in 1999, attackers disclosed their plans on the Internet. These prior claims of intent are often lost in general disbelief or the noise of the daily routine. To filter this noise, school officials must learn to differentiate a mere threat of violence from the ability and commitment to perform it.

Students have a unique advantage in that they have insider knowledge the physical and psychological
infrastructures of the target. Attack planning can skip the observation and monitoring phase and proceed directly into threat modeling and operations. This advantage is not limited to students; among other cases, in 2001, a former janitor attacked students with a knife in Osaka, Japan [1], and a doorman at a kindergarten stabbed fifteen children and three teachers in Beijing, China, in 2004 [21]. Besides knowledge of the physical buildings, insiders are less likely to be considered suspect by other members of the school community. To combat this, school districts and schools increasingly use background checks to qualify candidates prior to hiring them. Such checks may have prevented both stabbings presented here; each attacker had a history of crime and/or mental illness. It will not prevent employees of contractors, who often have open access to school infrastructure, from attempting attacks unless the contractor also enforces background checks, although some schools have also added this requirement as well. In general, the domestic adult school attacker, unaffiliated with a terrorist group, is a portrait of mental instability, rather than a revenge seeker.

Since terrorist operatives not affiliated with the school or community will typically not have full open access to school facilities, administrators should be aware of surveillance activities, such as individuals seeking site plans for schools, bus routes, attendance lists; observing security and/or fire drills, using fake identities such as flower delivery persons, newspaper vendors, or street sweepers; discreetly using cameras, video cameras or taking notes around the premises, and questioning faculty and ancillary staff [18].

While schools are a tempting target to traditional terrorist organizations like al Qaeda and Chechen insurgents, in the United States, there have yet to be any incidents. Worldwide, however, foreign schools and students have been targets of terrorists comprising the vast majority [14] of school terrorist attacks over the last century. Most of these occurred in or near Israel resulting from the Arab-Israeli conflict; however, the most recent and arguably worst atrocity occurred in Beslan, Chechnya in 2004. For foreign terror organizations, the school is simply another instrument in a wider insurgency, and hence the attackers themselves tend to fit the general profile of a foreign terrorist.

Operatives are typically young male fanatics easily motivated to perform their crimes [20]. Nationalistic tendencies or socioeconomic disadvantages may compound characteristically antisocial behavior. In attacking schools they are almost always members of larger organizations, historically including groups such as the Palestinian Liberation Organization (PLO), Chechen rebels, or the Maoist insurgency (in Nepal). Interestingly, multinational organizations that would target the United States, such as al-Qaeda, have not yet attacked a school; in 2004, a public emergency preparedness manual for San Diego Public Schools was found on a captive in Iraq but both the federal government and district administration claimed there was no “direct threat” [8].
Domestic paramilitary or extremist organizations may also target schools, although this seems less likely than foreign terrorist groups or individuals attackers. Any group with an agenda can target schools that teach curricula deemed to be offensive or contrary to the group’s beliefs. For example, neo-fascist hate groups may target Jewish schools, as in Los Angeles (1999) [37] or religious groups may conflict over schools, as in Belfast (2001) [40]. Local profiling of terrorist or extremist organizations will likely be beneficial; for Chula Vista, white supremacist organizations targeting diversity may pose a threat. Administrators may wish to take care in choosing their mock attackers when considering possible attackers and creating emergency drills; in Muskegon, Michigan in 2004, the county held an emergency drill to deal with attacks from “Wackos Against Schools and Education,” a fictional group of home schooling advocates; actual home schoolers and conservatives were not amused [3].

Once attackers have chosen a target, they can arm themselves in a variety of ways. Foreign attackers usually receive weapons and munitions financed by the umbrella organization rather than self-financing, whereas domestic attackers assemble their weapon cache using their own individual or group finances or through straw purchases. Attackers acting individually, especially in the United States, may already own a significant quantity of handguns and rifles. Student shooters can leverage their relatives’ access to guns, as in Jonesboro, Arkansas (1998) [13] and Carmen de Patagones, Argentina (2004) [2].

