

Testimony to the US Senate Judiciary Committee
November 13, 2024

Good morning, my name is Jens Ludwig. I am the Edwin A. and Betty L. Bergman Distinguished Service Professor at the University of Chicago and the Pritzker Director of the University of Chicago Crime Lab, which I helped found to work closely with local, state and federal government as an “R&D partner” to use data to help reduce gun violence and promote justice. In 2011 I was elected to the National Academy of Medicine, and I currently serve on the Committee on Law and Justice of the National Academies of Science.

Today I’m here to talk to you about a particularly troubling trend we are seeing in the data, which reflects a particularly troubling trend we are seeing on the streets of America.

In the past several years Chicago and other US cities have seen a large increase in the so-called “shooting fatality rate”, defined as the odds that a shooting will result in a fatality. That figure went from 1 in 7 in 2010 to closer to 1 in 5 today (from 12.6% to 18.7%). That is a large increase, on the order of nearly 50%.

While these figures come from Chicago, the problem is not unique to Chicago. We seem to be seeing the same increases in shooting lethality all across the United States, in Red States and Blue States, in big cities, suburbs and rural areas, according to research by Janet Lauritsen and Theodore Lentz. In the appendix I show what these trends look like for two places I was able to obtain data for myself that went in different directions in the 2024 presidential race – Pennsylvania (Philadelphia) and California (Los Angeles).

Unfortunately, this problem is not an abstract one to me: I’ve experienced it firsthand, having been robbed at gun point several years ago picking up my daughter from piano lessons on the South Side of Chicago where I live with my family. Just last week, the Monday before election day, just a few miles south of my home a Chicago Police Officer named Enrique Martinez was shot and killed as part of a traffic stop.

I don’t think there can be much argument that this is a very damaging development for public safety in America.

We set out to try to understand what is driving this increase in shooting lethality. After testing several hypotheses, the explanation that is best supported by the data is a large increase in the number of rounds fired per shooting. And a significant contributor to this increase seems to be the use of Glock switches and bump stocks, or what are sometimes called “machine-gun conversation devices” (MCDs).

Briefly, these are after-market devices that modify semi-automatic firearms so that they fire automatically, functionally equivalent to a machine gun. A switch does so for a handgun; a bump stock for a rifle.

In Chicago the number of firearms recovered that have been modified by these devices to fire automatically has increased from just 9 in 2010 to fully 465 in 2023. In fact, the Chicago Police

Officer recently shot and killed during a traffic stop, Enrique Martinez, was killed by a weapon that was outfitted with such a switch.

This proliferation of MCDs has contributed to the large increase in the number of rounds fired per shooting in Chicago shootings. For example, the number of shooting incidents in which Chicago police recovered 20 or more shell casings increased over the period 2010 to 2021 from 20 to 1,033.

I should note that MCDs do not alone account for the increase in rounds fired. A switch that allows for automatic fire is even more deadly if a shooter has a large number of rounds available to fire without having to reload, and Chicago has also seen a dramatic increase in the recovery of high capacity magazines. Between 2010 and 2023, there was over a five-fold increase in the number of magazines recovered with a capacity of 15 or more rounds, and a similarly large increase in the number of magazines recovered with a capacity of 30 or more rounds.

I realize that something like a 'shooting fatality rate' is not a very intuitive way to think about America's challenge with gun violence. So here is a more concrete way to think about this.

With 2000 to 3000 shootings per year in Chicago, even a seemingly small rise in the shooting fatality rate has a significant impact in the homicide rate. The increase in lethality from 12.6% to 18.7% means that compared to a world in which this figure had stayed constant at 2010 levels, the city of Chicago in 2023 had 184 more murders than it would have had otherwise. That's one-third of the total homicides in Chicago last year. 184 families whose lives will never be the same.

While I realize different people will have different views about the right solution to this problem, the main point I would like to emphasize here is that on the long list of things that we can be worried about, this increase in shooting lethality is a major one. Counter-intuitively, even small changes in the lethality rate of a few percentage points can wind up leading to big swings in the murder rate, both in terms of the absolute number of deaths (given the large number of shootings that occur in the US every year) or as a percentage of the total number of murders. The impact of these increases in shooting fatality rates on the number of homicides, the number of families and communities devastated and the larger implications for these cities themselves as people and businesses flee to safety, is heartbreaking.

I hope something here winds up being helpful to the committee's deliberations, thank you.

Appendix - Data Description & Exhibits

I carried out this analysis as part of my work directing the University of Chicago Crime Lab, where our mission includes analyzing data to inform the public about key facts and trends related to public safety and the public sector's response to that challenge.

For that purpose the Crime Lab has expertise in not only accessing the publicly available data sources that I draw on here (the city of Chicago public data portal; the city of Philadelphia public data portal; and FOIA'd data from the Los Angeles Police Department) but also restricted-use data from the Chicago Police Department (CPD) that the Crime Lab has access to for research purposes through a data sharing agreement with the city of Chicago. Restricted-use datasets analyzed here include:

- The CPD shooting victim database,
- The CPD crime incident database
- The CPD inventoried evidence database.

