

The Mass Shootings Where Stricter Gun Laws Might Have Made a Difference

By Quoc Trung Bui, Alicia Parlapiano and Margot Sanger-Katz June 4, 2022

If the key gun control proposals now being considered in Congress had been law since 1999, four gunmen younger than 21 would have been blocked from legally buying the rifles they used in mass shootings.

At least four other assailants would have been subject to a required background check, instead of slipping through a loophole. Ten might have been unable to steal their weapons because of efforts to require or encourage safer gun storage. And 20 might not have been allowed to legally purchase the large-capacity magazines that they used to upgrade their guns, helping them kill, on average, 16 people each.

Taken together, those four measures might have changed the course of at least 35 mass shootings — a third of such episodes in the United States since the massacre at Columbine High School in Colorado, a New York Times analysis has found. Those 35 shootings killed a combined 446 people.

Mass shootings since Columbine

Mass shootings in which one of four gun policies might have had an effect are highlighted

13 killed and 23 injured at Columbine High School in Littleton, Colo. (April 1999)

4 killed and 1 injured at a grocery store in Las Vegas (June 1999)

12 killed and 13 injured at two brokerage firms in Atlanta (July 1999) The attacker purchased a gun from a private seller, with no background check required.

7 killed and 7 injured at a Baptist church in Fort Worth (Sept. 1999)

7 killed at an office in Honolulu (Nov. 1999)

5 killed and 3 injured at a hotel in Tampa, Fla. (Dec. 1999)

5 killed and 1 injured at a car wash in Irving, Texas (March 2000) The attacker stole a gun.

5 killed and 1 injured in multiple locations in Mount Lebanon, Pa. (April 2000)

7 killed at an office in Wakefield, Mass. (Dec. 2000)

4 killed at a wholesale store in Houston (Jan. 2001)

4 killed and 4 injured at a factory in Melrose Park, Ill. (Feb. 2001)

4 killed and 3 injured in multiple locations in Rifle, Colo. (July 2001)

5 killed and 2 injured in multiple locations in Sacramento (Sept. 2001) The attacker stole a gun.

4 killed and 5 injured at an aircraft parts plant in South Bend, Ind. (March 2002)

4 killed and 1 injured at an employment agency in Huntsville, Ala. (Feb. 2003)

6 killed and 8 injured at an aircraft parts plant in Meridian, Miss. (July 2003) The attacker purchased a gun from a private seller, with no background check required.

6 killed at an auto supply warehouse in Chicago (Aug. 2003)

4 killed at a bar in Oldtown, Idaho (Oct. 2003)

5 killed and 2 injured at a meatpacking plant in Kansas City, Kan. (July 2004)

6 killed and 2 injured in a rural hunting area in Birchwood, Wis. (Nov. 2004)

4 killed and 2 injured at a nightclub in Columbus, Ohio (Dec. 2004)

4 killed and 3 injured at a courthouse in Atlanta (March 2005)

7 killed and 4 injured at a church in Brookfield, Wis. (March 2005)

9 killed and 7 injured at a high school in Red Lake, Minn. (March 2005) The attacker stole a gun.

4 killed near a church in Sash, Texas (Aug. 2005)

7 killed at a Postal Service building in Goleta, Calif. (Jan. 2006)

6 killed and 2 injured at a house party in Seattle (March 2006)

5 killed and 1 injured at a church in Baton Rouge, La. (May 2006)

5 killed and 5 injured at an Amish schoolhouse in Bart Township, Pa. (Oct. 2006)

5 killed and 4 injured at a mall in Salt Lake City (Feb. 2007)

32 killed and 26 injured at Virginia Tech in Blacksburg, Va. (April 2007)

8 killed and 5 injured at a mall in Omaha (Dec. 2007) The attacker stole a gun.

4 killed and 5 injured at a youth center and a church in Arvada, Colo. (Dec. 2007)

6 killed and 1 injured at the city hall in Kirkwood, Mo. (Feb. 2008)

5 killed and 16 injured at Northern Illinois University in DeKalb, Ill. (Feb. 2008)

4 killed at a salvage yard in Santa Maria, Calif. (March 2008) The attacker stole a gun.

5 killed and 1 injured at a plastics plant in Henderson, Ky. (June 2008)

6 killed and 4 injured in multiple locations in Alger, Wash. (Sept. 2008)

8 killed and 3 injured at a nursing home in Carthage, N.C. (March 2009)

13 killed and 4 injured at an immigration center in Binghamton, N.Y. (April 2009) The attacker used an extended magazine.

4 killed in a parking lot in Mt. Airy, N.C. (Nov. 2009)

13 killed and 32 injured at Fort Hood in Killeen, Texas (Nov. 2009) The attacker used an extended magazine.

4 killed at a coffee shop in Parkland, Wash. (Nov. 2009)

4 killed and 2 injured at a restaurant in Los Angeles (April 2010) The attacker used an extended magazine.