School administrators should not assume that the damage caused by one group or individual would be more or less than others; the Chechen incident in Beslan arrived in a Gaz-66 armored vehicle [24] that is not easy to acquire; Columbine attackers Harris and Klebold arrived in cars. The Chechen attackers set mines and trip wires [32] while Harris and Klebold used improvised propane bombs [17]. Although the Chechens were better armed, it is unclear if their intention was to actually cause mass casualties, as was the case in Columbine. The key differentiator in motivation is hostage taking versus life-taking; however, in many hostage situations including Beslan and Ma’alot, Israel (1974) [25] the hostage situation creates the loss of life during rescue attempts.

Although homeland security spending levels, fear, uncertainty, and doubt, have spread after the September 11, 2001, attacks, school attacks related to international terrorism have not increased. Rather, the largest danger to American schools, teachers, and staff remains the individual lone gunman or small group. They can acquire weapons fairly easily, have extensive domain knowledge of the target, and are not easily detected. Their backgrounds are highly variable, but most show significant signs of antisocial behavior and/or depression. On the other hand, foreign terrorist organizations still pose a threat and administrators should remain vigilant against surveillance and infiltration opportunities.
4 Countermeasures [Crockett]

4.1 Deterrence and prevention of a planned attack

Soft targets by their very definition are difficult to defend against attack. The very best defense may in fact be a good offense as in the use of Intelligence assets to discover terrorist before they strike. Intelligence Agencies (with enhanced authority granted from the Patriot Act) such as the CIA, NSA, and FBI can zero in on potential terrorist by monitoring communications, tracking financial transactions and information gained from human sources. When suspected terrorist members have been identified, covert surveillance can watch their activities and possible infiltrate the organization. “Sting” operations can be used such as those that lure terror suspects into a situation where they unknowingly arrange to purchase illegal weapons from undercover agents.

Information on the US Department of Justice website [36] cites the success of the Act in disrupting over 150 domestic and foreign terrorist threats and cells, the killing or capturing of nearly 2/3 of Al-Qaida’s known senior leadership. More then 3,000 operatives have been incapacitated world wide. Five terrorist cells in Portland, Buffalo, Detroit, Seattle, and North Virginia have been broken up. 401 individuals in the US have been criminally charged. 212 individuals in the US have been convicted or have plead guilty. 515 Individuals linked to the 9-11 Investigation have been removed from the US. A 30% increase in sources of human intelligence related to domestic terror. A 63% increase in sources of human intelligence related to foreign intelligence. Increase in the quality of both foreign and domestic intelligence sources, and the freezing of 136 Million Dollars in assets worldwide.

4.2 Response to an actual attack

If a plan to attack a soft target avoids these initial defenses then the front shifts to the target itself. Chula Vista High School (CVHS) with its minimal security procedures is a good example of how a public school presents an inviting “Soft Target” to terrorist. The primary responsibility of the CVHS security staff is the safety of the students. Moving the students away from the threat or into a position of safety is of the greatest importance if under attack. There are two main ways to accomplish this, evacuation procedures and lockdowns. Evacuation would be enacted in the case of a bomb threat and a lockdown in the event of an “Active Shooter” on campus where students and staff barricade themselves inside class rooms. This is intended to reduce the number of “targets” outside and makes the attacker stand out to law enforcement since in theory, only the attacker will be outside the buildings.
If the attacker enters an occupied classroom the teacher would be better prepared if trained in hostage situation psychology dos and don’ts and critical decision making under stress conditions. Students and teachers may be isolated in their classrooms for extended periods of time in the event of a lock down. A wise classroom preparation would be having at least a minimum supply of water, food rations, first aid supplies, flash lights, radio and batteries. These items should be placed in back packs or fanny packs (in case the class need to move to another location for safety reasons) and stored inside an emergency locker in each classroom.

