



K-12

School Shooting Database: Research Methodology

David Riedman & Desmond O'Neill
September 2018

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Naval Postgraduate School Center for Homeland Defense and Security
Homeland Security Advanced Thinking Program (HSx)

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Introduction

“How many times per year does a gun go off in an American school? We should know, but we don’t.” These two sentences, taken from a widely-publicized August 2018 NPR investigative report,¹ underscore a significant problem: when it comes to school shootings within the United States, there is a dire lack of accurate and consolidated statistical data.

The current landscape of publicly available information compiled on school shootings comes from a wealth of sources including, but not limited to, peer-reviewed studies, government reports, archived newspapers, mainstream media, non-profit enquiries, private websites, personal blogs, and crowd-sourced lists. Individually, however, these platforms fail to capture the magnitude of the problem. For example, government reports on school shootings by the US Secret Service, FBI, and Department of Education provide an explanation of factors contributing to shootings, but do not catalogue a comprehensive list of the incidents.^{2,3,4} Lists of shootings reported by the media identify a large number of incidents, but provide few details beyond the date and location. Databases of school shootings on blogs and crowd-sourced websites have extensive lists of school shootings, but lack citations to any primary source. Without a common methodology for data collection, individual data sources are limited in both validity and utility. Furthermore, there is no consensus for what actually defines a school shooting to serve as the inclusion/exclusion criteria across the different datasets.

Based on the differences among all available reporting platforms, there is currently no single source for objective and accessible data from which school administrators, law enforcement, and public officials can draw to inform their decisions. As a result, there is a need for a widely inclusive K-12 school shooting database that documents each and every instance in which a gun is

¹ <https://www.npr.org/sections/ed/2018/08/27/640323347/the-school-shootings-that-werent>

² USSS Report; 37 incidents; <https://www2.ed.gov/admins/lead/safety/preventingattacksreport.pdf>

³ USSS Report; Case study of 11 incidents, cites 37; https://www.secretservice.gov/data/protection/ntac/USSS_NTAC_Enhancing_School_Safety_Guide_7.11.18.pdf

⁴ FBI; 39 incidents; <https://www.fbi.gov/file-repository/active-shooter-study-2000-2013-1.pdf>

brandished, fired, or a bullet hits school property^{5,6,7} for any reason, regardless of the number of victims (including zero), time, day of the week, or reason (e.g., planned attack, accidental, domestic violence, gang-related). The breadth of this dataset would allow for a comprehensive view of the issue while providing users with the ability to filter between specific subsets within the data (e.g., number of victims, pre-planning, and type of weapon used). Through the inclusion, rather than exclusion, of criteria that are cross-referenced, unfiltered, and agnostic, users could conduct a more detailed analyses of specific incidents within their area(s) of interest from which to make better informed decisions and generate more accurate reports.

To answer the question “How many school shootings have occurred” and address the void of centralized and available data, the *K-12 School Shooting Database* (K-12 SSDB) has been created as a research product of the Center for Homeland Defense and Security. The product is a filtered, deconflicted, and cross-referenced database of more than 1,300 K-12 school shootings from 1970 to the time of publication (updates will be made as new incidents occur) collated from the previously referenced sources⁸ as well as new and continued research by the authors. The K-12 SSDB includes detailed information about each incident, a reliability score that quantifies the dependability of the information, and the verified primary source citation(s) (e.g., newspaper article, court records, interviews, police reports) to allow for further academic research.

⁵ Includes school buses but excluding school bus stops because the delineation of school property versus the surrounding area is subjective (e.g., is 50 yards from a bus stop or a student walking to the school bus stop a school shooting?). The research team made the decision to include only school property and the school bus as an extension of school property.

⁶ Includes when the shooting occurs off of school property but the victim and/or suspects end up on school property (e.g., victim was shot two blocks away from school and ran to school for assistance)

⁷ In urban areas, school property includes the streets and alleys adjacent to school property and public parks used for school activities (e.g., public basketball court next to school used for gym class)

⁸ See Appendix 1: Current Open Source Databases of School Shootings

Research Methodology

The methodology for populating the K- 12 SSDB started by first establishing a definition of a *school shooting* and then following a 4-step process: conduct preliminary research, conduct detailed research, assess reliability of data, validate data through official sources. Inclusion and exclusion criteria for each data point are found in the Data Entry Rules tab of the spreadsheet.

Defining School Shootings

In August 2018, a shooting occurred during a high school football game held on the property of Palm Beach Central High School in Florida. The shooting caused chaos in the stands as students, parents, and visitors fled the stadium. When it was determined that the shooter and victims were not students, the chief of the Palm Beach Sheriff's Office said, "This is not a school shooting," and "this was not a random act of violence and had no bearing on the students, faculty, and/or staff".⁹

Further compounding the problem of determining whether an incident is, in fact, a *school shooting* is in how the phrase is defined. Based on where the inclusion/exclusion criteria parameters are set affects whether the incident gets classified as a "*school shooting*" and added to the national statistic or classified as another type of crime, such as "*robbery*" or "*gang violence*." Criteria questions to consider are:

- Did the shooting occur at a location defined as an educational institute for children (i.e. school)? If it occurs in the administrative buildings on school property, is it still a school shooting?
- Does it need to be inside a school building to be a school shooting or just on school property?
- Are shootings that occur on school buses, which are not physically on school property, but rather in transit with students considered a school shooting?
- What if these same buses are shot at by an individual not on the bus, but cause injuries to student(s) inside the bus? What if it only cause property damage to the bus?
- Is it only a school shooting if it occurs during the school day? Does an after-school sponsored dance or sporting event count? What about a school event on the weekend?
- What if the shooting involves students and occurs during the school day, but happens across the street from the school during lunchtime?
- Do the victims need to be students? Is it a school shooting if non-students shoot at other non-students on school property during the school day?
- What if non-students shooting at other non-students miss and hit students who are bystanders and not the intended targets?