4 killed and 3 injured at a restaurant in Hialeah, Fla. (June 2010)

8 killed and 2 injured at a beer distributor in Manchester, Conn. (Aug. 2010)

4 killed and 4 injured outside a restaurant in Buffalo (Aug. 2010)

5 killed in a mobile home park in Jackson, Ky. (Sept. 2010)

6 killed and 13 injured outside a supermarket in Tucson, Ariz. (Jan. 2011) The attacker used an extended magazine.

7 killed and 1 injured in a neighborhood in Copley Township, Ohio (Aug. 2011)

4 killed and 7 injured at an IHOP restaurant in Carson City, Nev. (Sept. 2011) The attacker purchased a gun from a private seller, with no background check required.

7 killed and 3 injured at a Christian college in Oakland, Calif. (April 2012)

5 killed and 1 injured at a cafe in Seattle (May 2012)

12 killed and 70 injured at a movie theater in Aurora, Colo. (July 2012) The attacker used an extended magazine.

6 killed and 3 injured at a Sikh temple in Oak Creek, Wis. (Aug. 2012)

6 killed and 2 injured at an office building in Minneapolis (Sept. 2012)

27 killed and 1 injured at an elementary school in Newtown, Conn. (Dec. 2012) The attacker stole a gun.

4 killed and 2 injured at a barbershop and a car wash in Herkimer, N.Y. (March 2013)

4 killed at an apartment complex in Federal Way, Wash. (April 2013)

5 killed and 3 injured in multiple locations in Santa Monica, Calif. (June 2013) The attacker used an extended magazine.

6 killed at an apartment complex in Hialeah, Fla. (July 2013)

12 killed and 8 injured at a Navy facility in Washington (Sept. 2013)

4 killed and 2 injured at a Native American tribal office in Alturas, Calif. (Feb. 2014)

6 killed and 14 injured in multiple locations in Isla Vista, Calif. (May 2014)

4 killed and 1 injured at a high school in Marysville, Wash. (Oct. 2014) The attacker stole a gun.

9 killed at a historic Black church in Charleston, S.C. (June 2015)

5 killed and 2 injured at two military centers in Chattanooga, Tenn. (July 2015)

9 killed and 7 injured at a community college in Roseburg, Ore. (Oct. 2015) The attacker stole a gun.

6 killed at a campsite in Tennessee Colony, Texas (Nov. 2015)

14 killed and 22 injured at a social services center in San Bernardino, Calif. (Dec. 2015) The attackers used an extended magazine.

6 killed and 2 injured in multiple locations in Kalamazoo, Mich. (Feb. 2016) The attacker used an extended magazine.

49 killed and 53 injured at the Pulse nightclub in Orlando, Fla. (June 2016) The attacker used an extended magazine.

5 killed and 7 injured during a protest in Dallas (July 2016) The attacker used an extended magazine.

5 killed at a mall in Burlington, Wash. (Sept. 2016) The attacker used an extended magazine and stole a gun.

5 killed and 43 injured at the airport in Fort Lauderdale, Fla. (Jan. 2017)

4 killed in multiple locations in Rothschild, Wis. (March 2017)

5 killed at a warehouse in Orlando, Fla. (June 2017)

58 killed and 887 injured at a country music festival in Las Vegas (Oct. 2017) The attacker used an extended magazine.

25 killed and 20 injured at a Baptist church in Sutherland Springs, Texas (Nov. 2017) The attacker used an extended magazine.

5 killed and 12 injured in multiple locations in Rancho Tehama Reserve, Calif. (Nov. 2017)

4 killed and 1 injured at a car wash in Saltlick Township, Pa. (Jan. 2018)

17 killed and 17 injured at a high school in Parkland, Fla. (Feb. 2018) The alleged attacker was under 21 and legally bought a gun.

4 killed at a gas station in Detroit (Feb. 2018)

4 killed and 4 injured at a Waffle House in Nashville (April 2018)

10 killed and 13 injured at a high school in Santa Fe, Texas (May 2018) The alleged attacker stole a gun.

5 killed and 3 injured at The Capital Gazette in Annapolis, Md. (June 2018)

5 killed at a trucking company in Bakersfield, Calif. (Sept. 2018)

11 killed and 6 injured at a synagogue in Pittsburgh (Oct. 2018)

12 killed and 21 injured at a country music bar in Thousand Oaks, Calif. (Nov. 2018) The attacker used an extended magazine.

5 killed at a bank in Sebring, Fla. (Jan. 2019)

5 killed and 7 injured at a warehouse in Aurora, Ill. (Feb. 2019)

12 killed and 4 injured at a municipal building in Virginia Beach (May 2019) The attacker used an extended magazine.

23 killed and 26 injured at a Walmart in El Paso (Aug. 2019) The alleged attacker used an extended magazine.

9 killed and 37 injured outside a bar in Dayton, Ohio (Aug. 2019) The attacker used an extended magazine.

7 killed and 23 injured in multiple locations in Odessa, Texas (Aug. 2019) The attacker purchased a gun from a private seller, with no background check required.

