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No. 23-1793, 23-1825, 23-1826, 23-1827 & 23-1828 (consol.)

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**IN THE  
UNITED STATES COURT OF APPEALS  
FOR THE SEVENTH CIRCUIT**

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JAVIER HERRERA,

Plaintiff-Appellant,

v.

KWAME RAOUL, et al.

Defendants-Appellees.

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Appeal from the United States District Court  
for the Northern District of Illinois, Eastern Division  
No. 23-cv-00532  
The Honorable Lindsay C. Jenkins, Judge Presiding

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**SEPARATE APPENDIX OF DEFENDANTS-APPELLEES  
COOK COUNTY, TONI PRECKWINKLE, KIMBERLY M. FOXX, AND  
THOMAS J. DART**

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- Date of the incident;
  - Website link to the news story;
  - Location (city and state);
  - Context (e.g., domestic violence, home invasion, robbery, etc.);
  - Whether the defender had a concealed-carry permit;
  - Whether there were multiple assailants;
  - Whether shots were fired; and
  - Firearm type (handgun, shotgun, rifle, pellet rifle, long gun, or unknown).<sup>38</sup>
26. I performed an analysis of all 2,714 incidents in the Heritage DGU Database as of

October 7, 2022 to determine what number and percent of the incidents involved a rifle. I found there were 51 incidents indicating a rifle was involved. These 51 incidents represent 2% of all incidents in the database and 4% of incidents with a known gun type.<sup>39</sup> The table below shows the breakdown of incidents by coded firearm type for the 2,714 incidents.

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<sup>38</sup> A review of the data and linked news stories from the Heritage DGU Database indicates that the firearm type corresponds to the firearm associated with the defender.

<sup>39</sup> This analysis is based on The Heritage Foundation's coding of these incidents. We have not independently verified the coding of these incidents.

**The Heritage Foundation  
Defensive Gun Uses Database**

<b>Firearm Type</b>	<b>Incidents<sup>1</sup></b>	<b>% of Total</b>	<b>% of Known</b>
<b>(1)</b>	<b>(2)</b>	<b>(3)</b>	<b>(4)</b>
Handgun	1,113	41%	90%
Shotgun	78	3%	6%
Rifle	51	2%	4%
Long Gun	1	0%	0%
Pellet Rifle	1	0%	0%
Unknown	1,473	54%	
<b>Total known:</b>	<b>1,241</b>		
<b>Total:</b>	<b>2,714</b>		

**Source:**

"Defensive Gun Uses in the U.S.," *The Heritage Foundation* .

Data as of October 7, 2022.

<sup>1</sup> Note that three incidents are coded as having more than one firearm type and thus the sum by firearm type is larger than the total number of incidents.

27. I conducted the same analysis of the Heritage DGU Database excluding incidents that occurred in states that have restrictions on assault weapons. In particular, I excluded incidents in California, Connecticut, Hawaii, Maryland, Massachusetts, New Jersey, and New York, as well as Washington D.C.<sup>40</sup> In states without assault weapons restrictions, the Heritage DGU Database has 48 incidents indicating a rifle was involved. These 48 incidents represent 2%

<sup>40</sup> See, "Assault Weapons," *Giffords Law Center*, <https://giffords.org/lawcenter/gun-laws/policy-areas/hardware-ammunition/assault-weapons/>. Delaware is not excluded since restrictions in Delaware were enacted in June 2022. See, "Governor Carney Signs Package of Gun Safety Legislation," *Delaware.gov*, June 30, 2022, <https://news.delaware.gov/2022/06/30/governor-carney-signs-package-of-gun-safety-legislation/>.

of incidents in these states and 4% of incidents with a known gun type in these states. The table below shows the breakdown of incidents by coded firearm type for states that do not restrict assault weapons.

**The Heritage Foundation  
Defensive Gun Uses Database  
States Without Assault Weapon Restrictions**

<b>Firearm Type</b>	<b>Incidents<sup>1</sup></b>	<b>% of Total</b>	<b>% of Known</b>
<b>(1)</b>	<b>(2)</b>	<b>(3)</b>	<b>(4)</b>
Handgun	1,033	41%	90%
Shotgun	63	3%	6%
Rifle	48	2%	4%
Long Gun	0	0%	0%
Pellet Rifle	1	0%	0%
Unknown	1,357	54%	
<b>Total known:</b>	<b>1,142</b>		
<b>Total:</b>	<b>2,499</b>		

**Source:**

"Defensive Gun Uses in the U.S.," *The Heritage Foundation*.  
Data as of October 7, 2022. Excludes the following states with assault weapon restrictions: California, Connecticut, Hawaii, Maryland, Massachusetts, New Jersey, and New York as well as Washington D.C. Classification from Giffords Law Center. Incidents in Delaware not excluded as restrictions were enacted in June 2022.

<sup>1</sup> Note that three incidents are coded as having more than one firearm type and thus the sum of the individual firearm types is larger than the total number of incidents.