⁹ <http://www.sun-sentinel.com/local/palm-beach/fl-pn-shots-fired-high-school-football-update-20180818-story.html#>

- Are gang-related shootings on school property by student gang members school shootings? Does it make a difference if only gang members are wounded or killed instead of uninvolved student bystanders?
- Is it a school shooting if a parent shoots a teacher during an after school parent/teacher conference? Or a school administrator shoots another school employee on school grounds before the morning school bell rings?
- Is a student committing suicide with a firearm inside the school a school shooting? What if the bullet strikes a second student who was not the target?
- What if a School Resource Officer or Armed Security Guard shoot a student who is threatening other students?
- Are domestic violence incidents that end with one parent shooting the other while on school property considered a school shooting? What if their student child is injured in the event?
- Do shootings that occur late at night in the school parking lot by either students or non-students meet the school shooting definition?
- What if a student is accidentally shot on the football field by a hunter who was target practicing a mile away? What if the same student was shot, but the shooter and reason for the shooting remained unknown?
- Do there need to be victims in order for it to be classified as a school shooting? What if a fellow student holds a classroom of thirty students hostage with a shotgun, then fires a round into the ceiling before surrendering to the police?

Although the vignettes above may appear hypothetical, they each represent an actual incident. They also demonstrate that no two school shootings are alike and therefore the circumstances surrounding each must be assessed and considered. Choosing to include or exclude any of these criteria comes with a level of risk by directly affecting the statistical narrative on school shootings. For example, through exclusion, fewer incidents will be reported resulting in a potential failure to elicit both attention and resources toward a systemic problem. Partial or complete inclusion, on the other hand, will increase the number of reported incidents, but likely cause an overreaction among political, security, and societal stakeholders.

Regardless of how the incident is defined, the initial impact to a reported shooting that occurs at a school is generally the same. There is widespread fear and panic at the school. The campus needs to be locked down. Police, fire, and EMS respond. Law enforcement personnel systematically search and clear building(s). Children are escorted to safety. The media begins continuous coverage. Frantic parents scramble to find their children. Public officials need to make statements and assure everyone's safety. After action reports are written. Policies are put in place to prevent a similar future incident. This type of response occurred following both the February 2018 indiscriminate shooting at Marjory Stoneman Douglas High School, in which thirty-four people

were either killed or wounded¹⁰ and the August 2018 non-student gunfire during a fight at Palm Beach Central High School, in which there were no deaths and only two injuries.¹¹

To allow anything other than *location* to qualify an incident as a school shooting is both arbitrary and subjective. All school shootings represent social, cultural, and interpersonal issues. As such, they should not be categorized based on *who* fired the gun or *why* it happened, but rather *where* it occurred. Because of the nebulous criteria and generally qualitative nature of the term “school shooting,” a broadly inclusive definition is needed to cast the widest net possible, which give the end user the power to filter for specific criteria. The definition used for the K-12 SSDB is: *a gun is brandished, is fired, or a bullet hits school property¹² for any reason, regardless of the number of victims (including zero), time, day of the week, or reason.* The definitions used by other school shooting datasets are included in Appendix 1.

The objective of the database is to systematically record every K-12 school shooting, regardless of circumstance, injuries, or deaths, there is value in being able to collectively study all of the different types of incident. For example, a student nearly shot in the hallway by random gunfire from a deranged fellow student shooter suffers the same as a student bystander struck in the chest by the crossfire of a gang shooting in the cafeteria. Although in these examples, one student was physically injured while the other was not, the emotional and psychological impact of a “near miss” victim should not be dismissed.

Inversely, *brandishing*, such as those instances where the shooter initially made threatening gestures with a firearm, but was stopped (weapon malfunction, shooter was tackled) prior to getting off a shot, are also included in the K-12 SSDB. Although often excluded from other national reports, which focus solely on injuries or deaths, these “near misses” offer significant research opportunities because a greater loss of life could have occurred if the gun had not jammed or the gym teacher was not nearby to bearhug the shooter. Furthermore, the circumstances leading up to school shootings have the same value in understanding the factors contributing to the issue, regardless of the body count after the incident. Near misses can also offer an opportunity to highlight what went right in preventing an incident from having a greater loss of life.