4 killed and 3 injured at a kosher market in Jersey City, N.J. (Dec. 2019)

4 killed and 3 injured at a gas station in Springfield, Mo. (March 2020)

8 killed and 1 injured at three spas in Atlanta (March 2021)

10 killed and 1 injured at a grocery store in Boulder, Colo. (March 2021)

4 killed and 1 injured at a real estate office in Orange, Calif. (March 2021)

8 killed and 7 injured at a FedEx warehouse in Indianapolis (April 2021) The attacker was under 21 and legally bought a gun.

9 killed at a light rail yard in San Jose, Calif. (May 2021) The attacker used an extended magazine.

4 killed and 7 injured at a high school in Oxford, Mich. (Nov. 2021)

10 killed and 3 injured at a grocery store in Buffalo (May 2022) The alleged attacker was under 21 and legally bought a gun and used an extended magazine.

21 killed and 17 injured at an elementary school in Uvalde, Texas (May 2022) The attacker was under 21 and legally bought a gun and used an extended magazine.

Source: New York Times analysis of the Violence Project Mass Shooter Database

But in a nation awash with guns, the majority of mass killings might have been unaffected — either because assailants obtained their guns illegally or because they were older adults using weapons that wouldn't have been subject to any proposed restrictions.

Another proposed measure, a ban on the sale of military-style semiautomatic guns known as assault weapons, could in theory have had greater impact. But it faces even tougher opposition than the other proposals. Congress banned the sale of such guns in 1994, but the law expired 10 years later, and the weapons have since surged in popularity.

Weapons covered under the expired ban were used in 30 percent of the shootings in the data, causing nearly 400 deaths. In a speech Thursday, President Biden asked Congress to renew the ban.

No law would be guaranteed to stop any one shooting, and America already has more guns than people, leaving a motivated individual with numerous paths to violence. But after recent massacres in Texas and New York State, which authorities said were committed by 18-year-old men who legally bought military-style rifles, Democrats have made emotional appeals to advance gun-control legislation. “It’s time to act,” Mr. Biden said Thursday.

Republican leaders have dismissed many of the proposals as unfair or unconstitutional curtailments of law-abiding gun owners’ civil rights without clear evidence they would improve public safety.

“We all want to keep children safe in school, but this bill wouldn’t do that,” the ranking member of the House Judiciary Committee, Jim Jordan of Ohio, said during a hearing on Thursday.

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Researchers who study gun violence said that deterring a third of mass shootings would be a substantial success, given the nation’s widespread gun ownership. “There’s no such thing as a perfect, 100 percent effective policy or suite of policies,” said Garen Wintemute, the director of the Violence Prevention Research Program at the University of California at Davis. “But there is a chance to make a real difference.”

Several of the bills are unlikely to become law. To evaluate the range of possibilities, The Times analyzed a database of mass shootings kept by the Violence Project, a nonprofit group that has collected information about shootings in public places that have killed four or more people, not including the gunman. (This article's definition of mass shooting is based on that standard. The database was last updated after the shooting in Buffalo, and The Times added the more recent Texas shooting.)

The Times' accounting is conservative. The current proposal on large-capacity magazines in Congress would ban all that hold more than 10 bullets. The database defined extended-capacity magazines as ones where the gun's standard magazine had been replaced with a larger one. If the standard magazine came with 30 bullets, for example, and was not replaced, it was not counted. The data also doesn't have every detail about every shooting.

Nonetheless, the measure that seems most likely to achieve bipartisan support in the Senate — a broader background check law — would have had a clear influence on only a handful of shootings, according to the database. Measures to prevent gun thefts and to bar the sale of magazines that hold more than 10 bullets would have affected more shootings, but appear less likely to become law.

An additional measure that the House will vote on next week and that is under discussion in the Senate would expand so-called red-flag laws in more states, establishing a legal process for removing guns from people in crisis. Depending on how those laws were structured and how widely they are used, they could make a bigger difference: In a startling 46 percent of shootings in the database, attackers had told someone about their intent to cause harm before the attacks. And in 36 percent of cases, an attacker had previously expressed suicidal intentions, another cause for possible gun removal under the laws.

But invoking such red-flag laws generally requires a court order, making it hard to know when they might have been used. They would also be easy to evade unless Congress also expanded background checks, which would prevent flagged people from simply buying new weapons. And the analysis showed the limits of such laws: Eight shootings were carried out by gunmen who were known to have previously threatened violence or suicide, even though they lived in states that already had a red-flag law.

A majority of the House supports a broad package of gun reforms and has already passed legislation to expand background checks. Other measures are expected to pass in a floor vote next week. But gun legislation faces an uphill battle in the Senate, where any measure will need the votes of 10 Republicans to overcome a legislative filibuster, even if every Democrat supports it.

Few Republican senators have signaled much enthusiasm for the bills, though a bipartisan group is negotiating over possible legislation. Some version of a red-flag law and some form of a background check have been part of those conversations so far.

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Mass shootings account for a tiny share of the roughly 100 Americans who die on average every day from gun violence. But researchers say many of the measures under discussion to prevent mass shootings would also reduce other gun violence, including suicides.