In the event of a major incident at CVHS local authorities could receive mutual aide support in a matter of minutes from the large nearby police and fire agencies of both San Diego City and County. State and Federal Agencies would likely join the effort in the event of a protracted situation. Realistic multi agency emergency drills involving a simulated attack at CVHS, practicing the procedures that would be used during a real incident should be performed to obtain proficiency, identify problems areas, and eliminate costly mistakes in a forgiving setting.

The East Side Unified School District in San Jose, Ca held a armed intruder drill at Overfelt High School in 2000 involving multiple law enforcement agencies, teachers, students, parents, the media, and support services. According to Carla Holtzclaw (from the Eastside Unified district’s Office of Safety in Schools) when schools have a “Code Red” or lockdown because of an armed intruder on campus, teachers are typically told to lock their doors and wait to be rescued. “This creates a victim mentality. We wanted teachers to develop a survivor mentality. It’s hard, because teachers are trained to be teachers, not SWAT officers”. [31]

Thailand and Israel have armed teachers with firearms and there have been successes in these countries. [19] There are however, serious drawbacks to such a plan in US society which could increase the danger to all. Teachers do not automatically come equipped with knowledge necessary to safely and effectively handle firearms. A teacher with back turned while writing on the chalkboard creates a dangerous opportunity for a student to take the teachers gun away and endanger everyone present. Armed teachers without tactical experience may have tragic results when confronting the “normal” schoolyard incidents including accidental discharges and incorrect decisions to use deadly force. An armed disgruntled teacher may become the attacker. Teachers responding to a threat, dressed in civilian clothes and holding a gun might accidentally get shot by confused law enforcement personal. Likewise, an officer might hesitate in a critical reaction if unsure that an armed subject is a teacher or an attacker. Getting everyone out of the way of the law enforcement search for the attacker is a key ingredient of the lockdown concept.
In the event of a armed attack or suicide bomber there is little that the two CVHS unarmed security staff members could do. The unarmed security staff would likely have the greatest impact on prevention thru awareness, and if attacked in leading evacuation and lockdown procedures. There have been cases in the US where a heroic unarmed person at the scene of an “Active Shooter” incident has seized an opportunistic moment to physically restrain and disarm a shooter as in the Hudson Valley Mall shooting in 2005 but this is obviously very difficult to do. [7]

Even when schools have armed police or armed security on site at the time of an attack the results have not always been successful. At Columbine and Beslan the armed defenders of the schools were at an extreme tactical disadvantage. They were overwhelmed by the planning, preparation, superior firepower, numerical superiority(Beslan), of the attackers and the element of surprise. At Columbine the deputy assigned as school security was armed with a hand gun and engaged Harris who was armed with a rifle [34]. At Beslan the armed security force of about a half dozen faced 32 heavily armed attackers. 5 security members were killed in the initial confrontation as compared to 1 attacker killed. [6] Once again, armed security and police can achieve the best results with their ability to safely and effectively detain and investigate suspicious (possible armed) subjects before they launch an attack.

Police performing campus security do have several advantages over security staff. Police have broader legal authority in stopping and questioning suspicious people. Police have the ability to check vehicle license plates and persons against criminal data bases for safety alerts, arrest warrants, stay away orders, sexual registrant status, probation and parole status, gang affiliation, and prior criminal history. Because of their training and equipment, police are in better position to deal with potentially armed and dangerous subjects. During an emergency, on site police can communicate directly via police radios with the emergency dispatcher and other officers saving critical time as opposed to having to work thru the 911 system which is likely to be jammed with many callers trying to report the same emergency. For these reasons campus police are likely to be the first target of an organized school attack. This misfortune may still possible save lives even in defeat, by “buying time” for emergency procedures to be activated.