Step 1: Database Compilation and Preliminary Research

Based on our definition, an open-source analyses was conducted to determine all of the available data on school shootings. Data is currently being collected on school shootings by government agencies including the US Secret Service, FBI, and Department of Education; media or advocacy groups including The Washington Post, CNN, Gun Violence Archive, Everytown for Gun Safety, Education Weekly, and Mother Jones; and websites or blogs including Columbines Angels,

¹⁰ <http://time.com/parkland-high-school-shooting-vigil/>

¹¹ <https://www.local10.com/news/florida/palm-beach-county/shooting-interrupts-high-school-football-game-in-wellington>

¹² Including school buses but excluding school bus stops

Wikipedia, schoolshootingdatabase.com, and schoolshootingtracker.com. The scope of many of these datasets is not exclusive to K-12 schools, may include higher education, preschool, vocational schools (e.g., beautician or technical institute), may include attacks on students using weapons others than firearms, or include shootings not occurring on school property of involving students. Furthermore, the inclusion and exclusion criteria also differ within each dataset. For example, a shooting involving students not at a school or school event (e.g., walking to school, in a restaurant, in a public park) could be included in one dataset and omitted from another. Analyses of the datasets also concluded that some incidents classified as *school shootings* actually occurred away from school property based on cross-reference of media reports.

After reviewing the existing data through an independent review of associated references, the information from each of the different databases was compiled into a single spreadsheet. The spreadsheet was then cross-referenced and deconflicted to avoid duplication. During the process of cross-referencing, discrepancies such as school name, location, date, and number of victims, were identified and flagged for follow-up research.

The data in the compiled database consisted of the date, school name, city, state, and number of victims for each school shootings. Some databases included more detailed information about the shooter, victims, firearms used, and demographics. This information served as a starting point for identifying the full set of data points (spreadsheet columns) that were developed for the comprehensive K-12 SSDB.

To verify the information collected in the compiled database and identify other school shootings that were not included in any of the merged databases, online searches were completed for each year from 1970-2018 using the below search criteria:

- "School shooting [year]"
- "School shootings [year]"
- "Student shot [year]"
- "Teacher shot [year]"
- "Pupil shot" [year]
- "Student shoots" [year]
- "Teacher shoots [year]"

The existing datasets that were used to build the framework of our database are detailed in Appendix 1. The rules used to enter information from the existing databases or other online sources are included in Appendix 2: Data Entry Rules.

Step 2: Detailed Research

Preliminary analysis of the compiled information from the existing databases showed a small number of school shootings organized by year in the 1970's and 1980's compared to years after 1990. After 1990, the increased popularity of the Internet resulted in the widespread availability of online news stories which remain accessible without a need to archive the files. Print

newspapers from prior to 1990 were not retroactively archived for online users by most publishers.¹³

To access the information not available through online searches, a subscription to newspapers.com was purchased to gain access to a digital archive of more than 73 million pages from 3,000 U.S. and Canadian newspapers to identify shootings that were reported by the media, but not transferred to online archives that are accessible via Internet search engines (e.g. Google.com). Even after the widespread adoption of online media reporting, our research found that in some cases, local newspapers continued to have the sole accounts of school shooting incidents into the 2000's.

Newspaper archives were reviewed by year from 1970-2017 with the search criteria:

- "Student shot [year]"
- "School shooting [year]"
- "School shootings [year]"
- "Teacher shot [year]"
- "Pupil shot" [year]
- "Student shoots" [year]
- "Teacher shoots [year]"

The newspaper archives website provides searchable but static images of newspaper pages. Data from the newspapers was transposed to the K-12 SSDB following Appendix 2: Data Entry Rules. This database provides numeric totals, yes/no, and preset categories that allow the user to decide their own choices for the filters, removing the need for detailed definitions of the terminology used (e.g., there is no definition for "mass shooting," because the user can decide how to set the threshold for number of victims injured/killed).

Many news articles had incomplete information about the school shooting incidents. Using the date of the shooting and keywords such as the school name, shooter's name, or victim's name, other articles not identified with the master list of search terms provided additional data. Cross referencing the information from multiple newspaper articles provided the most open source information and best corroboration reasonably available.

Newspaper articles often made mention of another shooting that had occurred in the same geographic area. A secondary analysis was conducted to find additional articles referencing the other shooting if they were not already included in the database. Secondary searches included specific terms such as "school name shooting", "shooter name shooting", "date shooting".

Assignment of Categories

To assist users with identifying data and sorting information, a set of categories were established that provide a general context for the primary cause of the shooting. While there may be multiple

¹³ <https://multimedia.journalism.berkeley.edu/tutorials/digital-transform/>

contributing factors, these categories represent the primary cause. The assignment of these categories is based on the research team's interpretation of the data available about each incident.

The categories include:

- **Accidental:** No intent to fire the weapon (e.g., showing off gun and it went off; gun in backpack went off).
- **Anger Over Grade/Suspension/Discipline:** Shooter primarily targeted teacher or school administrator due to recent poor grade, suspension, expulsion, or discipline.
- **Bullying:** Shooter was bullied by at least one of the victims.
- **Domestic w/ Targeted Victim:** Shooter had a romantic or familial relationship with the victim or victim was in a romantic relationship with a former lover of the shooter
- **Escalation of Dispute:** Argument or fight between the shooter and victim prior to the shooting.
- **Gang-related:** Involved gang members but non-gang members bystander/students may be victims.
- **Hostage Standoff:** Hostages held at gunpoint during a standoff with law enforcement. Hostages may have been released without injury and/or no shots were fired during the standoff.
- **Illegal Drug Related:** Shots fired related to illegal drug sales or possession.
- **Indiscriminate Shooting:** Shooting at random victims with the intent to kill or injure as many as possible.
- **Intentional Property Damage:** Shots were fired to cause damage to the school building or vehicles on school property without intent to cause injury.
- **Mental Health:** Severe psychotic episode, insanity, or psychosis during the shooting (e.g., shooter believed the school was sending mind control signals or part of a government conspiracy).
- **Murder/Suicide:** Shot victim and killed self (including other bystanders who were not intended targets).
- **Murder:** Intentional killing not related to any other category.
- **Officer Involved Shooting:** Police officer, SRO, or armed security guard was the only person to fire a weapon.
- **Racial:** Shooter targeted victim based on race.
- **Robbery:** Shot was fired during a robbery.
- **Self Defense:** Shooter fired in self defense or defense of someone else.
- **Suicide/Attempted:** Suicide or attempted suicide by shooter (not an indiscriminate shooting or revenge/bullying where shooter kills self during the shooting).
- **Unknown:** There is not enough information available to determine the category.