TABLE 1

Chicago Fatal and Non-Fatal Shooting Victims and the Shooting Lethality Rate

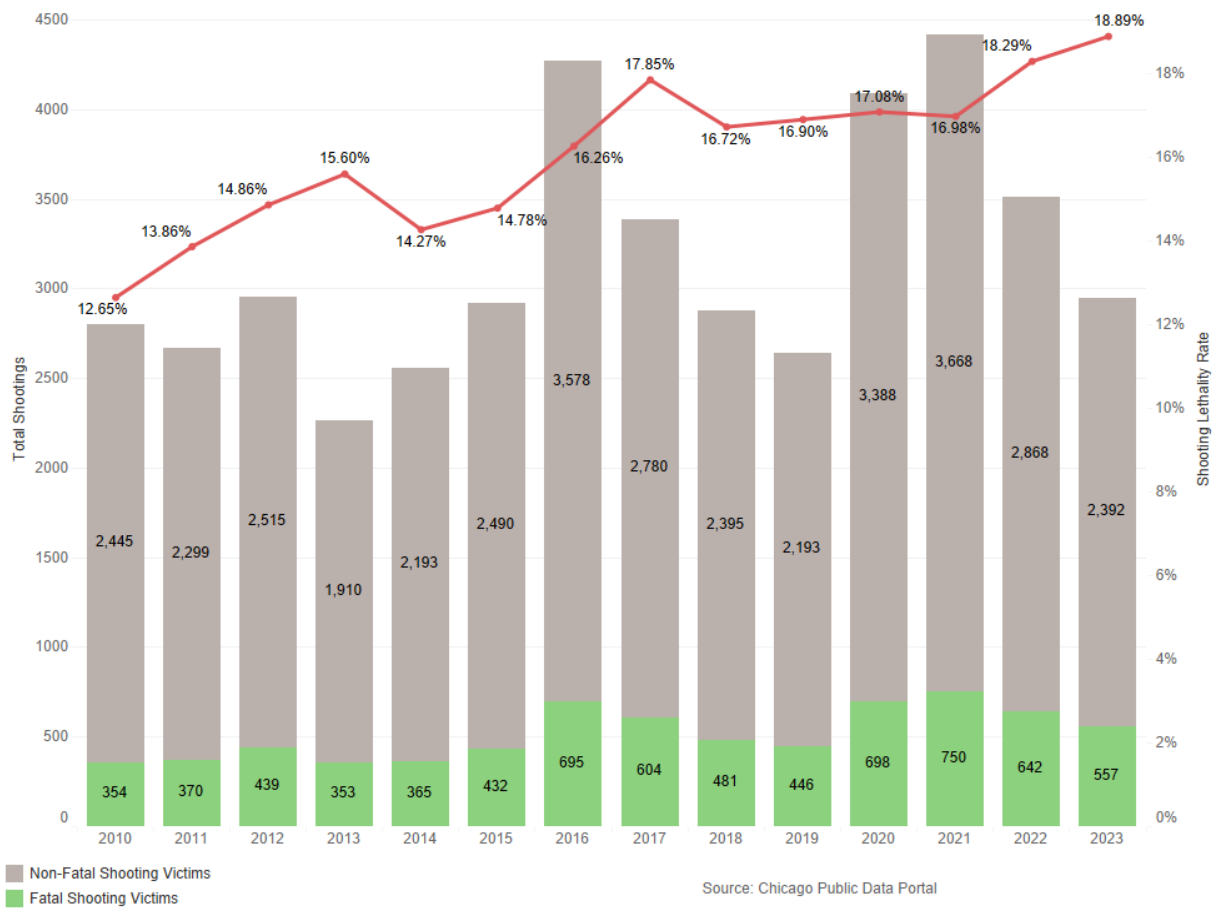


TABLE 2

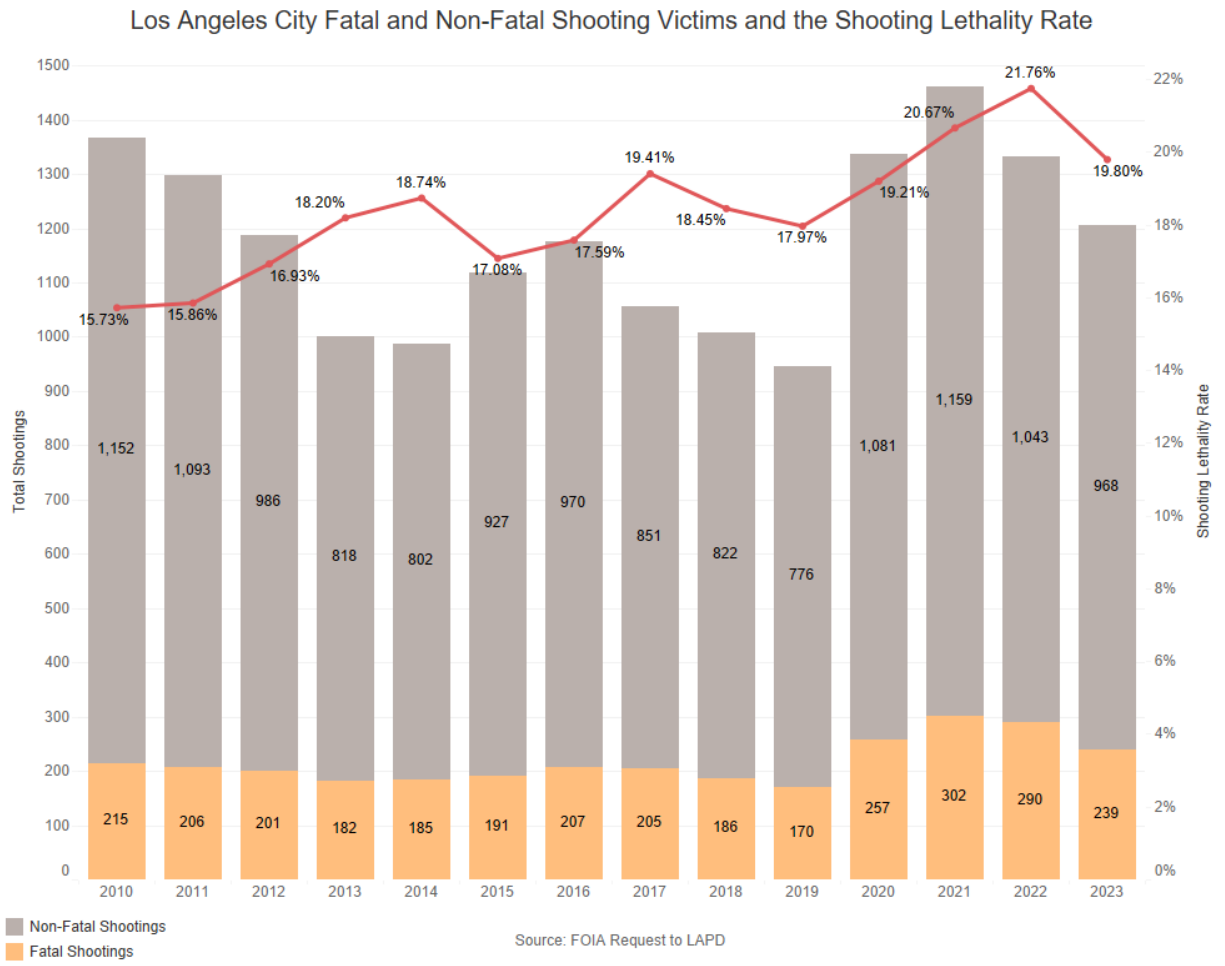


TABLE 3

Philadelphia Fatal and Non-Fatal Shooting Victims and the Shooting Lethality Rate