Several of the measures are designed to close gaps in existing federal gun laws, which stop 18-year-olds from buying handguns but not assault rifles, and require background checks for guns bought from a licensed dealer but not those bought from private sellers, often online or at gun shows. Other proposals, like regulations for gun storage and high-capacity magazines, don't currently exist in federal law.

Many states have already passed some or all of these policies already. But the patchwork of laws limits the effectiveness of such restrictions because gun purchasers can travel to a neighboring state with fewer rules. The authors of the House legislation have emphasized the value of national laws that would apply uniformly.

“They go to the states where it’s easy to buy guns, where there are practically no limitations, and then they take those guns to other states,” said Representative Ted Deutch, a Democrat from Florida, who is a co-sponsor of multiple parts of the House package. “And this will just ensure that this can’t happen.”

In a House Judiciary Committee hearing on the legislation Thursday, Republican members rejected the proposed measures as ineffective.

“It is not kind, and is not compassionate, to tell people you are doing something to help them, when in fact you have no idea whether or not this legislation that you’ve fashioned would in fact do that,” said Representative Matt Gaetz, a Republican from Florida. “I would suggest that it’s potentially cruel to tell people that they’ve inspired a response to a tragedy when in fact that response won’t work.”

The National Rifle Association, the nation’s most influential gun lobby, opposes the package. In a news release Thursday, the group said the policies would harm the rights of law-abiding Americans “who have never, and will never, commit a crime.” A spokesman for the group declined to comment on the Times analysis.

There is limited academic evidence about what policies could prevent mass shootings. A 2020 review of research on gun policies by the RAND Corporation drew few conclusions. But Andrew Morral, who led the project, said the absence of clear proof did not mean that policymaking would be fruitless. Mass shootings are much rarer than other forms of gun violence, making them hard to study. And some policies will never be easy to evaluate if they are not tried.

“It’s great if you have rigorous scientific evidence on which to base your policies, but that’s almost never true, and it’s an impossible standard,” he said. “When there’s no evidence there, it doesn’t mean the policies are not good. It only means the science isn’t good.”

Details of the proposals

Democrats are proposing several policies, with different prospects of becoming law. Here's what we learned about six of them.

Raising the minimum age to purchase certain guns to 21

Four gunmen were under the age of 21 and purchased their weapons legally.

17 killed and 17 injured at a high school in Parkland, Fla. (Feb. 2018) The alleged attacker was under 21 and legally bought a gun.

8 killed and 7 injured at a FedEx warehouse in Indianapolis (April 2021) The attacker was under 21 and legally bought a gun.

10 killed and 3 injured at a grocery store in Buffalo (May 2022) The alleged attacker was under 21 and legally bought a gun.

21 killed and 17 injured at an elementary school in Uvalde, Texas (May 2022) The attacker was under 21 and legally bought a gun.

Source: New York Times analysis of the Violence Project Mass Shooter Database

The proposal: Federal law currently limits the ability of those under 21 to purchase handguns but does not stop those 18 and over from buying so-called assault rifles. A House proposal would raise the minimum gun-

purchasing age to 21 for more weapons, but not all. (Eighteen-year-olds would still be able to buy hunting rifles.)

Where it stands: The House is expected to pass the measure next week. President Biden endorsed it in his speech. It does not appear to be the subject of current negotiations among senators. Republicans have called the provision unconstitutional, pointing to a recent ruling by the U.S. Court of Appeals for the Ninth Circuit, which found that California's ban on the sale of some semiautomatic weapons to adults under 21 violated the Second Amendment.

What the analysis shows: Most mass shooters in the database who legally purchased their guns were older than 21, but four of the gunmen might have been stymied by such a law.

Mass shootings by younger attackers may be becoming more common. All four mass shooters who legally bought guns before turning 21 conducted their attacks in the last five years.

Age-based restrictions may limit gun violence more generally, evidence suggests, even if they may not have prevented many mass shootings. Studies of state laws have shown they seem in particular to prevent suicides, which are a leading cause of death among young Americans.

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Expanding background checks to cover private sales

At least four attackers purchased a weapon from a private seller in a state where background checks were not required for such sales.

12 killed and 13 injured at two brokerage firms in Atlanta (July 1999) The attacker purchased a gun from a private seller, with no background check required.

6 killed and 8 injured at an aircraft parts plant in Meridian, Miss. (July 2003) The attacker purchased a gun from a private seller, with no background check required.

4 killed and 7 injured at an IHOP restaurant in Carson City, Nev. (Sept. 2011) The attacker purchased a gun from a private seller, with no background check required.

7 killed and 23 injured in multiple locations in Odessa, Texas (Aug. 2019) The attacker purchased a gun from a private seller, with no background check required.

Source: New York Times analysis of the Violence Project Mass Shooter Database

The proposal: Americans who buy guns from licensed dealers have to undergo a background check, but under federal law, such checks are not required when people buy guns from private sellers at gun shows or through online marketplaces. A bill that passed the House would make such checks more universal, and give investigators more time to complete the check.