Step 3: Reliability Score and Validation of Research with Official Documents

The information in the database is open-source from online and print news report. Based on the source and number of reports, the validity of the information about each incident has been quantified with a reliability score from 1-5.

1. Blog: Privately operated blogs that may or may not include source citations. May be reported anonymously.
2. Single Newspaper Article or Online News Report: Stories published by network, cable, or online mainstream media sources. Stories include an author.
3. Multiple News Sources: Reports from multiple news sources showing consistent information from different independent sources.
4. Hundreds of News Sources OR Statement/Interview from Law Enforcement Official: Hundreds of reports from different news sources (e.g., thousands of stories have been published about the Columbine High School shooting)
5. Court Records or Police Report: Official records of the incident.

For example, school shootings, like most incidents of violent crime, are commonly reported by the media. Local as well as national newspapers often have reporters dedicated to crime coverage who often publish daily or weekly crime “blotters”.^{14,15,16,17} Local press reporting on crimes usually includes the location, time, name(s) of suspect(s) and victim(s), details about the incident, and quotes from official(s) (e.g., statement by police chief). Due to the professional journalists’ standards of ethics¹⁸ as well as the reputation of the publication where the stories post, the information contained therein is likely to be correct. As such, these reporting platforms were designated as primary sources.

Step 4: Validation with Official Sources

The eventual goal is for every incident in the database to have a reliability score of 5. At a minimum, each of the school shootings in the database includes a date, school name, city, and state. Using these data points, local or state police department were identified. An email or paper letter (if an email address was unavailable) are in the process of being sent, or have been sent, to each of the identified law enforcement agencies requesting archived police reports referencing the date, school name, city, and state of the shooting. All data points recorded for the referenced incident were also included. Each law enforcement agency was or will be asked to:

- Send a copy of the police report (either mail paper copy to the Center for Homeland Defense and Security at the Naval Postgraduate School or email digital copies of the report to the research team).
- Verify the details of the case provided and make corrections, if necessary.
- Provide information about other school shootings in their jurisdiction that are not referenced in the request.

¹⁴ <https://www.washingtonpost.com/Local/Crime/>

¹⁵ <http://www.latimes.com/local/crime/>

¹⁶ https://thebrunswicknews.com/special_reports/collection-local-crime/collection_144f8f42-a5cf-11e5-b78b-a32386c1f88b.html

¹⁷ https://herald-review.com/news/local/crime-and-courts/herald-review-breaking-news-and-crime-reporting-guidelines/article_8c1dee86-25ac-523b-9aba-b191c1651f91.html

¹⁸ <https://www.spj.org/ethicscode.asp>

Availability to Public

The data collected is only valuable if it can reach law enforcement leaders, school administrators, policymakers, and researchers who can use it to make informed decisions about school safety.

The database is available for download as an Excel file to the general public on the Center for Homeland Defense and Security's website (www.chds.us/ssdb). In addition, users can access a digital mapping tool and interactive dashboard to sort and visualize the data on the same CHDS website.

An overview of the dataset's utility, sample of products (e.g., charts, graphs, maps, infographics), and abbreviated explanation of the methodology will be distributed to the CHDS alumni network with the recommendations to share the information with other federal, state, and local stakeholders.

Future Data Collection and Sustainment

The most labor intensive part of assembling the database is reviewing archived newspaper articles and validating information from police reports. After those steps of the research project are complete, the majority of the work is concluded. It is important to note that other shootings may have occurred that were not reported in archived newspapers. Inclusion of this unavailable data will be dependent on engagement with law enforcement agencies, local media, and community members who may have direct knowledge of these unreported school shootings. As new school shootings occur, the research team will use online tools such as Google Alerts to monitor and record new incidents in the database.

Users of the database may have direct knowledge or other official information about a shooting. Users may also notice inadvertent errors or incidents that were not recorded. A private feedback page will be available on the website with the database that allows users to submit corrections and supporting material. Incorporating user feedback will also allow for greater data accuracy over time.

Research grants may be pursued to assist with the sustainment and expansion of the database. This data is limited to K-12 shootings, but does not include potential or thwarted school shootings that were detected and stopped by school officials, law enforcement, or otherwise. The database currently does not include higher education shootings. The combination of both averted K-12 shootings and higher education shootings would provide a broader dataset for analysis.