In 1997 outgunned LAPD officers borrowed high powered rifles from a locale gun store to confront heavily armed bank robbers. Police Administrators across the country slowly started to change their attitude about arming regular patrol officers with assault weapons. The thinking went from its too militaristic and would represent a scary image to the public to one of tactical necessity. [22] By 1999 many urban areas had equipped patrol cars with assault rifles but in peaceful Columbine the necessity for such changes had not been foreseen. The 1999 Columbine massacre brought home the fact that large scale violence can happen anywhere and
forced the re-evaluation of Law Enforcement response procedures to “Active Shooter” events. This resulted in the wide spread use of the LAPD Immediate Tactical Deployment Model. [23]

Establishing a containment perimeter while a SWAT team is assembled to conduct a slow methodical building to building search is an obsolete procedure. When lives our being lost, the “contain and wait for SWAT philosophy has been deemed to slow in ending the active threat to the students. The strategy now is to have the first responding officers immediately form tactical teams instead of a containment perimeter. The officers then directly respond to the part of the campus they hear the shots being fired.

4.3 Additional security measures

CVHS does have some procedures in place such as the requirement of all vehicles parked on school property to display placards. All students are required to posses ID cards and all visitors must get passes from the office. All School staff undergo a background during the hiring process. A key vulnerability remains access control and perimeter monitoring issues. Requiring all students, staff and visitors to wear visible ID cards would enhance the ability to spot unauthorized intruders. Of course, all these measures can be defeated (fences can be climbed over, ID cards can be stolen or forged) but any overt action that draws attention to the terrorist Increases the chance that someone will notice a “Red Flag” and begin to investigate or activate an emergency response procedure. Even a two minute increase in warning time can make significant difference in evacuation or lock down procedures and the arrival times of emergency responders.

Campus security checks at night and on weekends are essential to protect against the planting of bombs or the theft of resources during off hours. Maintenance, custodians, and groundskeepers should all receive training in the identification and safe reaction to bombs that might be hidden on campus. Additional security improvements include the monitoring (staff or video) of the schools parking facilities for any sign of illegal activity or suspicious behavior. Vehicles without current and valid registration or school placards, rental vehicles, vehicles with signs of forced entry (shattered windows, punched locks, stripped ignitions) are all cases that require closer scrutiny. CVHS would be well served to arrange for campus security assessment by an expert in the field (private sector Campus Security Consultant, Local Law Enforcement etc). All staff members should be knowledgeable of the safety polices and procedures.

Detecting and responding to suspicious activities plays a vital role in the schools defense. One of the most efficient means to accomplish this is the use of surveillance cameras. The effectiveness of security cameras has long been appreciated in private industry and now finding increasing acceptance in the public arena. The appeal is that the same 2 staff members assigned to security duties at CVHS could monitor the whole
school district from a control room in the school district office via video cameras covering the perimeters, common areas, and access points of all the district campuses. “Still photos” can be developed as evidence of incidents and used to identify suspicious vehicles license plates that are possible conducting surveillance or other suspicious activity on or near a campus.

Another valuable resource are the people who live and work near CVHS such as home owners, mail carriers, waste collectors, delivery people and fitness walkers. They all are in a position to the eyes and ears looking out for suspicious activity near the school. School administrators could simply hold a meeting once every four months with the local residences and businesses to coordinate the neighborhood awareness program. This is not only a tool against a soft target attack on the school but helpful in matters such as drug dealing and drug use, child abduction, sex crimes, and illegal street gang activity. Security measures that pay multiple dividends are wise investments.

In 2001, a real life example of response to suspicious activity saved lives in San Jose, Ca. A Longs Drug store photo clerk noticed a disturbing picture of a subject posing with assault weapons and bombs. She called police who arrested the films owner. A search of his home resulted in the discovery of a detailed plan to launch a Columbine style attack on De Anza Community College. The subject was convicted of multiple felonies and sentenced to prison, the school was unharmed and a tragedy averted thanks to her alert actions. [26]

4.4 Estimated losses

If a terrorist does attack CVHS the possible losses depend on variables such as the type of attack used, the severity and duration of the attack. The highest potential for loss of life lies in the densely populated events held in a confined space such as a school assembly in the gymnasium. A powerful bomb blast or multiple bomb attack could have horrific consequences in that setting with the possibility of up to 100% causality rate. An arson attack (elaborately planned) could destroy the entire school with resulting financial cost greater then the cost of initially building the school. The emotional effect upon the survivors of a attack is harder to measure but can be absolutely devastating with the victims scarred for life.