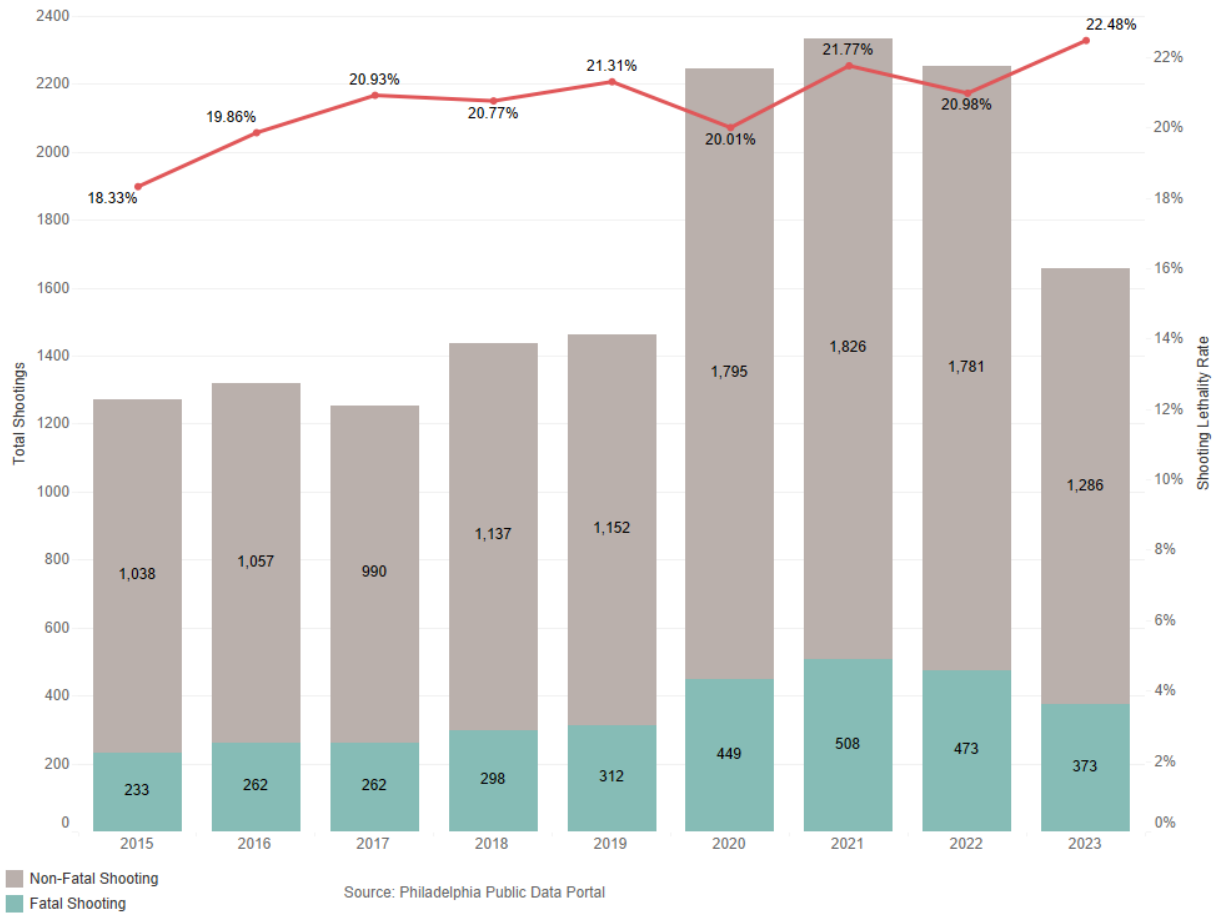


TABLE 4

Fatal Shooting Victims in Chicago if 2010 Shooting Lethality had Stayed Constant

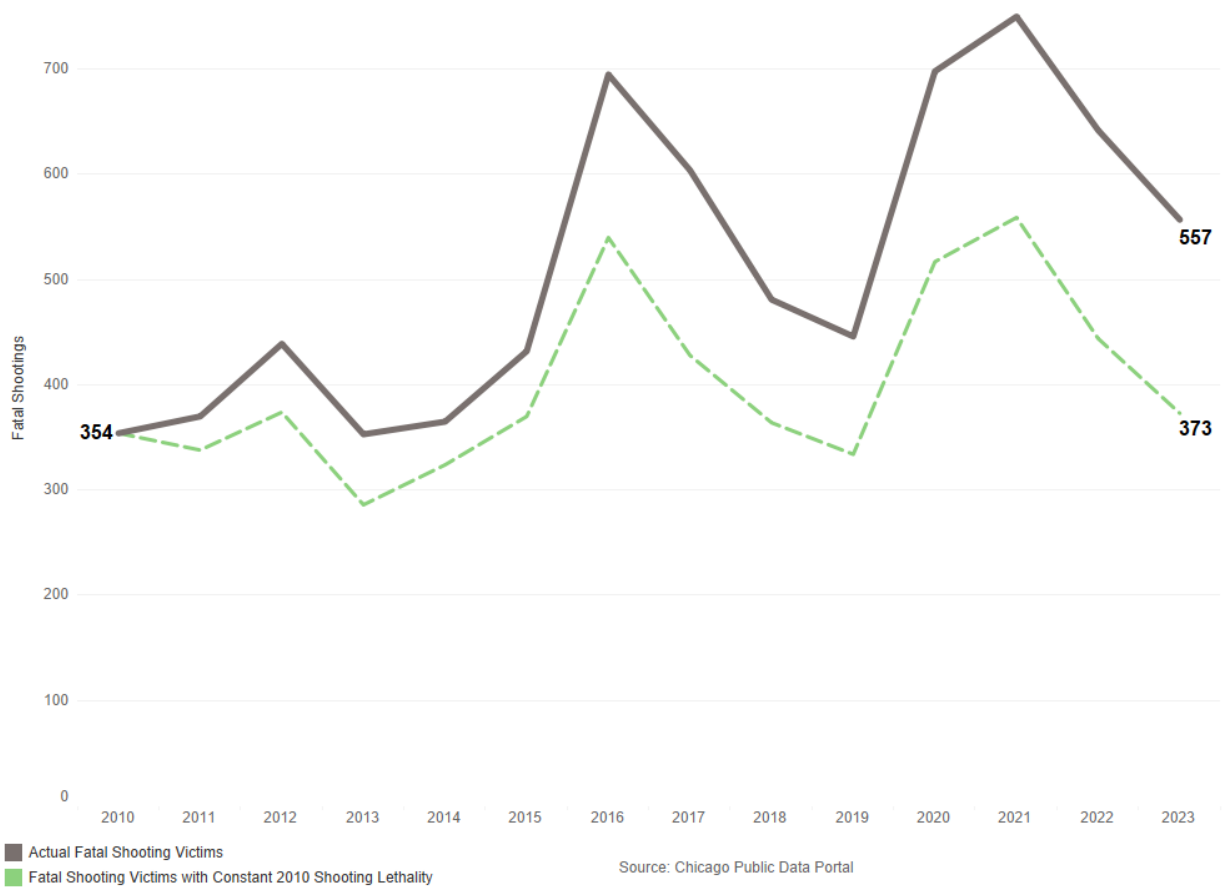


TABLE 5

Cumulative Fatal Shooting Victims in Chicago if 2010 Shooting Lethality had Stayed Constant