**B. Public Mass Shootings**

28. We analyzed the use of assault weapons and large-capacity magazines<sup>41</sup> in public mass shootings using four sources for identifying public mass shootings: Mother Jones,<sup>42</sup> the Citizens Crime Commission of New York City,<sup>43</sup> the Washington Post<sup>44</sup> and the Violence Project.<sup>45, 46</sup> The analysis focused on public mass shootings because it is my understanding that

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<sup>41</sup> My analysis is based on the definitions of assault weapons (“Assault Weapons”) and large capacity magazines (“Large-Capacity Magazines”) provided by California law, specifically: California Penal Code sections 30510, 30515 and 32310, and California Code of Regulations, title 11, section 5499. California law defines Large Capacity Magazines as magazines capable of holding more than ten rounds and Assault Weapons based on either their “make and model” or on certain “features.” See, for example, California Department of Justice: “What is considered an assault weapon under California law?” and “What are AK and AR-15 series weapons?” <https://oag.ca.gov/firearms/regagunfaqs>, accessed October 25, 2018.

<sup>42</sup> “US Mass Shootings, 1982-2022: Data From Mother Jones’ Investigation,” Mother Jones, updated November 23, 2022, <http://www.motherjones.com/politics/2012/12/mass-shootings-mother-jones-full-data>.

<sup>43</sup> “Mayhem Multiplied: Mass Shooters and Assault Weapons,” Citizens Crime Commission of New York City, February 2018 update. Additional details on the mass shootings were obtained from an earlier source by the Citizens Crime Commission. “Mass Shooting Incidents in America (1984-2012),” Citizens Crime Commission of New York City, <http://www.nycrimecommission.org/mass-shooting-incidents-america.php>, accessed June 1, 2017.

<sup>44</sup> “The terrible numbers that grow with each mass shooting,” The Washington Post, updated May 12, 2021.

<sup>45</sup> “Mass Shooter Database,” The Violence Project, <https://www.theviolenceproject.org/mass-shooter-database/>, updated May 14, 2022.

<sup>46</sup> When I began research in 2013 on mass shootings, I found Mother Jones and Citizens Crime Commission to maintain the most comprehensive lists of relevant mass shootings. More recently, two additional sources, the Washington Post and The Violence Project, have compiled lists of public mass shootings. The Violence Project began work on its mass shootings database in September 2017 and its database first went online in November 2019, while the Washington Post first published its mass shootings database in February 2018. There is substantial overlap between the mass shootings in all four sources. For example, the Mother Jones data contains 93% of the mass shootings in the Citizens Crime Commission data for the years covered by both data sources, 1984 to 2016, while the Washington Post contains 94% of the mass shootings in The Violence Project data for the years covered by both data sources, 1966 to 2019.

the state of Delaware is concerned about public mass shootings and enacted the challenged law, in part, to address the problem of public mass shootings.<sup>47</sup>

29. The type of incident considered a mass shooting is generally consistent across the four sources. In particular, all four sources consider an event a mass shooting if four or more people were killed in a public place in one incident and exclude incidents involving other criminal activity such as a robbery.<sup>48</sup>

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<sup>47</sup> See Delaware's HB 450, which discusses numerous public mass shootings and notes that "assault-style weapons have been used disproportionately to their ownership in mass shootings."

<sup>48</sup> Citizen Crime Commission describes a mass shooting as "four or more victims killed" in "a public place" that were "unrelated to another crime (e.g., robbery, domestic violence)." Citizen Crime notes that its sources include "news reports and lists created by government entities and advocacy groups." "Mayhem Multiplied: Mass Shooters and Assault Weapons," Citizens Crime Commission of New York City, February 2018 update.

Mother Jones describes a mass shooting as "indiscriminate rampages in public places resulting in four or more victims killed by the attacker," excluding "shootings stemming from more conventionally motivated crimes such as armed robbery or gang violence." Although in January 2013 Mother Jones changed its definition of mass shooting to include instances when three or more people were killed, for this declaration we only analyzed mass shootings where four or more were killed to be consistent with the definition of the other three sources. "A Guide to Mass Shootings in America," Mother Jones, updated November 23, 2022, <http://www.motherjones.com/politics/2012/07/mass-shootings-map>. See also, "What Exactly is a Mass Shooting," Mother Jones, August 24, 2012, <http://www.motherjones.com/mojo/2012/08/what-is-a-mass-shooting>.

The Washington Post describes a mass shooting as "four or more people were killed, usually by a lone shooter" excluding "shootings tied to robberies that went awry" and "domestic shootings that took place exclusively in private homes." The Washington Post notes that its sources include "Grant Duwe, author of 'Mass Murder in the United States: A History,' Mother Jones and Washington Post research," as well as "Violence Policy Center, Gun Violence Archive; FBI 2014 Study of Active Shooter Incidents; published reports." "The terrible numbers that grow with each mass shooting," The Washington Post, updated May 12, 2021, <https://www.washingtonpost.com/graphics/2018/national/mass-shootings-in-america/>.