Where it stands: President Biden has endorsed the House bill. A bipartisan group of senators is discussing a possible background check bill, but it may differ in its details or may not advance in any form.

What the analysis shows: Among the perpetrators of mass shootings in the database, four purchased guns from private sellers. One, the gunman in a 2019 shooting that killed seven people in Odessa, Texas, had already failed a background check before purchasing his weapon.

Several other attackers had backgrounds that should have prevented them from obtaining a gun, but the information was not uncovered during the check. The gunman in a 2017 shooting in Sutherland Springs, Texas, who killed 25 people in a church, had a domestic violence conviction that should have made him ineligible to purchase a gun, but it was never reported to the database.

No background check law can prevent all private gun transfers. Many people purchase guns from acquaintances, or buy them using purchasers with no flags who were hired to obtain the weapons. But subjecting more gun purchases to background checks would make it harder for ineligible people to obtain guns through legal channels.

Encouraging safe gun storage and punishing people who fail to secure guns from children and criminals

10 percent of the shootings involved a stolen gun.

5 killed and 1 injured at a car wash in Irving, Texas (March 2000) The attacker stole a gun.

5 killed and 2 injured in multiple locations in Sacramento (Sept. 2001) The attacker stole a gun.

9 killed and 7 injured at a high school in Red Lake, Minn. (March 2005) The attacker stole a gun.

8 killed and 5 injured at a mall in Omaha (Dec. 2007) The attacker stole a gun.

4 killed at a salvage yard in Santa Maria, Calif. (March 2008) The attacker stole a gun.

27 killed and 1 injured at an elementary school in Newtown, Conn. (Dec. 2012) The attacker stole a gun.

4 killed and 1 injured at a high school in Marysville, Wash. (Oct. 2014) The attacker stole a gun.

9 killed and 7 injured at a community college in Roseburg, Ore. (Oct. 2015) The attacker stole a gun.

5 killed at a mall in Burlington, Wash. (Sept. 2016) The attacker stole a gun.

10 killed and 13 injured at a high school in Santa Fe, Texas (May 2018) The alleged attacker stole a gun.

Source: New York Times analysis of the Violence Project Mass Shooter Database • Note: Thefts include guns borrowed or stolen from a friend or family member.

The proposal: Measures before the House would impose requirements and incentives for safer gun storage, which could make guns harder to steal. The bill would also impose penalties for people who fail to secure a gun, but those would apply only to households where a minor “is likely to gain access” or where a person prohibited from owning a gun lives. Other provisions would teach the public about the benefits of safe storage and offer rebates for people who buy safety devices.

Where it stands: President Biden endorsed the House bill in his speech. Safe gun storage legislation does not appear to be a topic of current negotiations in the Senate.

What the analysis shows: Ten percent of mass shootings involved weapons that were stolen. Several of those shootings have involved young assailants, including in 2012 at Sandy Hook Elementary School in Connecticut.

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Banning the sale of large-capacity magazines

Extended magazines were used in a fifth of shootings.

13 killed and 4 injured at an immigration center in Binghamton, N.Y. (April 2009) The attacker used an extended magazine.

13 killed and 32 injured at Fort Hood in Killeen, Texas (Nov. 2009) The attacker used an extended magazine.

4 killed and 2 injured at a restaurant in Los Angeles (April 2010) The attacker used an extended magazine.

6 killed and 13 injured outside a supermarket in Tucson, Ariz. (Jan. 2011) The attacker used an extended magazine.

12 killed and 70 injured at a movie theater in Aurora, Colo. (July 2012) The attacker used an extended magazine.

5 killed and 3 injured in multiple locations in Santa Monica, Calif. (June 2013) The attacker used an extended magazine.

14 killed and 22 injured at a social services center in San Bernardino, Calif. (Dec. 2015) The attackers used an extended magazine.

6 killed and 2 injured in multiple locations in Kalamazoo, Mich. (Feb. 2016) The attacker used an extended magazine.

49 killed and 53 injured at the Pulse nightclub in Orlando, Fla. (June 2016) The attacker used an extended magazine.

5 killed and 7 injured during a protest in Dallas (July 2016) The attacker used an extended magazine.

5 killed at a mall in Burlington, Wash. (Sept. 2016) The attacker used an extended magazine.

58 killed and 887 injured at a country music festival in Las Vegas (Oct. 2017) The attacker used an extended magazine.

25 killed and 20 injured at a Baptist church in Sutherland Springs, Texas (Nov. 2017) The attacker used an extended magazine.

12 killed and 21 injured at a country music bar in Thousand Oaks, Calif. (Nov. 2018) The attacker used an extended magazine.

12 killed and 4 injured at a municipal building in Virginia Beach (May 2019) The attacker used an extended magazine.

23 killed and 26 injured at a Walmart in El Paso (Aug. 2019) The alleged attacker used an extended magazine.

9 killed and 37 injured outside a bar in Dayton, Ohio (Aug. 2019) The attacker used an extended magazine.