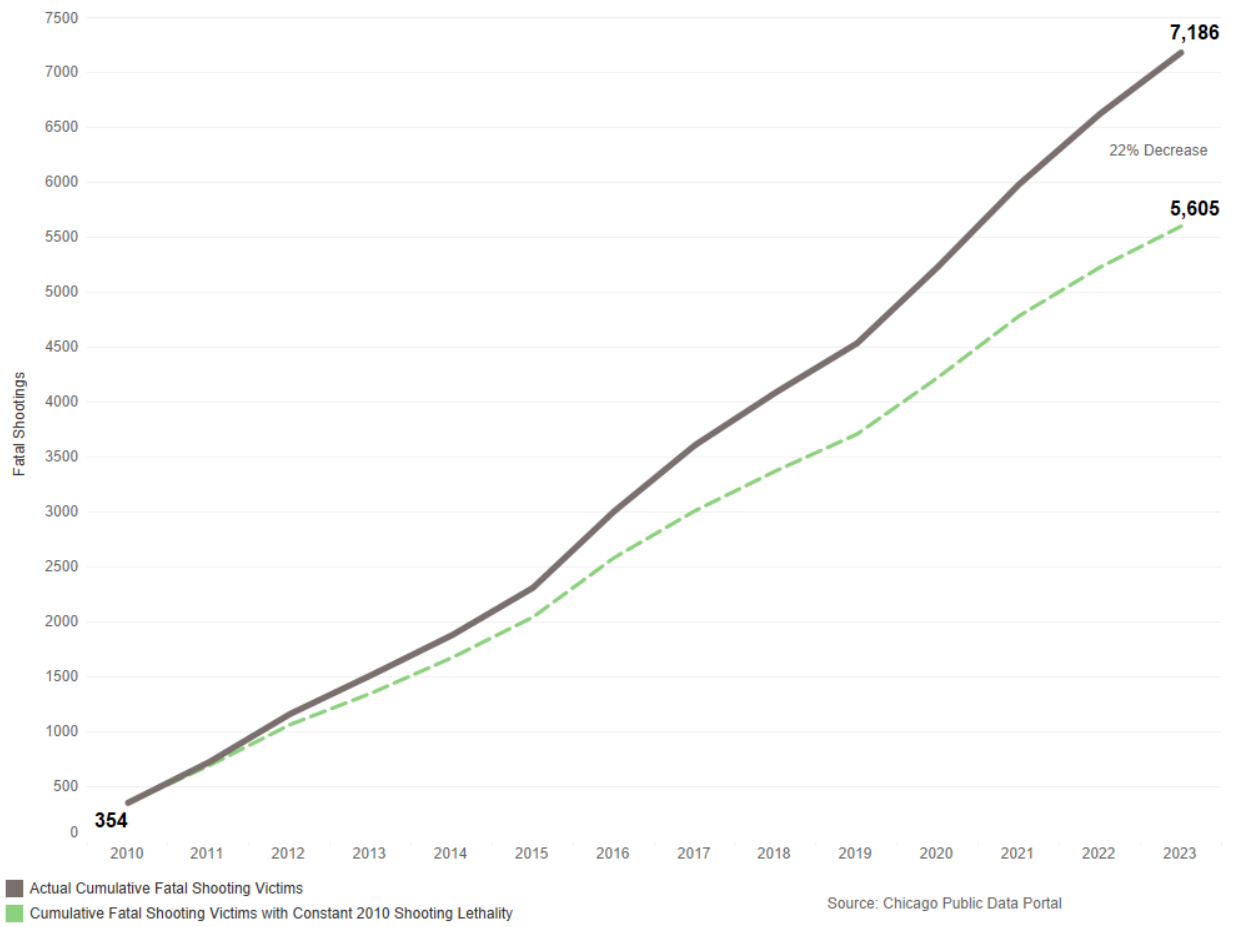


TABLE 6

Fatal Shooting Victims in Los Angeles City if 2010 Shooting Lethality had Stayed Constant