The Violence Project indicates that it uses the Congressional Research Service definition of a mass shooting: - "a multiple homicide incident in which four or more victims are murdered with firearms—not including the offender(s)—within one event, and at least some of the murders occurred in a public location or locations in close geographical proximity (e.g., a workplace, school, restaurant, or other public settings), and the murders are not attributable to any other

30. Each of the four sources contains data on mass shootings covering different time periods. The Mother Jones data covers 112 mass shootings from 1982 to October 13, 2022,<sup>49</sup> the Citizens Crime Commission data covers 80 mass shootings from 1984 to February 2018,<sup>50</sup> the Washington Post data covers 185 mass shootings from 1966 to May 12, 2021,<sup>51</sup> and The Violence Project data covers 182 mass shootings from 1966 to May 14, 2022.<sup>52, 53</sup>

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underlying criminal activity or commonplace circumstance (armed robbery, criminal competition, insurance fraud, argument, or romantic triangle).” The Violence Project notes that its sources include “Primary Sources: Written journals / manifestos / suicide notes etc., Social media and blog posts, Audio and video recordings, Interview transcripts, Personal correspondence with perpetrators” as well as “Secondary Sources (all publicly available): Media (television, newspapers, magazines), Documentary films, Biographies, Monographs, Peer-reviewed journal articles, Court transcripts, Law Enforcement records, Medical records, School records, Autopsy reports.” “Mass Shooter Database,” The Violence Project, <https://www.theviolenceproject.org/methodology/>, accessed January 17, 2020.

<sup>49</sup> “A Guide to Mass Shootings in America,” Mother Jones, updated November 23, 2022, <http://www.motherjones.com/politics/2012/07/mass-shootings-map>. Excludes mass shootings where only three people were killed. Note this analysis of the Mother Jones data may not match other analyses because Mother Jones periodically updates its historical data.

<sup>50</sup> “Mayhem Multiplied: Mass Shooters and Assault Weapons,” *Citizens Crime Commission of New York City*, February 2018 update.

<sup>51</sup> “The terrible numbers that grow with each mass shooting,” *The Washington Post*, updated May 12, 2021, <https://www.washingtonpost.com/graphics/2018/national/mass-shootings-in-america/>.

<sup>52</sup> “Mass Shooter Database,” *The Violence Project* <https://www.theviolenceproject.org/mas-s-shooter-database/>, updated May 14, 2022.

<sup>53</sup> Note that I have updated this mass shooting analysis to include more recent incidents, as well as more recently available details. In my 2017 declaration in *Virginia Duncan et al. v. California Attorney General*, I included data on mass shootings through April 2017. In my 2018 declaration in *Rupp v. California Attorney General*, I updated the analysis to include data on mass shootings through September 2018. The analyses in both of these declarations included mass shootings only from Mother Jones and the Citizen Crime Commission. In my 2020 declaration in *James Miller et al. v. California Attorney General*, I updated the analysis to include mass shootings through December 2019 and added mass shootings from two more sources, the Washington Post and the Violence Project. The number of mass shootings, as well as some details about the shootings, are not identical across these declarations for three main reasons. First, I have updated the analysis to include more recent incidents as well as more recently available details. Second, starting in 2020, I added two more sources (Washington Post



31. Note that the two more recently compiled sources of mass shootings, the Washington Post and The Violence Project, include additional mass shootings that were not covered by either Mother Jones or Citizens Crime Commission. In general, we found that these additional mass shootings were less covered by the media and involved fewer fatalities and/or injuries than the ones previously identified by Mother Jones or Citizens Crime Commission. For example, using the mass shooting data for the period 1982 through 2019, we found that the median number of news stories for a mass shooting included in Mother Jones and/or Citizen Crime Commission was 317, while the median for the additional mass shootings identified in the Washington Post and/or The Violence Project was 28.<sup>54</sup> In addition, using the mass shooting data through 2019, we found an average of 21 fatalities or injuries for a mass shooting included in Mother Jones and/or Citizen Crime Commission, while only 6 fatalities or injuries for the additional mass shootings identified in the Washington Post and/or The Violence Project.

32. We combined the data from the four sources for the period 1982 through October 2022, and searched news stories on each mass shooting to obtain additional details on the types of weapons used as well as data on shots fired where available. We compared the details on the weapons used in each shooting to the list of prohibited firearms and features specified in California law to identify, based on this publicly available information, which mass shootings involved the use of Assault Weapons. In addition, we identified, based on this publicly available

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and Violence Project), which include additional mass shootings and details not included in the initial sources. Third, even though Mother Jones included instances when three or more people were killed, for my declarations and reports starting in 2020, I only included mass shootings where four or more were killed to be consistent with the definition of the other three sources.