5 Contexts and Costs [Lee]

In previous sections, we have described the nature of the target and the extent of the threat. Focusing in this fashion permits us to ground our analysis in concrete examples. However, without a consideration of
broader contexts, this analysis would run the danger of suggesting countermeasures that make sense from
the narrow perspective of protecting schools, but would be unproductive or overly costly for society as a
whole. In this section, we consider this broader context and develop some criteria to be used when evaluating
countermeasures.

We can divide security countermeasures into three categories: those that deter (or prevent) attacks before
they occur, those that help detect attacks earlier or with greater precision, and those that improve the target’s
response and recovery. Taken in isolation, all three of these sound equally worthwhile, but caveats emerge
when one examines they operate in a broader context. We examine each of these in turn.

5.1 Deterrence

In Section 3, we considered foreign, domestic student, and domestic non-student adversaries. A key
question that arises when considering whether a proposed measure increases aggregate security is: for each
class of attacker, will this measure reduce the probability that this adversary will perform an attack, or
will this measure merely transfer the probable attack to another target? This question, in turn requires the
answer to the following associated questions:

– Why would the attacker attack the school?
– Can this motivation be satisfied by attacking a non-school target?
– Is at least one alternative target feasible for a motivated adversary to attack?
– Is it preferable to divert attacks to those alternative targets? (This might be true, for example, if those
targets are less important than schools, or have better response capabilities.)

As noted in Section 3, potential adversaries are too numerous to consider exhaustively. However, consid-
ering a few representative classes may yield some useful intuitions. Therefore, we briefly consider the above
questions for the following: mentally unbalanced students (e.g., the Columbine killers); domestic right-wing
extremist organizations (e.g., white supremacists); and anti-American foreign terrorists (e.g., al Qaeda).

For the Columbine killers, the objective was some combination of hurting peers, thrill-seeking, and
attacking the school itself. It is difficult to know which of these was most important, but the first two could
have been satisfied by attacking another target. For example, they could have killed large numbers of their
peers (though a somewhat smaller number) by attacking school buses, and they could have sought similar
thrills by attacking any place where people gather — for example, a shopping mall or train station. It is
conceivable that the attackers specifically wished to attack the high school; for example, the school might
have held special emotional associations which made the idea of attacking it especially attractive. However, even in this case, one hesitates to bet the bank that the attackers would not have sought out some other target if the high school were hardened against attack.

Laqueur notes [20] that right-wing extremist organizations wish to cause a breakdown in the existing order of society and the government; they believe that violence furthers this end by undermining people’s faith in the state’s ability to protect them. In some sense, the target doesn’t matter much to these extremists — government buildings (like the Oklahoma City Federal building targeted by Timothy McVeigh) may be especially attractive, and this category may include public schools. However, if schools are not available then substitute targets will be sought out.

Finally, consider al Qaeda as a representative of international terrorist organizations. Many observers (including Laqueur) believe that Al Qaeda appears to be motivated by the quixotic desire to topple America’s geopolitical dominance. Lacking the resources of a nation-state, they cannot literally destroy America’s physical infrastructure. Their motivation for attacking Americans on American soil is therefore a matter of public relations and politics: by attacking Americans, they draw publicity for themselves, and they arouse a political reaction in the American public. By showing that icons of American power are vulnerable, al Qaeda hopes to increase its popular support. Attacking a public school seems rather unlikely to be productive: Chula Vista High School is not an icon of American power, and attacking schoolchildren is unlikely to arouse broad popular support, even among populations predisposed to anti-Americanism. Hence, these organizations were unlikely to target schools to begin with, and diverting their attacks elsewhere would make very little difference one way or the other.