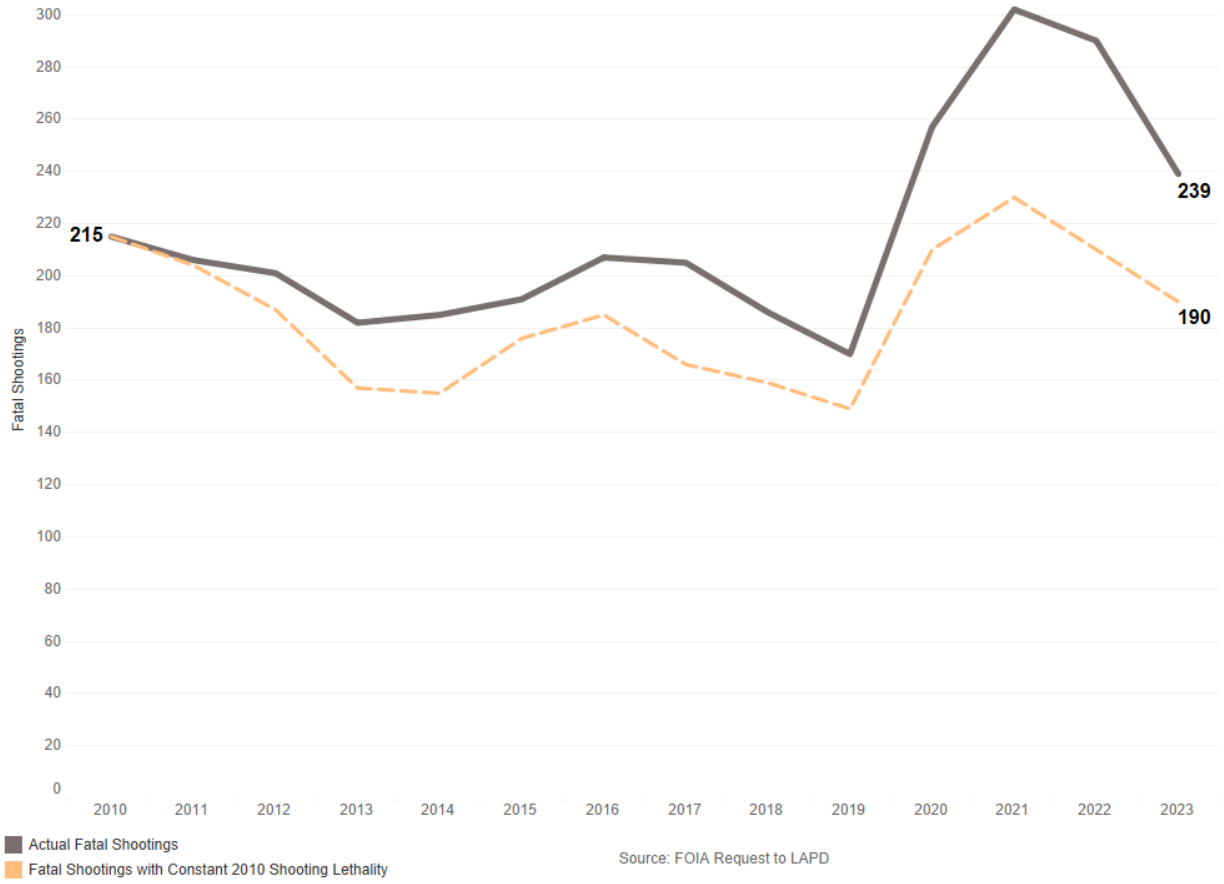


TABLE 7

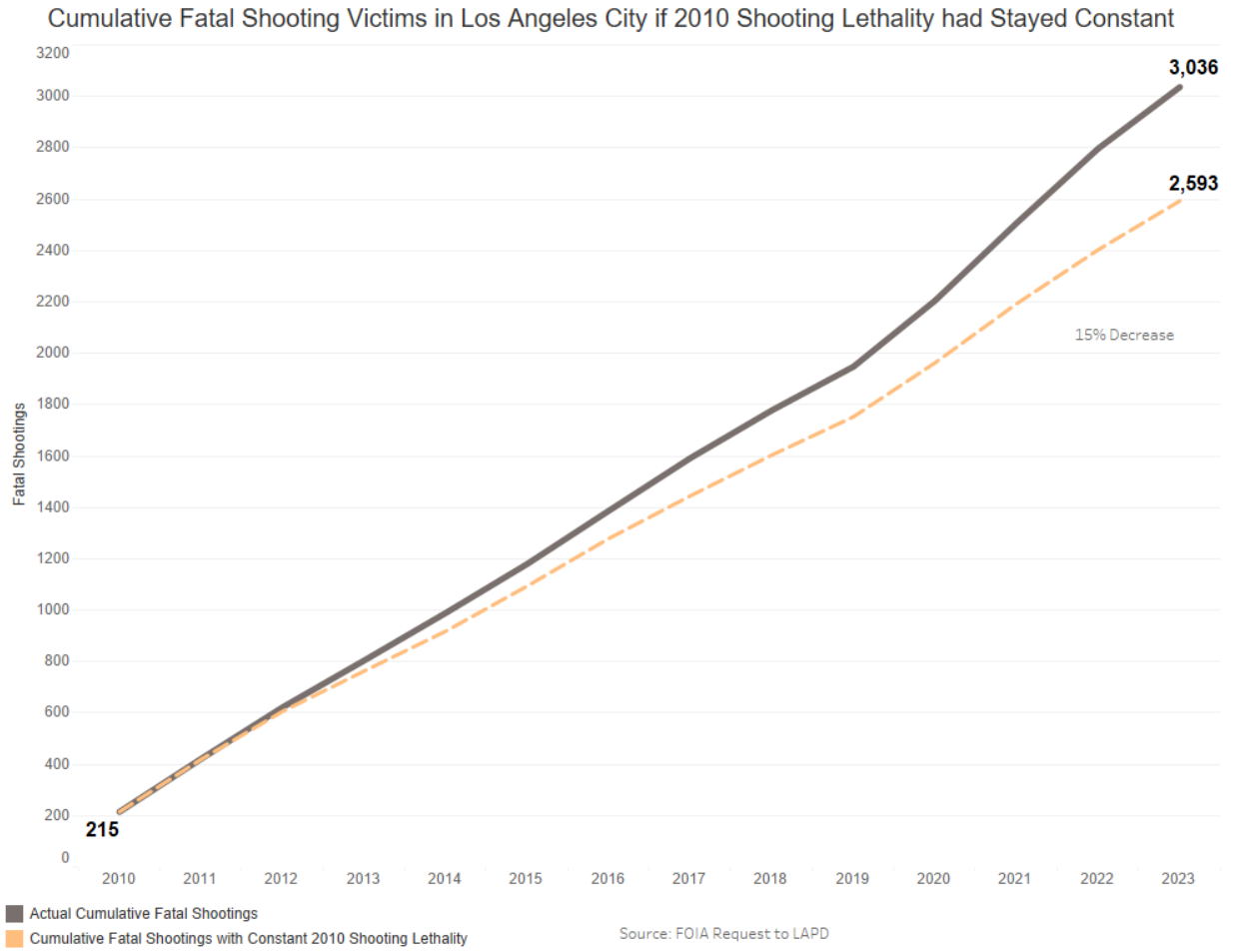


TABLE 8

Fatal Shooting Victims in Philadelphia if 2015 Shooting Lethality had Stayed Constant