9 killed at a light rail yard in San Jose, Calif. (May 2021) The attacker used an extended magazine.

10 killed and 3 injured at a grocery store in Buffalo (May 2022) The alleged attacker used an extended magazine.

21 killed and 17 injured at an elementary school in Uvalde, Texas (May 2022) The attacker used an extended magazine.

Source: New York Times analysis of the Violence Project Mass Shooter Database

The proposal: The House is also considering a bill that would ban the purchase of ammunition magazines that hold more than 10 bullets.

Where it stands: The House is expected to pass the bill next week, and President Biden endorsed it. Senate Republicans are seen as unlikely to advance the measure.

What the analysis shows: At least 19 percent of all shootings in the database involved assailants who upgraded their guns with magazines that were larger than those that came standard with their weapons, including several with the largest death counts.

The approach used in the database undercounts the number of shootings that could be affected by the current House proposal, which would make the magazines that come standard in many guns illegal. According to research from Louis Klarevas, a professor at Columbia University, and colleagues, at least an additional 13 mass shootings through 2019 involved magazines that held more than 10 bullets. The omitted shootings include Sandy Hook, where the assailant used several 30-round magazines that came standard with the Bushmaster XM15 rifle he used.

A ban on large-capacity magazines might reduce the number of mass shootings by eliminating a tool that makes them seem possible to would-be gunmen, advocates say. They could also reduce the number of people shot, by requiring more frequent reloading.

The 2017 shooting of spectators at a country music concert in Las Vegas caused the greatest number of deaths of any event in the database; it involved several large-capacity magazines, and a gun modification known as a “bump stock” that can make a semiautomatic weapon function more like a fully automatic machine gun. Without such tools, it is unlikely the gunman could have shot so many people.

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Expanding red-flag laws to remove guns from people in crisis

In 46 percent of shootings, an attacker expressed interest in harming others. In 36 percent, at least one attacker was previously known to be suicidal.

13 killed and 23 injured at Columbine High School in Littleton, Colo. (April 1999) One attacker was suicidal and both expressed intent to harm.

12 killed and 13 injured at two brokerage firms in Atlanta (July 1999) The attacker was suicidal and expressed intent to harm.

7 killed and 7 injured at a Baptist church in Fort Worth (Sept. 1999) The attacker was suicidal.

7 killed at an office in Honolulu (Nov. 1999) The attacker expressed intent to harm.

5 killed and 1 injured in multiple locations in Mount Lebanon, Pa. (April 2000) The attacker was suicidal.

7 killed at an office in Wakefield, Mass. (Dec. 2000) The attacker was suicidal.

4 killed and 3 injured in multiple locations in Rifle, Colo. (July 2001) The attacker expressed intent to harm.

5 killed and 2 injured in multiple locations in Sacramento (Sept. 2001) The attacker expressed intent to harm.

6 killed and 8 injured at an aircraft parts plant in Meridian, Miss. (July 2003) The attacker was suicidal and expressed intent to harm.

6 killed at an auto supply warehouse in Chicago (Aug. 2003) The attacker expressed intent to harm.

4 killed at a bar in Oldtown, Idaho (Oct. 2003) The attacker was suicidal.

4 killed and 3 injured at a courthouse in Atlanta (March 2005) The attacker was suicidal.

9 killed and 7 injured at a high school in Red Lake, Minn. (March 2005) The attacker was suicidal and expressed intent to harm.

5 killed and 1 injured at a church in Baton Rouge, La. (May 2006) The attacker expressed intent to harm.

5 killed and 4 injured at a mall in Salt Lake City (Feb. 2007) The attacker expressed intent to harm.

32 killed and 26 injured at Virginia Tech in Blacksburg, Va. (April 2007) The attacker was suicidal and expressed intent to harm.

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6 killed and 1 injured at the city hall in Kirkwood, Mo. (Feb. 2008) The attacker expressed intent to harm.

5 killed and 16 injured at Northern Illinois University in DeKalb, Ill. (Feb. 2008) The attacker was suicidal and expressed intent to harm.

4 killed at a salvage yard in Santa Maria, Calif. (March 2008) The attacker expressed intent to harm.

5 killed and 1 injured at a plastics plant in Henderson, Ky. (June 2008) The attacker was suicidal and expressed intent to harm.

6 killed and 4 injured in multiple locations in Alger, Wash. (Sept. 2008) The attacker was suicidal and expressed intent to harm.

8 killed and 3 injured at a nursing home in Carthage, N.C. (March 2009) The attacker was suicidal and expressed intent to harm.

13 killed and 32 injured at Fort Hood in Killeen, Texas (Nov. 2009) The attacker expressed intent to harm.

4 killed at a coffee shop in Parkland, Wash. (Nov. 2009) The attacker expressed intent to harm.

8 killed and 2 injured at a beer distributor in Manchester, Conn. (Aug. 2010) The attacker expressed intent to harm. State red flag law was in effect.