Therefore, for all three of the above classes of attackers, increasing deterrent defenses at schools will most likely divert attacks to other locations. Given the consistency of this answer, it seems likely to carry over to other classes of attackers as well.

The question then arises as to whether diverting attacks from high schools to other locations might be a good idea anyway. Children obviously occupy a unique position of psychological and social importance. Attacks against schools may be more psychologically devastating to the surrounding community than attacks on other targets. However, many of these other targets, including shopping malls and school buses, also offer the opportunity of violence against large numbers of minors.

From all of the above, we conclude that deterrent attacks should focus on deterring adversaries in general, not on preventing adversaries from attacking schools specifically. Therefore, for example, attempting to turn the school into a fortress by constructing gated walls around the perimeter, limiting physical access to
registered students and employees, etc., seems relatively unproductive. We advise that deterrent methods should focus on apprehending and pre-empting the potential attacker, rather than hardening the target.

5.2 Detection

We have also considered countermeasures focused on detection — for example, the use of surveillance cameras. Early detection measures also suffer from the aforementioned problem — you may observe all that occurs on one campus, but in doing so you may merely have relocated attacks to another location. Surveillance methods additionally suffer from an internal version of this problem: it is usually prohibitively expensive to install security cameras to cover every single location of a school. Installing cameras in select locations may simply cause attackers to initiate their attack from a location that’s not covered.

Furthermore, the question of surveillance raises an additional obvious problem. One of American society’s fundamental values is privacy. This value is embodied not only in informal social codes, but in formal laws such as the Fourth Amendment’s restrictions on search and seizure. Schools are frequently understood as centers of education, but they are also sites of socialization. The school environment must prepare students with the mental and emotional skills and habits required to participate in society; or, at a minimum, it must not actively interfere with this development. Critics of student surveillance, whether via video or via RFID tag monitoring of student movements [41], have therefore expressed concern about the desirability of socializing children to expect government surveillance as a routine part of life.

Although no law specifically restricts video surveillance, privacy concerns have motivated laws that restrict how schools may treat student-related data in general. Laws such as the Family Educational Rights and Privacy Act (FERPA) [16, 35] and the No Child Left Behind Act [15] Section 1061 prevent schools from redistributing “education records” (defined as “information directly related to a student”) and from collecting certain survey information without explicit consent. Presumably, video images count as a form of “information directly related to a student”, although FERPA exempts data maintained “by a law enforcement unit of the educational agency or institution”, so the status of video surveillance may be unclear. Federal case law has held that students generally have a lower level of protections against unreasonable search and seizure than adults [5, 28, 38], but students still retain some rights against discriminatory or overly broad searches. Therefore, although legally school districts may be entitled to surveil students strictly for security reasons, as a public policy matter it is questionable whether subjecting students to pervasive surveillance is an idea that society welcomes.

Nevertheless, as an empirical matter, many school districts do use some video surveillance — one sur-
vey [30] puts the figure at nearly half. Other surveys claim that installation of video surveillance significantly reduces petty crimes such as vandalism [30], although it’s unclear how accurate these surveys are, or how far these results extend to more serious attacks.

Therefore, although targeted surveillance of key areas may form part of an overall detection and response strategy, we conclude that schools should avoid investing too much or relying too heavily on broad, pervasive surveillance. We also recommend that if electronic surveillance (including video surveillance) is used, the school must establish policies that ensure the confidentiality of the video data, and ensure that it is destroyed in a timely fashion rather than retained indefinitely.

5.3 Response

In contrast to deterrence and detection, response measures cannot be evaded by the attacker’s choice of target. By the time responses are invoked, the adversary has already chosen a target and attacked it. Furthermore, aside from the small time cost of periodic drills and associated education of students and staff, response-related countermeasures do not significantly perturb the normal operation of the school. Lastly, response resources, such as police and firefighters, can be shared between schools and other potential targets.