<sup>54</sup> The search was conducted over all published news stories on Factiva. The search was based on the shooter's name and the location of the incident over the period from one week prior to three months following each mass shooting.

information, which mass shootings involved the use of Large-Capacity Magazines. See attached **Exhibit B** for a summary of the combined data, and **Exhibit C** for a summary of the weapons used in each public mass shooting based on Mother Jones, Citizens Crime Commission, the Washington Post, the Violence Project, and news reports.<sup>55</sup>

### **1. Use of Assault Weapons in public mass shootings**

33. Based on the 179 mass shootings through October 2022, we found that Assault Weapons are often used in public mass shootings. Whether an Assault Weapon was used in a mass shooting can be determined in 153 out of the 179 incidents (85%) considered in this analysis. Out of these 153 mass shootings, 36 (or 24%) involved Assault Weapons. Even assuming the mass shootings where it is not known whether an Assault Weapon was used *all* did not involve an Assault Weapon, 36 out of 179 mass shootings, or 20%, involved Assault Weapons.

34. Based on our analysis, casualties were higher in the mass shootings that involved Assault Weapons than in other mass shootings. In particular, we found an average number of fatalities or injuries of 36 per mass shooting with an Assault Weapon versus 10 for those without. Focusing on just fatalities, we found an average number of fatalities of 12 per mass shooting with an Assault Weapon versus 6 for those without. (See table below.)

### **2. Use of Large-Capacity Magazines in public mass shootings**

35. Based on the 179 mass shootings through October 2022, we found that Large-Capacity Magazines (those with a capacity to hold more than 10 rounds of ammunition) are often used in public mass shootings. Magazine capacity is known in 115 out of the 179 mass

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<sup>55</sup> Note that the Citizens Crime Commission data was last updated in February 2018 and the Washington Post was last updated in May 2021.

9. Assault weapons cause more extreme physical damage to victims and can hit a greater number of victims than other firearms. Assault weapons shoot with a higher velocity than other types of handguns and rifles. Because of this velocity, ammunition fired from assault weapons travels easily through many objects, including most bulletproof vests, walls, vehicles, and the human body. I have personally witnessed the destruction assault weapons cause, including witnessing crime scenes where an assault weapon has been used to shoot innocent bystanders through barriers such as cars or building walls. Also, compared to other weapons, assault weapons require little or no training for a shooter to reach a large area and maximize death and destruction. Because assault weapons allow a shooter to hit targets within a very large area and at a higher velocity, they result either in intentional mass shootings or the unintentional shooting of many victims who are not the intended targets but innocent bystanders within the field of fire.

10. For example, on October 31, 2022, 14 people were shot in a drive-by shooting in Garfield Park, Chicago, using assault weapons. Three of the victims were children. The shooting occurred during a vigil at which a large group of people were gathered. Even though the shooter or shooters were targeting a specific person in that group, the use of an assault weapon risked the lives of the bystanders nearby.

11. Further, through the use of a switch or other modification to the firearm, assault weapons can become fully automatic, meaning that a single pull of the trigger will cause the firearm to fire continuously. My teams have recovered modified assault weapons, or automatic-capable assault weapons, on hundreds of occasions.

12. For example, on December 16, 2022, four teenagers were shot outside Benito Juarez High School in Chicago. Two of them died. In February of this year, CPD arrested the suspected shooter, who is a teenager. CPD recovered four semiautomatic weapons with high-capacity magazines from the suspect. Three of those weapons had switches that allowed the weapon to be fully automatic, which means they are prohibited under Chicago's assault weapons ordinance.

13. Demand for assault weapons seems to have risen in recent years. My opinion about this increased demand is based in significant part on my knowledge of crime data and crime trends in the City, including information about shootings, the weapons that Chicago police officers recover, and the information gathered from officers who work in specialized units, including those investigating gangs and narcotics. The increase is particularly acute in the areas of the City which generally experience more violence—specifically, Areas 1, 2 and 4, which encompass the majority of the south side and the far west sides of the City. Over the last five years, the Chicago Police Department has recovered more than 3,500 firearms that constitute assault weapons under the ordinance. The number weapons that CPD recovers each year has trended upward in recent years. In 2022 alone, CPD recovered more 1,713 assault weapons—more than five times the amount recovered in 2018.

14. Gangs, in particular, seem to be in a race to procure assault weapons. They use these weapons to intimidate other gangs or to respond in kind to shootings involving assault weapons. Not possessing assault weapons or an inability to respond to shootings using assault weapons are perceived as signs of weakness, and gangs want to avoid being seen as weak. There has also been an increase over the last several years of social media posts depicting individuals brandishing assault weapons. The posts are used to intimidate others and/or glamorize violence with assault weapons, particularly gang violence. This further bolsters their desirability, which leads to them be acquired, and ultimately used in shootings.

**C. Impact of Assault Weapons and High Capacity Magazines on Law Enforcement.**

15. Prior to 2008, CPD did not assign assault rifles to police officers. Because of the prevalence of assault weapons on the streets of Chicago, however, CPD now maintains a small amount of them so that it has some officers, such as those on SWAT teams, who can respond to emergency incidents with appropriate firepower.