Limitations

In situations where information about a school shooting is available solely through secondhand sources (e.g., news reports), accuracy depends on the completeness and truthfulness of the report. There will always be some level of uncertainty that exists with interpreting and transcribing

second-hand information into a database. To address this, the reliability scores detailed in Step 3 quantify the level of confidence in the accuracy of the information.

Many cases have information that will likely remain unknown forever. For example, if an unknown shooter fired at a school and escaped without being seen by any witnesses, the demographics, motivation, or circumstances surrounding the incident will never be known. There will also be school shooting incidents that remain unknown to the research team because they did not appear in either online or newspaper archives records.

The more time that elapses after a school shooting the likelihood that any information about the incident that is not recorded or archived will be lost. Many state and local police departments do not have policies or legal requirements governing the long-term retention of paper records. When old records are discarded, the details of those shootings may be gone forever.

Appendix 1. Current Databases of School Shootings

At the time of publication (September 2018), school shooting data is being collected by more than twenty different entities. Each of these databases uses different definitions, scope (e.g., time period, type of incidents, amount of data points per incident), and funding for gathering data.

Data is being collected on school shootings by government agencies including the FBI, US Secret Service, and Department of Education; media or advocacy groups including The Washington Post, CNN, Gun Violence Archive, Everytown for Gun Safety, Education Weekly, and Mother Jones; and websites or blogs including Columbine Angels, Wikipedia, schoolshootingdatabase.com, and schoolshootingtracker.com. The name of the resource, organization maintaining it, scope, date range for the data, and number of school shootings within the dataset are included in Appendix 1. None of the open-source resources identified in Appendix 1 provide an exhaustive dataset of school shootings. As a result, the different definitions used in current studies and databases create skewed and artificial findings when analyzing school shootings (e.g., mass shooter vs. school shooter vs. active shooter).¹⁹

The resources listed in Appendix 1 are the open-source datasets we identified that relate to K-12 school shootings. The scope of many of these datasets is not exclusive to K-12 school and may include higher education, preschool, vocational schools (e.g., beautician or technical institute), or shootings not involving schools or students. The inclusion and exclusion criteria also differ within each dataset. For example, a shooting involving students not at a school or school event (e.g., walking to school, in a restaurant, in a public park) could be included in one dataset and omitted from another. Analysis of the datasets also shows that some incidents classified as occurring at schools actually happened away from school property based on cross-referencing media reports.

Resource	Organization	Scope	Date Range	Number of School Shootings
A Study of Active Shooter Incidents in the United States Between 2000 and 2013	FBI https://www.fbi.gov/file-repository/active-shooter-study-2000-2013-1.pdf	This report is not a study of mass killings or mass shootings, but rather a study of a specific type of shooting situation law enforcement and the public may face excluding drug or gang related shootings	2000-2013	160 active shooter incidents (39 at K-12 school and universities)

¹⁹ <https://www.rand.org/research/gun-policy/analysis/supplementary/mass-shootings.html>

Active Shooter Incidents in the United States in 2016 and 2017	FBI https://www.fbi.gov/file-repository/active-shooter-incidents-us-2016-2017.pdf/view	Incidents designated by the FBI to be active shooters excluding gang-related and drug-related shootings.	2016-2017	50 active shooter incidents (All locations including schools)
America's Epidemic of Shootings at U.S. Schools	https://www.schoolshootingdatabase.com/	If a firearm was discharged on school property (on a bus or at school-sponsored events, like the prom) it is included in the database no matter the cause. Note: Analysis of the database shows shootings involving students not on school grounds. Schools include day care centers, K-12 schools, vocational training centers, colleges, and universities	1945-present	1350
Angels of Columbine (blog)	Alan Lampe (owner and editor) https://www.columbine-angels.com/	Open source reports of "school violence" including any act of violence that results in the physical injury or death of any student, teacher, school administrator, school support staff, or visitor to a school while on school grounds.	1960-2010	1,975 (includes higher education, international, and non-gun violence)
Economic insecurity and the rise in gun violence at US schools	Nature Research Journal https://www.nature.com/articles/s41562-016-0040	A carefully curated dataset for the period 1990–2013 that is built upon an exhaustive review of existing data and original sources.	1990-2013	379
Enhancing School Safety Using a Threat Assessment Model	USSS https://www.secretservice.gov/data/protection/ntac/USSS_NTAC_Enhancing_School_Safety_Guide_7.11.18.pdf	The report was created because recent school shootings demonstrate the ongoing need for the USSS to provide leadership in preventing future school attacks.	1993-2016	37 incidents at K-12 school and universities

Gun Violence Archive	http://www.gunviolencearchive.org/methodology	An incident that occurs on school property when students, faculty and/or staff are on the premises. Intent during those times are not restricted to specific types of shootings. Incidents that take place on or near school property when no students or faculty/staff are present are not considered "school shootings."	2014-present	501 (includes mass shootings at any location)
Gunfire in School Database and Map	Everytown Research https://everytownresearch.org/about/	Any time a firearm discharges a live round inside or into a school building or on or onto a school campus or grounds, as documented by the press and, when necessary, confirmed through further inquiries with law enforcement or school officials. Incidents in which guns were brought into schools but not discharged are not included	1/1/2013-present	334 Includes K-12 and Higher Education
High School Shootings Tagged News Links	Campus Safety Magazine https://www.campus.safetymagazine.com/tag/highschoolshooting/	No stated methodology, running list of news stories	Undefined	+100
History of School Shootings in the United States	https://www.k12academics.com/school-shootings/history-school-shootings-united-states	No methodology listed	1700-1999	+100