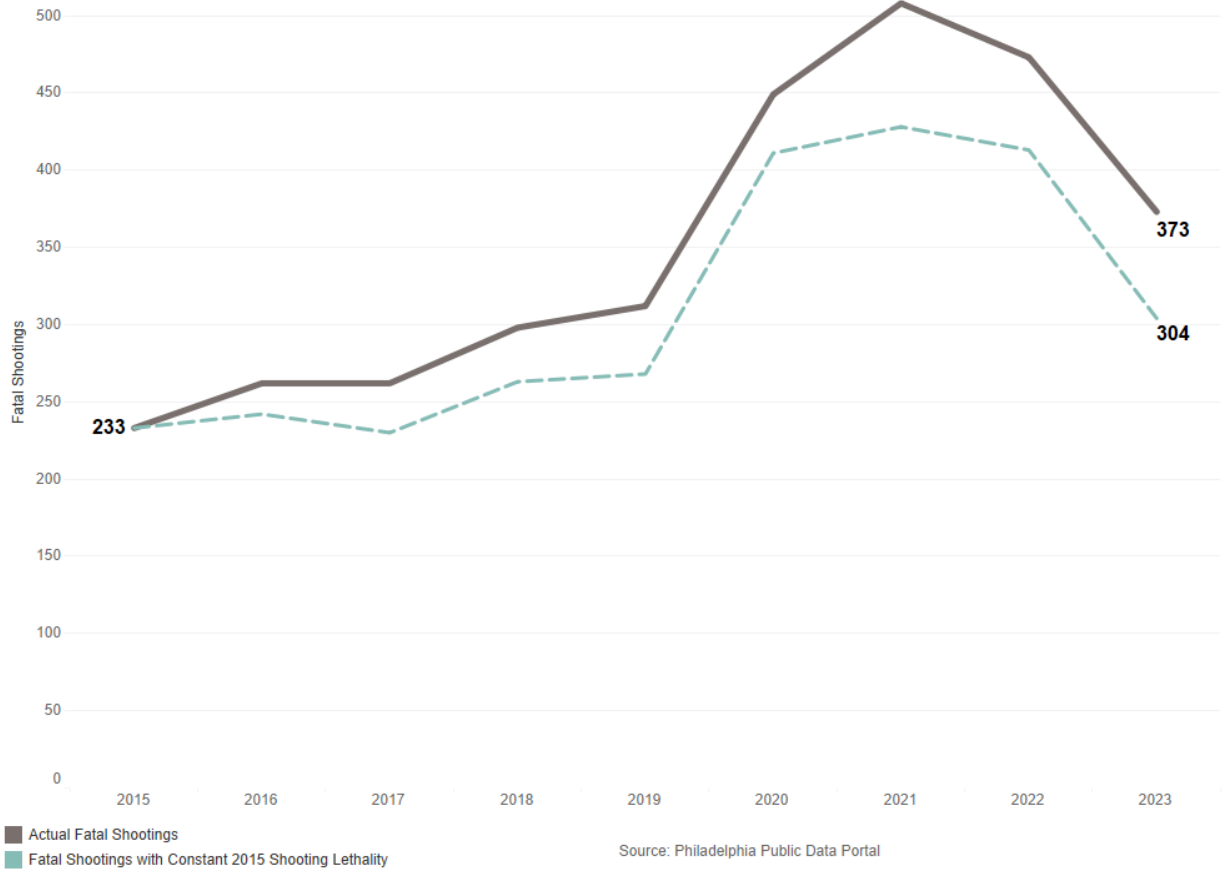


TABLE 9

Cumulative Fatal Shooting Victims in Philadelphia if 2015 Shooting Lethality had Stayed Constant