16. Most Chicago police officers, however, do not carry assault weapons in the course of performing their job duties, nor do they train with them. This means that most of the time, the officers first responding to an active shooter incident involving an assault weapon will usually have weaker firepower than the assailant.

17. Due to the high velocity of bullets fired by assault weapons (along with the shape of the bullets that are commonly fired from assault weapons), assault weapons are able to defeat standard protective equipment used by law enforcement personnel, including that commonly worn by CPD officers. The highest level of protective equipment is therefore necessary.

18. This protective equipment includes the highest level of bullet-proof vest outfitted with trauma plates, and ballistic helmets. Trauma plates are heavy, metal or ceramic plates worn in conjunction with a vest to provide additional protection from bullets and other blunt force trauma. Vests only cover the chest and upper back area of the wearer, and the trauma plates only cover the area over the heart.

19. Partly because of the weight and expense of this equipment, as well as the fact that this equipment is bulky and limits mobility, it is not practical for all officers to wear such equipment prophylactically on their beats day-to-day. Moreover, this equipment can be extremely expensive and is purchased by officers out of their own pockets unless they are assigned to certain specialized units.

20. Only the SWAT team ordinarily wears this type of protective gear. Officers on the SWAT team are specially trained to handle particularly dangerous situations, including responding to calls involving assault weapons. SWAT officers train with their team every day while wearing this equipment and, because of this, become proficient in how to move about while wearing, carrying, and operating the equipment. Most police officers do not have this training, and thus would not be skilled at maneuvering with the equipment even if it were available to them.

21. Even if the City were to outfit all of its officers with this enhanced protective equipment, that would not ensure that officers are protected from a shooting from an assault weapon. This equipment still leaves some parts of the body vulnerable, and hits from assault weapons have a much higher likelihood of causing death or serious injury as compared to other types of firearms. And even if assault weapon ammunition is stopped by the vest or plate, major trauma to the body can still occur because of the high velocity of the bullet.

22. Because most officers are not trained to wear this equipment, they also would need to regularly train while wearing this equipment, in teams, like SWAT officers. I expect that training would require at least 15 hours of work each week to ensure its efficacy. Implementing that amount of training each week to most, if not all, CPD officers would be a huge logistical and financial undertaking for CPD, and would reduce the time that officers otherwise have available for protecting public safety through their normal policing routines in the community.

23. Having Chicago police officers routinely wear this equipment on their daily beats also would negatively impact the community because it would make officers appear to look more like members of an occupying military rather than persons who wish to protect and serve. Police officers are trained to de-escalate situations if we can, and that will be difficult to do if officers are routinely in neighborhoods wearing gear that makes them look like they are prepared for war.

24. Assault rifles are the weapon of choice for mass shootings in public spaces. Designed as killing machines, they allow a person to kill or injure as many people as possible in a short time, much more than with a handgun or non-semi-automatic rifle. CPD has thus adjusted its large-event and domestic terrorism preparations to address assault weapons and mass shootings. The rise in mass shootings and the increased prevalence of assault weapons has required CPD to dedicate increasingly large amounts of resources and time to securing public events and the general safety of the public.

25. For example, the 2022 Lollapalooza festival took place just weeks after the Fourth of July mass shooting in Highland Park, Illinois, in which the shooter used an assault weapon and high capacity magazine. CPD asked residents to stay off of the rooftops of buildings surrounding Grant Park and instituted other safety precautions designed specifically to address the safety concerns posed by a shooter using an assault weapon, both if located within the festival or outside the festival perimeter. If assault weapons became even more prevalent in the population, CPD would have to engage in efforts like this, which require a great deal of planning and personnel resources, much more often, thus depleting the resources available for other activities, including routine policing in neighborhoods.

26. Situations like this also present difficult operational decisions for law enforcement. For example, last year a threat was reported at Lollapalooza. This threat caused CPD to evaluate whether to evacuate everyone in the festival. But an evacuation itself could have risked a mass shooting because an individual armed with an assault weapon could have been waiting outside the secure perimeter.

27. Also, if assault weapons became more prevalent in the population, police officers' jobs would be more stressful. The job is already stressful. In any situation—whether responding to a battery or a traffic stop—an officer cannot know ahead of time if the individual has a weapon. This uncertainty creates even more stress when assault weapons may be in the picture, because if the individual has an assault weapon, the officer will be outgunned and effective cover will be harder to find. Encountering individuals armed with assault weapons is one of the most stressful situations that a Chicago police officer may encounter.