5 killed in a mobile home park in Jackson, Ky. (Sept. 2010) The attacker expressed intent to harm.

6 killed and 13 injured outside a supermarket in Tucson, Ariz. (Jan. 2011) The attacker was suicidal and expressed intent to harm.

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5 killed and 12 injured in multiple locations in Rancho Tehama Reserve, Calif. (Nov. 2017) The attacker was suicidal and expressed intent to harm. State red flag law was in effect.

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4 killed at a gas station in Detroit (Feb. 2018) The attacker expressed intent to harm.

4 killed and 4 injured at a Waffle House in Nashville (April 2018) The attacker was suicidal.

10 killed and 13 injured at a high school in Santa Fe, Texas (May 2018) The alleged attacker expressed intent to harm.

5 killed and 3 injured at The Capital Gazette in Annapolis, Md. (June 2018) The attacker expressed intent to harm.

11 killed and 6 injured at a synagogue in Pittsburgh (Oct. 2018) The alleged attacker was suicidal and expressed intent to harm.

5 killed at a bank in Sebring, Fla. (Jan. 2019) The alleged attacker was suicidal and expressed intent to harm. State red flag law was in effect.

5 killed and 7 injured at a warehouse in Aurora, Ill. (Feb. 2019) The attacker was suicidal and expressed intent to harm. State red flag law was in effect.

23 killed and 26 injured at a Walmart in El Paso (Aug. 2019) The alleged attacker expressed intent to harm.

9 killed and 37 injured outside a bar in Dayton, Ohio (Aug. 2019) The attacker was suicidal.

7 killed and 23 injured in multiple locations in Odessa, Texas (Aug. 2019) The attacker was suicidal.

8 killed and 1 injured at three spas in Atlanta (March 2021) The attacker was suicidal.

8 killed and 7 injured at a FedEx warehouse in Indianapolis (April 2021) The attacker was suicidal. State red flag law was in effect.

9 killed at a light rail yard in San Jose, Calif. (May 2021) The attacker was suicidal and expressed intent to harm. State red flag law was in effect.

4 killed and 7 injured at a high school in Oxford, Mich. (Nov. 2021) The alleged attacker expressed intent to harm.

10 killed and 3 injured at a grocery store in Buffalo (May 2022) The alleged attacker was suicidal and expressed intent to harm. State red flag law was in effect.

21 killed and 17 injured at an elementary school in Uvalde, Texas (May 2022) The attacker expressed intent to harm.

Source: New York Times analysis of the Violence Project Mass Shooter Database

The proposal: Nineteen states have passed laws that allow the police and other citizens to seek a court order to temporarily confiscate guns from people who are deemed an immediate threat to themselves or others. Congress is considering legislation that might broaden such laws.

Where it stands: A House bill would allow federal courts to issue such orders in states without their own laws. Senators are considering a proposal that would offer grants as an incentive for more states to establish such laws.

What the analysis shows: Research has shown that awareness of the laws and enthusiasm for using them varies by jurisdiction. But there is some evidence they can prevent violence.

A study in Connecticut found that the presence of such a law reduced the number of gun suicides, which is the most common type of gun-related death. A study of red-flag applications in California from 2019 included several examples of people who had threatened mass violence.

In one case, a man who threatened to shoot his former co-workers after losing his job was flagged while he waited for a background check to clear on a shotgun. When the police visited his home, they found 400 rounds of ammunition. Dr. Wintemute, a co-author on the study, said about 30 percent of red-flag applications in California had involved possible mass shooters.

“It critically depends on people being willing to obey the old adage: If you see something, say something,” he said. “There has to be a report. And that’s just the first step.”

In 57 percent of shootings, the attacker had issued a specific threat or was known to have been previously suicidal, behavior that might have initiated a gun confiscation. But in eight of those shootings, states had already enacted red-flag laws, an indication that threats of violence have not always resulted in gun confiscations, even when a law is on the books.

Banning so-called assault weapons

30 percent of shootings involved guns that were banned under the now-expired 1994 federal assault-weapons law.

13 killed and 23 injured at Columbine High School in Littleton, Colo. (April 1999) The attackers used an assault weapon.

7 killed at an office in Wakefield, Mass. (Dec. 2000) The attacker used an assault weapon.

4 killed and 4 injured at a factory in Melrose Park, Ill. (Feb. 2001) The attacker used an assault weapon.

5 killed and 2 injured in multiple locations in Sacramento (Sept. 2001) The attacker used an assault weapon.

6 killed and 2 injured in a rural hunting area in Birchwood, Wis. (Nov. 2004) The attacker used an assault weapon.

8 killed and 5 injured at a mall in Omaha (Dec. 2007) The attacker used an assault weapon.

4 killed and 5 injured at a youth center and a church in Arvada, Colo. (Dec. 2007) The attacker used an assault weapon.

4 killed in a parking lot in Mt. Airy, N.C. (Nov. 2009) The attacker used an assault weapon.

4 killed and 7 injured at an IHOP restaurant in Carson City, Nev. (Sept. 2011) The attacker used an assault weapon.