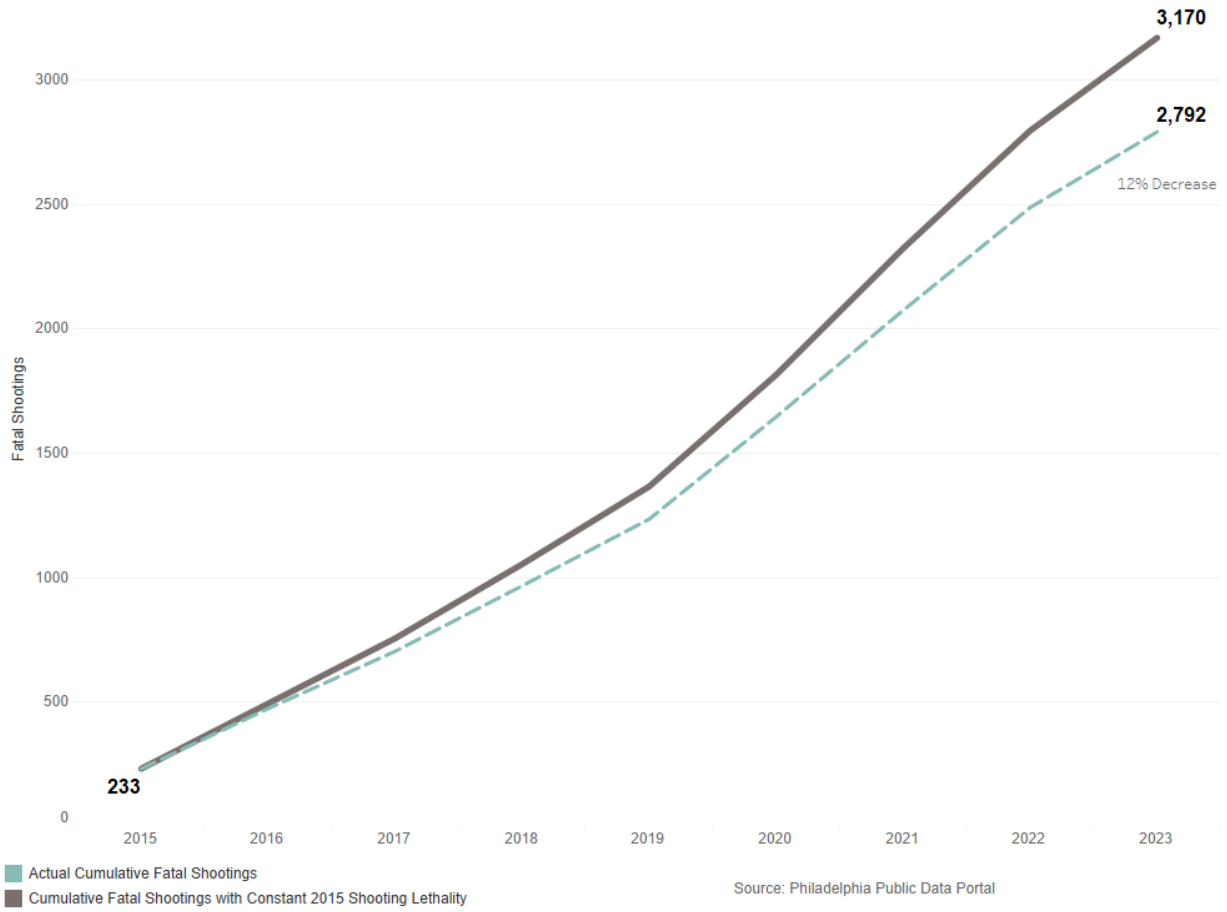
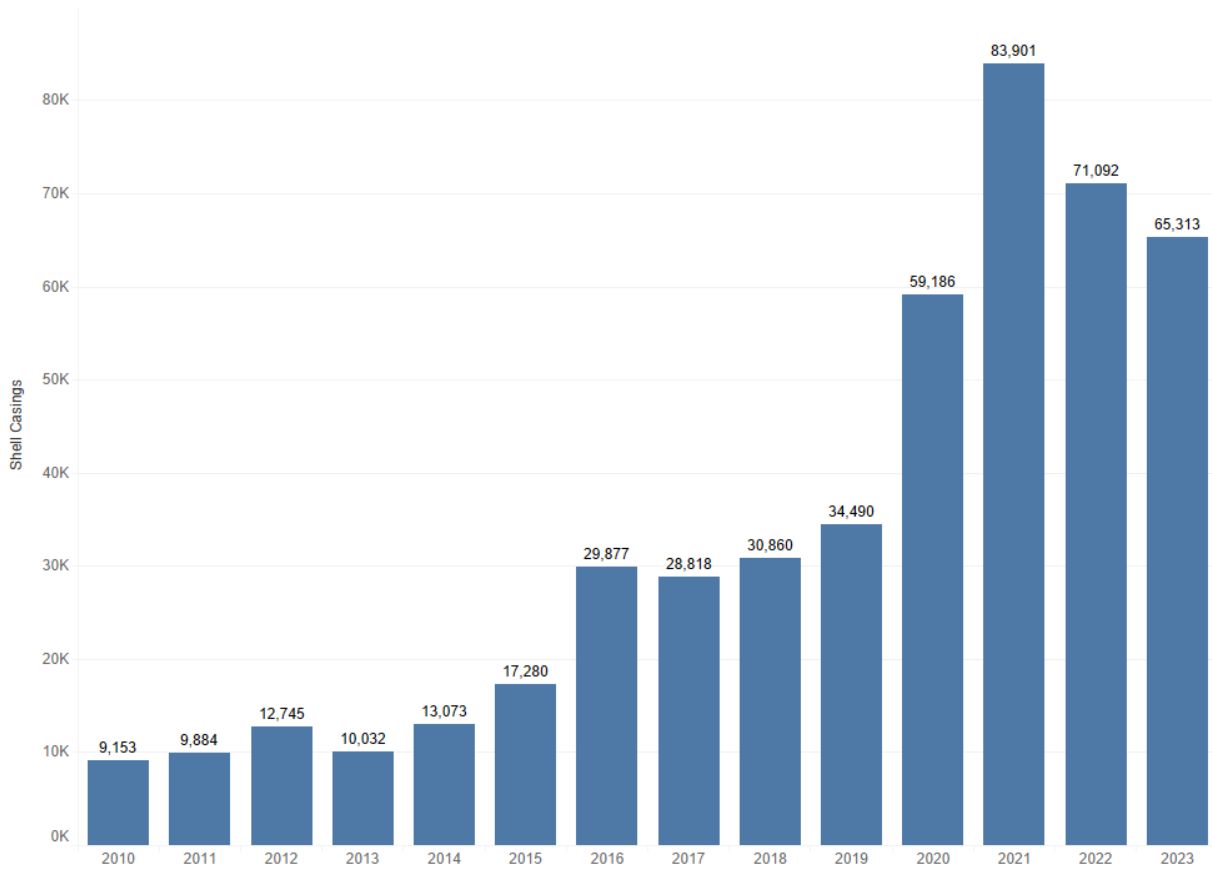