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SMG. At a distance of approximately 15 meters, one Ranger fired an AR-15 full automatic hitting one VC with 3 rounds with the first burst. One round in the head-took it completely off. Another in the right arm, took it completely off, too. One round hit him in the right side, causing a hole about five inches in diameter. It cannot be determined which round killed the VC but it can be assumed that any one of the three would have caused death. The other 2 VC ran, leaving the dead VC with 1 carbine, 1 grenade and 2 mines. " (Rangers)

(2.) (C) "On 9 June a Ranger Platoon from the 40th Inf Regt was given the mission of ambushing an estimated VC Company. The details are as follows:

- a. Number of VC killed: 5
- b. Number of AR-15's employed: 5
- c. Range of engagement: 30-100 meters
- d. Type wounds:
  1. Back wound, which caused the thoracic cavity to explode.
  2. Stomach wound, which caused the abdominal cavity to explode.
  3. Buttock wound, which destroyed all tissue of both buttocks.
  4. Chest wound from right to left, destroyed the thoracic cavity.
  5. Heel wound, the projectile entered the bottom of the right foot causing the leg to split from the foot to the hip.

These deaths were inflicted by the AR-15 and all were instantaneous except the buttock wound. He lived approximately five minutes.

The following is a list of minor deficiencies noted during this period:

- a. The stock and heat deflector will reflect light. This light is visible for approximately 150 feet at night.
- b. A brass brush is needed to remove carbon from the bolt carrier. " (Rangers)

(3.) (C) "72 AR-15 Rifles were carried into this action (airborne assault). The drop zone was barely acceptable and many troops landed in high trees. Several LMG's and BAR's were not operational after the drop. Only one AR-15 was reported slightly damaged (damaged pistol grip) and all were operational. Throughout the entire operation, which lasted 6 days and covered over 40 kilometers of difficult terrain including dense jungle and frequent water crossings, the weapons (AR-15) held up exceptionally well. " (Airborne Brigade)



## . Accidental explosions: gunpowder in Tudor and Stuart London

Gunpowder detonation in London is most commonly associated with an explosion that never happened: the thwarted 1605 gunpowder plot. Yet, argues Stephen Porter, accidental explosions were an ever-present threat in Tudor and Stuart London...

Published: September 22, 2016 at 4:03 pm

Gunpowder explosions were unique in their suddenness. Floods could be predicted from the level of the Thames and the timing of high tide, epidemics spread gradually, and lightning strikes originated from storms that could be seen and heard in advance. Gunpowder, however, gave no such warnings.

These disasters were frightening because they could not be predicted and therefore avoided. Although they occurred only occasionally, the risk of accidental explosions was ever-present and surely contributed to citizens' feelings of vulnerability during the Tudor and Stuart periods.

### Gunpowder usage

From the early 13th century, when gunpowder was first developed in Europe as an explosive substance, it was used as a propellant for projectiles fired from guns, or for the destruction of vast solid objects, such as buildings or rock formations.

Demand for the substance rose inexorably during the 16th and 17th centuries – thanks, in part, to the great increase in shipping and the expansion of armies and navies. Most large merchant vessels carried some cannon as a defence against privateers and pirates. By the early 15th century guns were being made that were small enough to be fired by a single man and powder was also sold to individual customers, for hand-guns and larger pieces, for self-defence and hunting.

More like this

## **Tudors and Stuarts (1485–1649)**

Fireworks and small squibs [small fireworks that burn with a hissing sound] were also developed. As the Lord Mayor's Show grew from the late 16th century, it saw the consumption of gunpowder in the many ship's cannon fired on the river, and fireworks became a central part of the show's lively entertainments.

Gunpowder was a commercially traded product and England was both a maker and importer. As England's greatest trading hub, London stood at the centre of the gunpowder trade.

*A figure of a dragon breathing fire is attached to a rocket tied to a rope stretched between two buildings in this 1628 woodcut. (Universal History Archive/Getty Images)*

### **A dangerous substance**

As well as its explosive power, gunpowder had the significant asset of detonating instantly. Contact with just a spark could ignite the whole charge. Yet this could also be a great danger. While it was stable if left untouched, gunpowder's remarkable sensitivity to flame made it dangerous to move, store or prepare for use. A moment of carelessness or a simple mishap could have deadly consequences. In 1595 it was described as "an unmerciful thing, if any chimney... should take fire, and sparkes fly, or a flint stone strike fire".

Safety in handling gunpowder was achieved by storing it in enclosed rooms without naked flames; light would be provided by lanterns placed behind internal glass windows. Those working with gunpowder did not carry or wear any metal objects and wore felt slippers, in case the nails in their boots should strike a spark. Rope, rather than iron hoops, was used to bind gunpowder barrels and wadding was placed around them during transportation.

*Woodcut showing a man testing saltpetre, a substance used to make gunpowder and preserve meat. (SSPL/Getty Images)*

The government's stocks of gunpowder were kept in its arsenal in the Tower of London. By the mid-1630s many spaces in the Tower were used for gunpowder storage, including the vault under the Master of the Ordnance's own lodgings. Powder rooms in the White Tower contained more than 2,100 barrels of gunpowder, and were protected by reducing the window openings to narrow slits.