Therefore, in some sense, preparing an effective and rapid response to incidents is one of the few unambiguously positive security measures for protecting soft targets. We therefore recommend that school districts strongly emphasize the development of effective response procedures. This includes educating students, teachers, and staff about what they should do in the event of various kinds of attacks, as well as working with local police departments as outlined in Section 4.

5.4 Costs and Contexts: Summary

In summary, our evaluation of the proposed countermeasures in broader context suggests the following conclusions:

- Deterrence should be focused on identifying and stopping potential attackers, not on rendering the target impenetrable, as the latter principally diverts attacks to other targets without making society as a whole much safer.

- Detection should rely on targeted measures wherever possible. Investing too much money on pervasive surveillance is an inefficient use of security resources, and inconsistent with society’s privacy values.

- Districts should develop an effective response plan in cooperation with local resources. To the ex-
tent possible, the response resources should be shared between schools and other local targets, which amortizes the cost and offers protection to multiple targets.

6 Conclusion

Personally, schools and education are emotionally tied to every citizen’s experiences. They are vital infrastructure that helps the United States maintain its global edge. Unfortunately, as regularly unguarded and intentionally open buildings with poor funding and diverse populations, they also make excellent targets for terrorist attacks. Perpetrators of these attacks may include enemies both foreign and domestic, lone gunmen and global terrorist franchises, using firearms, improvised explosive devices, and military grade munitions. The sheer diversity of attack scenarios makes planning quite difficult. Chula Vista High School, as analyzed, is aware of at least some existing threats, but needs to make great strides in infrastructure and personnel training before one can consider it “well prepared.”

Specific recommendations include hosting multi agency (police, fire, and medical) scenarios with role playing attackers, students, staff, parents, media and support personal all participating. If CVHS can find it within their budget, Adding security cameras to monitor the school perimeter without invading the privacy of the classroom is a cost effective and efficient measure to better detect suspicious activity and control unauthorized campus access. Placing emergency supplies in each classroom could help ease some of the potential hardships of being in a prolonged lock down situation. Since CVHS does not have on site campus police it should seek to have the Chula Vista Police Department designate an Officer to be the School Safety Liaison for the department as an available resource to all the schools in Chula Vista. Duties could include providing safety analysis of each schools current level of preparedness, planing school safety awareness meeting with the community, presenting saftery seminars to students, teachers, adminstration, staff, and parents.

School administrators, students, parents, and lawmakers need not lose heart. The chance of a child dying in a terror attack at school is less then 1 in 6 million, most attacks do not occur in the United States, and when they do, the perpetrator is typically a disgruntled individual, not an al-Qaeda operative. Furthermore, government agenceis including the United States Secret Service, the Federal Bureau of Investigation, and the Department of Education recognize the threat and change, though slow, is occurring. Schools and districts are devising emergency response plans, although as seen at Chula Vista, such plans may not actually be useful yet. Tragedies such as Ma’alot, Columbine, Beslan, and the September 11, 2001 attacks have permanently
altered the collective psyche of the nation, and with modest effort, schools will prepare for threats from inside, outside, and worldwide, and hopefully postpone, or at least mitigate, the inevitable terrorist attack.

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Appendix: Chula Vista HS Map
**Appendix: Chula Vista HS Emergency Procedures**

### Evacuation

1. When evacuation signal is given or a dangerous situation requires evacuation, follow these directions:
2. Check to be sure there is a safe exit pathway from the room and the building.
3. Check the classrooms next to and across from your room to see if anyone needs help.
4. Collect emergency packet, first aid kit, class roster, and pen.
5. Lead your class out of building and follow the map in the emergency packet to the Student Assembly Area. Stay away from buildings and covered walkways.
6. If an injury prevents an individual from leaving the building, one adult should stay with the person while the rest of the class leaves with a neighboring teacher. The teacher leaing with the class should write down the name of the remaining teacher, injured individual, type of injury and location.
7. As soon as the students reach the Student Assembly Area, give the injury information to the medical team or command post.