<p>Kids Killing Kids: Managing Violence and Gangs in Schools (book)</p>	<p>Thomas K. Capozzoli, R. Steve McVey</p> <p>https://books.google.com/books?id=paCVN9ECUc4C&printsec=frontcover&source=gbs_ge_summary_r&cad=0#v=onepage&q&f=false</p>	<p>Provides case studies of various school shootings</p>	<p>Published in 1999</p>	<p>+100</p>
<p>List of attacks related to secondary schools</p>	<p>Wikipedia.org</p> <p>https://en.wikipedia.org/wiki/List_of_attacks_related_to_secondary_schools</p>	<p>This is a list of attacks related to secondary schools that have occurred around the world. These are attacks that have occurred on school property or related primarily to school issues or events. A narrow definition of the word attacks is used for this list so as to exclude warfare, robberies, gang violence, public attacks (as in political protests), accidental shootings, and suicides and murder-suicides by rejected spouses or suitors.</p>	<p>1850-2018</p>	<p>+500</p>
<p>List of school shootings in the United States</p>	<p>Wikipedia.org</p> <p>https://en.wikipedia.org/wiki/List_of_school_shootings_in_the_United_States#1960s</p>	<p>chronology and provides additional details of incidents in which a firearm was discharged at a school infrastructure or campus in the United States, including incidents of shootings on a school bus. This list contains school shooting incidents that occurred on the campuses of K-12 public schools and private schools as well as colleges and universities. It excludes incidents that occurred during wars or police actions as well as murder-suicides by rejected suitors or estranged spouses and suicides or suicide attempts involving only one person.</p>	<p>1840-2018</p>	<p>+300</p>

School Shooting Database	Washington Post	The federal government does not track school shootings, so The Post pieced together its numbers from news articles, open-source databases, law enforcement reports and calls to schools and police departments.	4/21/1999-present Post Columbine High School	221 Includes K-12 and Higher Education
School Shooting GIS Map	Washington Post/ESRI https://esrimedia.maps.arcgis.com/apps/Media/index.html?appid=c4c222962d084ba48dbe1b1f34a5a9cc	Esri, a spatial analytics company, has mapped out school shootings since Columbine using the Washington Post's database. Its interactive map includes statistics such as the number of injuries or fatalities.	4/21/1999-present	221 Includes K-12 and Higher Education
School Shooting Map	CNN https://www.cnn.com/2018/03/02/us/school-shootings-2018-list-trnd/index.html	The parameters CNN followed in this count are: <ul style="list-style-type: none"> • A shooting that involved at least one person being shot (not including the shooter) • A shooting that occurred on school grounds • We included grades K through college/university level • We included gang violence, fights and domestic violence • We included accidental discharge of a firearm as long as the first two parameters are met 	2018	23 Includes K-12 and Higher Education
School Shooting Tracker	http://www.schoolshootingtracker.com/		2010, 2013, 2014	

School Shootings Since Sandy Hook Shooting	New York Times https://www.nytimes.com/interactive/2018/02/15/us/school-shootings-sandy-hook-parkland.html		12/15/2012-4/15/2018	239
School Shootings This Year: How Many and Where	Education Week https://www.edweek.org/ew/section/multimedia/school-shootings-this-year-how-many-and-where.html	While we only track incidents resulting in at least one bullet wound, total injuries are not necessarily the result of gunfire. The total count of those killed or injured does not include the suspect or perpetrator. We will not track incidents in which the only shots fired were from an individual authorized to carry a gun, such as a school resource officer, and who did so in their official capacity. The numbers of incidents and victims reported in this tracker do not include suicides or self-inflicted injuries.	2018	14
School shootings during 2013-2015 in the USA	Journal of Injury Prevention https://injuryprevention.bmj.com/content/23/5/321	An incident when a firearm was discharged inside a school building or on school or campus grounds, as documented in publicly reported news	2013-2015	154
Timeline and Worldwide School and Mass Shootings	Infoplease.com https://www.infoplease.com/us/crime/timeline-worldwide-school-and-mass-shootings	Mass shootings are defined as events in which a lone perpetrator or a small group of perpetrators uses firearms to kill three or more victims. School shootings by contrast have no numerical qualifier; a school shooting is any incidence of gun violence occurring at or in the vicinity of an educational institution. (Includes international and US school and mass shootings)	1996-present	112

<p>US Mass Shootings, 1982-2018: Data From Mother Jones' Investigation</p>	<p>Mother Jones https://www.motherjones.com/politics/2012/12/mass-shootings-mother-jones-full-data/</p>	<p>Our research focused on indiscriminate rampages in public places resulting in four or more victims killed by the attacker. We exclude shootings stemming from more conventionally motivated crimes such as armed robbery or gang violence.</p>	<p>1982-2018</p>	<p>102</p>
<p>United States School Shootings, 1990-present</p>	<p>Ballotpedia https://ballotpedia.org/United_States_school_shootings_1990-present</p>	<p>The information represents shootings that have occurred in K-12 schools and district offices and does not detail college or university shootings. The table and regional list below include incidents where a person deliberately shot himself or herself in a suicide or suicide attempt.</p>	<p>1990-Present</p>	<p>+200</p>

Appendix 2: Data Entry Rules

See the "Data Entry Rules" tab in the K-12 School Shooting Database spreadsheet (available on www.chds.us/ssdb) for more details about inclusion and exclusion criteria.