As it became common for ships to mount artillery, warehouses near the quayside became regular places for storing gunpowder, yet rather alarmingly, the substance was also stored within buildings used for other purposes. In 1612, the Clothworkers Company's hall in Mincing Lane was described as containing a gallery, on the side of which were a chimney and two gunpowder houses. Even more of a public risk was a warehouse on Tower Hill, where, in 1586, more than 800 barrels of powder were being stored in a place where, "rogues and vagabonds oftentimes lodge in the night and burn straw to warm themselves".

## Accidents

Despite attempts to store gunpowder safely, accidents were not uncommon. Dangers abounded at 'gunpowder houses' within the city where the powder was processed. Not only was there a high risk of accidental ignition, the substance was also prone to spoil, through damp and the deterioration of the mixture.

In a building on Tower Hill in 1552, seven men were killed and eight injured when a spark fell into a container of gunpowder. Just a few years later, in 1560, a gun was fired near premises containing gunpowder in Crooked Lane, just north of London Bridge, detonating two barrels. Four houses were wrecked, with others damaged. Eleven people were killed and 17 more injured.

In April 1583 an explosion in Fetter Lane destroyed not just the gunpowder house it originated in, but also other houses in the street, causing damage over a much wider area. "The monstrous and huge blast of the gunpowder" broke windows in the church of St Andrew's, 150 yards from Fetter Lane, and at the chapel at Lincoln's Inn, a quarter of a mile in the opposite direction. Despite the extent of the destruction, only two men and one woman were killed. Others were burned by the flames, or injured by falling timbers in the damaged buildings, yet a child in the building where the explosion occurred escaped unharmed.

The cause of such accidents was rarely known, for those who made the mistake that ignited the gunpowder were generally killed. Yet in the case of Robert Porter's premises in Tower Street in 1650, the circumstances leading to the disaster were established, although not the immediate cause. Porter had 27 barrels of gunpowder stored in his house. Twenty had been sold to a ship's master, and as they were to be collected the next day, Porter had left them in the shop rather than the usual safer storage place. The explosion, and the following fire, which raged for two hours, killed 67 people, including the five who lived at the house. Fifteen houses were wrecked in total, and at least 100 more had tiles blown off the roofs, windows broken and other damage. The tower of All Hallows Church, opposite Porter's house, was so badly damaged that, despite repairs, it had to be rebuilt in 1659.

After the Great Fire of 1666, regulations concerning new buildings were issued, designed to prevent multiple house-fires. Yet in 1715, a blaze in Thames Street spread and destroyed more than 100 houses in the vicinity, as well as gutting the new Custom House. It began when a boy making fireworks in his father's gunpowder shop accidentally caused a detonation that blew up the house. Just three years later, 17 people were killed in an explosion at a brass foundry in Moorfields, where a crowd had gathered to watch captured French guns being recast.

Explosions also occurred on ships, and as the noise was not cushioned by surrounding buildings, these detonations must have been as alarming to the citizens as those in gunpowder houses or merchants' warehouses. In 1654, a ship on the Thames blew up when a pot of pitch being heated on deck caught fire. As the flames spread, the crew let

the ship drift away from other vessels until it beached on the Southwark side, near St Olave's church. The explosion when the fire reached the ship's gunpowder "made a terrible noise, and shook the houses thereabouts". All of the church's windows were broken and eight people were killed, most of them hit by flying debris. By chance, another ship blew up the following day, damaging houses near the shore.

Even within the Tower of London there were occasional lapses in safety. In 1548 an explosion there killed a prisoner and seriously damaged the structure. The serious risk was underlined again in July 1691, when 2,000 gunpowder barrels fell through a wooden floor in the White Tower. Either the powder did not spill out of the barrels, or there was no spark or flame to detonate it, and so a potentially devastating accident was luckily avoided.

*The Tower of London, which was used for storing gunpowder. (Print Collector/Getty Images)*

Other cities also suffered from major explosions during the period, including Basel (1526), Luxembourg (1554), Venice (1569), Dublin (1597), Delft (1654) and Leiden (1807). Between 1400 and 1850, there were more than 20 major explosions in European cities and towns.

## Precautions

The catastrophic fall-out of accidents such as these prompted the Privy Council and government to issue orders to make the storage and movement of London's gunpowder safer. The detonation in Crooked Lane prompted the city's corporation in 1580 to prohibit gunpowder storage in houses in the city [this was modified three years later to allow 2lbs of powder to be stored at any time, as long as it was kept in powder horns that were not placed near a street frontage]. After the 1650 disaster in Tower Street, parliament ordered the committee of the army and the city's corporation to consider "the best ways for avoiding all mischiefs and inconveniences that may happen by powder, and other combustible matter, in private houses and other magazines within the city of London".

From the mid-17th century, gunpowder magazines began to be housed in purpose-built structures, rather than in adaptations of existing buildings. These were designed to minimise the chance of an explosion. They were placed some distance from other buildings and surrounded with an earth bank, limiting the impact should an accident happen. However, most of these specialist magazines were built for the use of the armed forces and the citizens' militia, not for private stores or trading companies.