### Assembly Area

1. Teachers will assemble their classes near the assigned portion of the Student Assembly Area (see map) and take role. Write the names of any missing students on the Emergency Absence Form (in the packet) indicating students as "not present in class" or "not present at assembly area". If all students are present, write "no absences" on the roster. Send the roster with a student runner to the Assembly Area Coordinator (AAC) at the command post (designated C on map). If all students are present, send the form with "no Absences" noted.
2. Student runners will stay at command post to carry information back to teachers.
3. Staff members will report to their supervisors.
4. Students must remain in the Student Assembly Area until an adult listed on the emergency form arrives, the principal dismisses the students, or the disaster is passed.
5. If a student leaves the Student Assembly Area without permission, the responsible adult will record the student’s name as leaving without permission while maintaining control of remaining students.
6. Staff not assigned specific duties will report to Assembly Area Coordinator at the command post for instructions.
C Appendix: Chula Vista HS Emergency Absence Report Form

Emergency Absence Report Form
Use this form in any Disaster

<table>
<thead>
<tr>
<th>Teacher</th>
<th>Room#</th>
<th>Period</th>
<th>Date</th>
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Please take your roll book

Upon reaching the Student Assembly Area, line up your class and keep them with you. Please take roll on this form. Print names of students absent at the time of the evacuation. Do not list names of students who were absent from your class on the day of the evacuation.

If a disaster occurs during snack or lunch, meet the class you would have had following the break at the Student Assembly Area. List all students who are missing.

Send this form with your “buddy” or a student “runner” to the Assembly Area Coordinator (Assistant Principal or designee)

**ABSENT STUDENTS**
(those enrolled in class but not reporting to the Student Assembly Area)

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If all students are present, check here: [ ]

CVHS Safety Plan, 2/24/03
Appendix: Chula Vista HS General Lock Down procedures

**General Lock-Down Procedures**

Once a campus lock down is initiated by anyone from the campus, only law enforcement can end the lock down. This is a safety issue that must be adhered to.

1. Call 911 (Any employee can call 911. Use landline phones, not cell phones).
2. Campus Notification; 15 to 20 seconds long sustained bell, buzzer or horn followed by PA announcement stating: "The School is going into Lock-Down." This notification must be made three times and then every 15 minutes thereafter (only Law-Enforcement can authorize a release from the lock-down).
3. Notify District Office (use telephone or group email).
4. Office Staff should obtain crisis response box or folder for Law Enforcement.
5. Prepare for Law Enforcement response (the first officer will assume control of incident).
6. Office will monitor crisis e-mail "Broadcast" and update classroom/district periodically.

**Teachers Responsibilities During Lock-Down**

1. Shut and lock classroom door.
2. Have all students sit or lay on the floor.
3. Block any windows or glass doors.
4. Place green or red placard under door or in door jam to notify officials of room condition.
5. Provide medical assistance as needed.
6. Take students attendance to confirm students in room.
7. Log onto crisis e-mail "Broadcast" account for any updates and messages.
8. If evacuated, take attendance form and stay with students.

**Recess or Break Time Lock-Down Procedures**

1. If staff is in a different classroom, i.e. the lounge or office, STAY THERE (Do not attempt to make it to your classroom).
2. Students should be allowed to enter any available room.
3. Shut and lock the door.
4. Have all staff or students sit or lay on floor.
5. Provide medical assistance as necessary.
6. If on playground/field the specific incident should dictate student and staff actions (normally running off campus, running into nearest room or laying motionless on ground).
7. If available, log onto crisis e-mail "Broadcast" account for updates.
8. If available, place appropriate colored placard under door.
9. If evacuated, have all who were in the room stay together.