12 killed and 70 injured at a movie theater in Aurora, Colo. (July 2012) The attacker used an assault weapon.

27 killed and 1 injured at an elementary school in Newtown, Conn. (Dec. 2012) The attacker used an assault weapon.

5 killed and 3 injured in multiple locations in Santa Monica, Calif. (June 2013) The attacker used an assault weapon.

5 killed and 2 injured at two military centers in Chattanooga, Tenn. (July 2015) The attacker used an assault weapon.

14 killed and 22 injured at a social services center in San Bernardino, Calif. (Dec. 2015) The attackers used an assault weapon.

49 killed and 53 injured at the Pulse nightclub in Orlando, Fla. (June 2016) The attacker used an assault weapon.

5 killed and 7 injured during a protest in Dallas (July 2016) The attacker used an assault weapon.

58 killed and 887 injured at a country music festival in Las Vegas (Oct. 2017) The attacker used an assault weapon.

25 killed and 20 injured at a Baptist church in Sutherland Springs, Texas (Nov. 2017) The attacker used an assault weapon.

5 killed and 12 injured in multiple locations in Rancho Tehama Reserve, Calif. (Nov. 2017) The attacker used an assault weapon.

4 killed and 1 injured at a car wash in Saltlick Township, Pa. (Jan. 2018) The attacker used an assault weapon.

17 killed and 17 injured at a high school in Parkland, Fla. (Feb. 2018) The alleged attacker used an assault weapon.

4 killed and 4 injured at a Waffle House in Nashville (April 2018) The attacker used an assault weapon.

11 killed and 6 injured at a synagogue in Pittsburgh (Oct. 2018) The alleged attacker used an assault weapon.

23 killed and 26 injured at a Walmart in El Paso (Aug. 2019) The alleged attacker used an assault weapon.

9 killed and 37 injured outside a bar in Dayton, Ohio (Aug. 2019) The attacker used an assault weapon.

7 killed and 23 injured in multiple locations in Odessa, Texas (Aug. 2019) The attacker used an assault weapon.

4 killed and 3 injured at a kosher market in Jersey City, N.J. (Dec. 2019) The attackers used an assault weapon.

4 killed and 3 injured at a gas station in Springfield, Mo. (March 2020) The attacker used an assault weapon.

10 killed and 1 injured at a grocery store in Boulder, Colo. (March 2021) The alleged attacker used an assault weapon.

8 killed and 7 injured at a FedEx warehouse in Indianapolis (April 2021) The attacker used an assault weapon.

10 killed and 3 injured at a grocery store in Buffalo (May 2022) The alleged attacker used an assault weapon.

21 killed and 17 injured at an elementary school in Uvalde, Texas (May 2022) The attacker used an assault weapon.

Source: New York Times analysis of the Violence Project Mass Shooter Database

The proposal: A House bill, not scheduled for a vote, would bar the sale of certain semiautomatic rifles, pistols and shotguns that the bill describes as assault weapons.

Where it stands: More than 200 House Democrats have co-sponsored the bill, but not enough to command a majority of the House. Representative Jerry Nadler, a Democrat from New York who is the chairman of the House Judiciary Committee, said he and colleagues were trying to

persuade more lawmakers to support such a bill. An assault weapons ban seems unlikely to advance in the Senate. Some of the Republican senators who have been negotiating on other measures have opposed banning such a popular category of weapon.

What the analysis shows: Around 30 percent of the mass shootings in the database involved a weapon that would probably be banned by such a law. On average, they caused twice as many fatalities as other shootings.

If an assault weapons ban were added to the other policies under consideration, the share of mass shootings that could have been affected would rise to 47 percent.

About the data

There is no consensus on the definition of a mass shooting. The Violence Project follows the criteria used by the Congressional Research Service, which includes shootings in which four or more are killed excluding the attacker (attackers are not included in death totals). At least some of the murders must be in a public location and must not be “attributable to underlying criminal activity.” The database was last updated after the shooting in Buffalo. The Times added the more recent shooting in Uvalde, Texas.

The Times selected which criteria were relevant to each gun policy. Three shootings were excluded because they lacked data on the guns the attackers used, though they were factored into totals related to red flag laws. An additional one was excluded because the alleged assailants were acquitted and removed from the database. The data are counted by incident, not by shooter (three shootings in the period examined involved two attackers).

Shootings were coded based on whether at least one attacker, or one firearm that was used, fit our criteria. For instance, if a shooting involved a combination of purchased and stolen guns, the shooting was coded as having involved stolen weapons.

Additional source: Brady Campaign to Prevent Gun Violence (red-flag law effective dates)

Catie Edmondson contributed reporting.

Correction: June 4, 2022

An earlier version of this article described incompletely the type of magazine used in a number of mass shootings that could not have been sold if currently proposed legislation had been in effect. In those cases, as categorized by the Violence Project, the attackers purchased extended-capacity magazines to upgrade their weapons; they did not simply use large-capacity magazines, which come standard in many of the weapons used in other mass shootings.