*A master gunner firing a cannon by applying fire to the breech, in a 1590 woodcut. (Universal History Archive/Getty Images)*

Such precautions were often ineffectual, however, because gunpowder was in such widespread use and control of the commercial side of its dealing and transporting was difficult. Even the response to a perceived danger could be lukewarm. In 1635, city justices were informed that a gunpowder house had been moved to a site near Clement's Inn, close to houses and footpaths, alarming nearby residents and walkers. Yet rather



than issuing a peremptory order to close the house, the justices simply decided to inspect it and order its removal if they found it to be dangerous.

A 1719 parliamentary order that restricted the amount of gunpowder stored in a building was equally ineffective. A building could simply be divided by a new wall, thereby doubling the quantity allowed, and subdivided again for further storage. These problems were recognised in a supplementary Act of Parliament five years later, and restrictions on the amount of powder that could be stored were reiterated in 1742.

The incidence of explosions did decline during the 18th and 19th centuries, but the danger had not gone away – there was a detonation on the Regent's Park Canal as late as 1874.

Stephen Porter is the author of [\*The Story of London: From its Earliest Origins to the Present Day\*](#), published in January 2016 by Amberley.

problematic trace submissions, and undermines the development of strategic and actionable intelligence needed by crime gun investigators. Increased funding would enhance the capacity of eTrace to trace recovered crime guns to purchasers and generate investigative leads in the following two ways:

- a. There have been no significant enhancements to the eTrace application since a Spanish language version was deployed in 2009. Modernization of the fields and prompts that guide the entry of recovered crime gun information is critical to the identification of purchasers and would further improve the validity and reliability of entered crime gun data. Potential enhancements could mandate the inclusion of a recovery date to yield more precise gun trafficking indicators based on time-to-crime measurement, support the validation of recovery address data to track intrastate and interstate crime gun movements more accurately, and the inclusion of photographs of both sides of recovered crime guns to improve trace results. Crime gun photographs allow ATF personnel to examine relevant markings, validate the submitted firearm description, and correct firearm descriptor errors and omissions prior to initiating the trace process.
  - b. The value of eTrace analytics could be improved by adding enhanced search and reporting features, interactive analytical dashboards, crime gun mapping capabilities, and establishing an enhanced information sharing platform to share leads and alerts with partnering LEAs. Participating LEAs would benefit from improved flexibility in managing and sharing trace data at various levels and across jurisdictions (local, state, multi-state, and national).
7. **Digitization of OOB Records:** Between 2000 and 2021, OOB records were used to complete 53% (4,041,799) of the 7,633,131 crime gun trace requests submitted to a purchaser (See Table NTC-04 in Part II – NTC Overview). The majority of OOB records are only available as paper records. The lack of digital records makes crime gun tracing a time-consuming effort and delays the generation of leads to investigators of violent gun crimes. ATF should explore digitizing the acquisition portion of FFL OOB Records. The OOB FFL acquisition records should be scanned and searchable by firearm description only. At no time would this include the cataloging of purchaser information. This should provide a significant improvement in the time required to complete a trace that requires the use of OOB records. This may require additional funding as well as the acquisition of software that can read handwriting and/or printed text and convert to a digitized format.
8. **Increased Focus on PMFs:** Some 37,980 PMF domestic trace requests were submitted to ATF between 2017 and 2021 (See Figure OFT-04 in Part III - Crime Guns Recovered and Traced Within the United States and Its Territories). As reflected in Table FER-01, the combined total of machinegun conversion and silencer and silencer parts recovered by ATF increased by almost 255% between the 2012 to 2016 period and the 2017 to 2021 period.

*Table FER-01: Total Machine Gun Conversion Parts, Silencer and Silencer Parts Taken into ATF Custody, 2012 – 2021*

Type	2012-2016	2017-2021	% Increase between 5 Year Periods
Machine-Gun Conversion Parts	814	5,454	570.0%
Silencer & Silencer Parts	3298	9,130	176.8%
<b>Total</b>	<b>4,112</b>	<b>14,584</b>	<b>254.7%</b>

**CERTIFICATE OF COMPLIANCE WITH CIRCUIT RULE 30**

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In accordance with Circuit Rule 30(d), I certify that all of the materials required by Circuit Rule 30(b) are contained in this separate appendix.

s/ Jessica M. Scheller

Jessica M. Scheller, Attorney

**CERTIFICATE OF SERVICE**

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I certify that on June 5, 2023, I electronically filed the attached Separate Appendix of Defendant-Appellees Cook County, Toni Preckwinkle, Kimberly M. Foxx, Thomas J. Dart with the Clerk of the Court for the United States Court of Appeals for the Seventh Circuit by using the CM/ECF system. I certify that all participants in the case are registered CM/ECF users and that service will be accomplished by the CM/ECF system.

s/ Jessica M. Scheller

Jessica M. Scheller, Attorney