Database spreadsheet columns:

- **Date:** Date of shootings Month/Day/Year
- **School:** Full school name
- **City:** City school is located
- **State:** State school is located in
- **Reliability Score:**
 - 1: Independent Single Author/Moderator Blog, report/list lacking citations, or cited source cannot be located (e.g., newspaper headline title and story does not appear in searches)
 - 2: Single Newspaper Article, Online News Report (Network, Cable, Online)
 - 3: Multiple News Sources
 - 4: Hundreds of News Sources, Statement/Interview from Law Enforcement Official, News report on court ruling
 - 5: Court Records or Police Report"
- **Killed (includes shooter):** Number killed including shooter
- **Wounded:** Number injured including those injured as a result of the shooting (e.g., struck by broken glass, metal, flying debris, trampled)
- **Total Victims:** Number killed plus number wounded
- **Individual(s) shot at but suspect(s) missed (Y/N):**
 - Y: Shots were fired at a target but the shots missed. Only yes if all shots missed.
 - N: Random victims other than intended targets were struck"
- **Number of people shot at by suspect(s):** Number of people in the direction of fire.
 - Can be a specific number, range, or description (e.g., group of students, large crowd)
 - If shooting is indiscriminate, enter ""IND""
- **Gender of Victim(s):** Gender of victims, list all genders known, separate multiple types with commas
- **Victim's Affiliation w/ School:** Select applicable criteria: Student, Teacher, Other Staff, Parent, Relative, Former Student, No Relation, Multiple Victims, Unknown.
- **Victim's age** (add comma for multiple): Age of victim(s), separate age of each victim with commas - use an X if more information is needed, UKN is the information is deemed unknowable.
- **Victims Race:** Select race based on standard Census categories.
- **Victim Ethnicity:** Census ethnicity criteria
- **Targeted Specific Victim(s):** Y/N/X/UKN answer.
 - Yes if shooter was targeting a specific person, including him/herself.
 - No if there was not a specific target

- X if more information is needed
- UKN is the information is deemed unknowable
- **Random Victims: Y/N/X/UKN.**
 - Yes for victims that were not the target of the shooter (e.g., bystander hit in crossfire)
 - No, if only specific targets were killed/injured
 - X if more information is needed
 - UKN is the information is deemed unknowable
- **Bullied (Y/N):** Reference from official source(s) (police report, school report, validation from shooter's personal notes, close friends, family) which identified shooter's motives were due to being bullied.
- **Domestic Violence (Y/N):** Romantic or family relationship between shooter and victim
- **Suicide (or attempted suicide) by Shooter (Y/N)**
 - "Y: Shooter committed suicide, includes shooter who died later as a direct result of his/her suicide attempt during or immediately after school shooting N: shooter did not commit suicide (including attempt)
 - if N--> mark all other suicide specifiers as N/A"
- **Suicide (Shooter was only victim): Y/N/ N/A**
 - Y: Shooter commit suicide and was the only victim
- **Suicide (shot self immediately following initial shootings): Y/N/ N/A**
 - Y: Shooter commit suicide right after the shooting occurred (within few seconds or minutes).
 - Example: Murder/suicide, shooter shot wife in parking lot and then shot and killed himself.
- **Suicide (shot self at end of incident - time period between first shots and suicide, different location, when confronted by police) Y/N/ N/A**
 - Y: Period of time passed between the first shots being fired and the shooter committing suicide. Suicide may have been the plan for the end of the incident when the shooter was confronted by police.
 - Example: Shooter killed victims in cafeteria, went to classroom and took hostages, after 30 minutes, the shooter commit suicide when confronted by police.
 - Example 2: Shooter killed victim in parking lot, shooter left scene, drove home, and commit suicide at home.
- **Shooter Fled the Scene (Y/N):**
 - Y: Shooter left the school property prior to being detained/killed.
 - N: Shooter did not leave the school property prior to being detained/killed.
- **Shooter Surrendered Immediately Following Shooting (Y/N):** Y: Shooter immediately discontinued violence and physically allowed him/herself to be detained/arrested without resistance.
- **Shooter Subdued, Stopped or Apprehended during the incident (Y/N):** Y: During the attack, someone physically stopped the shooter(s) from committing further violence. (e.g. shooter was restrained, injured, killed)

- **Shooter barricaded him/herself (Y/N):** Y: Shooter took offensive action in an effort to fortify his/her position for the purpose of prolonging the attack or to prevent being caught/detained/stopped.
- **Gang/ Neighborhood Violence (Y/N):** Y: Involved gang members, rival high schools, rival non-gang neighborhood groups (e.g., different apartment building residents)
- **Pre-planned school attack (intent for mass victims):** Y: Shooter pre-planned attack with the intent to kill and injure as many victims as possible
- **Context (brief narrative):** Short narrative of the incident (who, what happened, and why) 20 words or less.
- **Category:** Select description that best describes the primary cause of the shooting: Gang-related, Domestic w/ Targeted Victim, Murder, Murder/Suicide, Suicide, Attempted Suicide, Escalation of Dispute, Bullying, Robbery, Accidental, Indiscriminate Shooting, Mental Health, Anger Over Grade/Suspension/Discipline, Racial, Self Defense, Illegal Drug Related, Officer Involved Shooting, hostage standoff
- **Near-Miss (Y/N):** Y: Based on the intent, type of weapon, ammo, or other subjective factors, the shooter had the capability to kill/injure more students (e.g., +100 rounds of ammo but only fired a few shots, multiple weapons) OR shooter was stopped very early in attack (e.g., tackled after firing first shots)
- **May have been detected by threat assessment (Y/N):** Y: Is it likely that the shooter would have been identified during a formal threat assessment
- **School Type:** Select school type: Elementary, K-8, Middle, Junior High, 6-12, High, K-12, Other
- **Narrative (Detailed Summary/ Background):** Detailed narrative summary of the incident including relationship of shooter(s) and victim(s), actions taken, type of weapons used, location, time of day, tactics, and how the shooting ended.
- **Charges Filed (note "no suspect to charge" if applicable):** "Narrative of any criminal charges against the suspects or suspects.
 - If there is no suspect, write ""no suspect to charge""
 - If suspect died during the shooting, write ""Killed""
 - X for more research
 - UNK if charges unknowable (eg, sealed record for minor)"
- **Verdict (including plea or dropped):** "Narrative of final court ruling against the suspects or suspects.
 - If there is no suspect, write ""no suspect to charge""
 - If suspect died during the shooting, write ""Killed""
 - X for more research
 - UNK if charges unknowable (eg, sealed record for minor)"
- **Shooter is a minor and charged as an adult (y/n):** "Y: The shooter is a minor and charged as an adult
 - N/A: The shooter is an adult
 - If suspect is a minor and died during the shooting, write ""Killed""
- **Sources:** List URL, newspaper publication/date, official report

- **Time of First Shot (24h):** Time of first shot in 24 time format
- **Time of Last Shot (24h):** Time of first shot in 24 time format
- **Duration (minutes):** Time in minutes between first and last shot
- **Day of Week:** Day of week shooting occurred
- **During School Day (Y/N):** Y: Shooting occurred during the school day between arrival of students in the morning and dismissal of school in the afternoon. Excludes after school activities and school sporting events.
- **Time Period:** Select time period when the shooting started from the options: Before School, As School is Opening, Morning Classes, Lunch, Afternoon Classes, Dismissal After School, Evening, Night, Not a School Day
- **Inside of School Building (Y/N):** Y: Shots fired from inside of the school building N: shots fired anywhere other than inside school building.
- **Outside on School Property (Y/N):** Y: Shots fired outside of the school building including shots fired off of school property that struck students on school property or the school building/other school property (does not include on, from, or at a school bus)
- **During a Sporting Event (Y/N):** Y: Shooting occurred shortly before, during, or shortly after a sporting event held on school property (including informal pick-up basketball game in gym)
- **During a School Sponsored Event (dance, concert, play, activity):** Y: Shooting was prior to, during, or after a school sponsored event such as a dance, game night, activity (e.g., homecoming parade, pep rally, bingo, play, music performance). Shooting does not need to be directly related to the event as long as it occurred during the timeframe of the event (e.g., gang members shot at each other outside of the school dance).
- **On a School Bus (Y/N):** Y: Shots were fired on, from, or at a school bus
- **Number of Shots Fired:** Number of shots reported to be fired or number of shell casings found
- **Firearm Type:** Select applicable category: Firearm Type, Handgun, Shotgun, Rifle, Multiple Handguns, Combination of Different Types of Weapons, Other
- **Caliber of Firearm:** List numeric caliber (or gauge for shotgun) of the firearm, separate multiple types with commas
- **Number of Shooters:** Number of people who fired weapons (excluding police officers/SROs firing at shooter)
- **Shooter Name:** Full name of shooter, separate multiple shooters with commas (add age/gender after each)
- **Shooter Age:** Age in years, separate multiple with commas
- **Shooter Gender:** M/F/B, If all shooters are a single gender, only 1 entry is needed
- **Shooter Race:** Census categories, separate multiple with commas if different
- **Shooter Race (extra notes):** Extra description not captured by census categories (e.g., biracial)
- **Shooter Ethnicity:** Census ethnicity criteria
- **Shooter Current Student (Y/N):** Y: Shooter is currently enrolled at the school where the shooting occurred

- **Shooter Former Student (Y/N):** Y: Shooter was formerly a student at the school where the shooting took place (including graduate, dropout, transfer)
- **Shooter's Relationship to School (Narrative):** Extra details about the shooter's relationship to school (e.g., dropped out last year, graduated 10 years ago, brother of current student, lives across the street from school)
- **Shooter had accomplice who did not fire gun (Y/N):** Y: Shooter was assisted by an accomplice immediately before or during the shoot (e.g., accomplice drove the shooter during the shooter, accomplice handed the shooter the gun at the school)
- **Accomplice narrative:** Details about the role of the accomplice
- **Hostages Taken (Y/N):** Y: Shooter took hostages including students held at gunpoint in school or on school property without being shot
- **Hostage (Narrative):** Description of how many hostages were taken, where, when they were released, demands that were made