TABLE 10

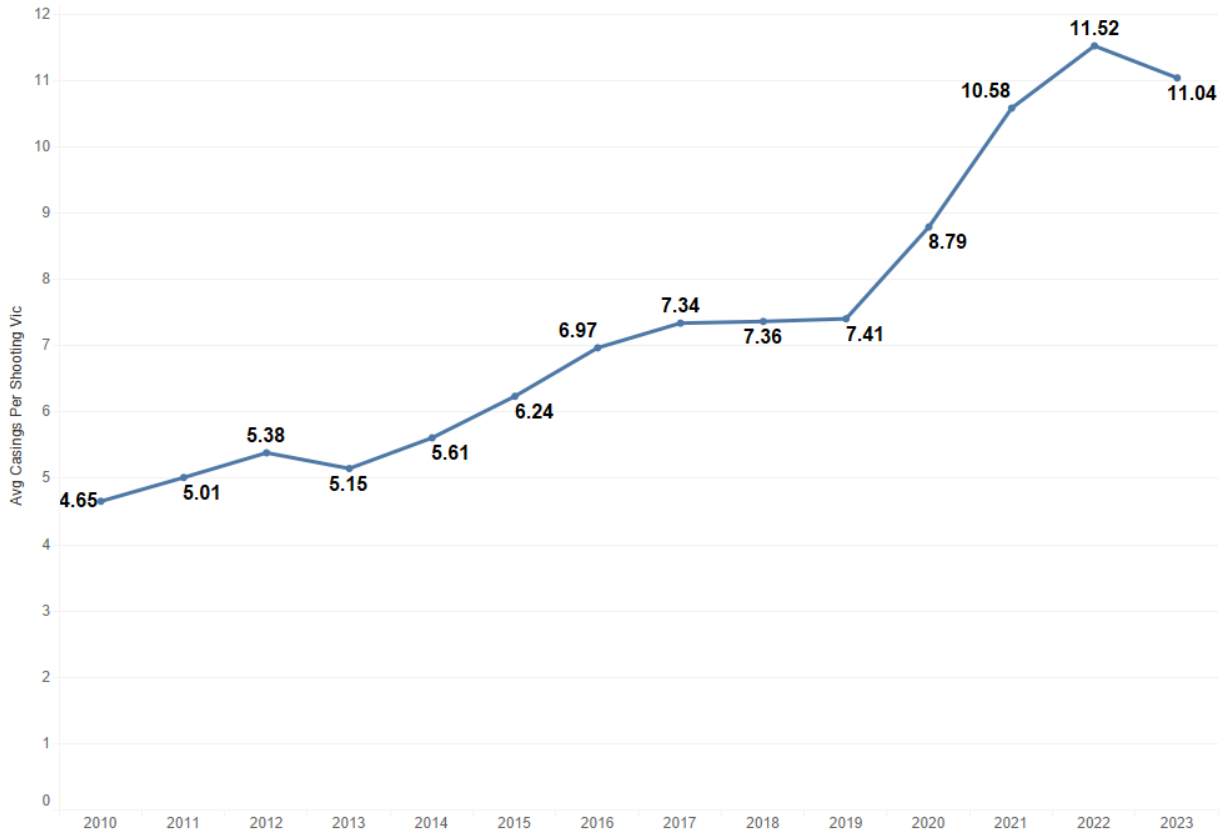
Spent Shell Casings Recovered by the Chicago Police Department by Year
Source: Chicago Police Department Inventoried Evidence



These are all shell casings recovered by the Chicago Police Department, regardless of whether or not they were connected to an injured shooting victim.

TABLE 11

Average Recovered Shell Casings per Shooting Victim per Year at Shooting Scenes in Chicago
Source: Chicago Police Department Inventoried Evidence and Shooting Victim data



This is calculated by filtering recovered shell casings to those that link to a shooting incident via the case report ID. Then the total number of shell casings for that incident is divided by the number of shooting victims in that incident. These shell-casings-per-shooting-victim counts are then averaged by year.

TABLE 12

Shooting Incidents in Chicago by Number of Recovered Shell Casings

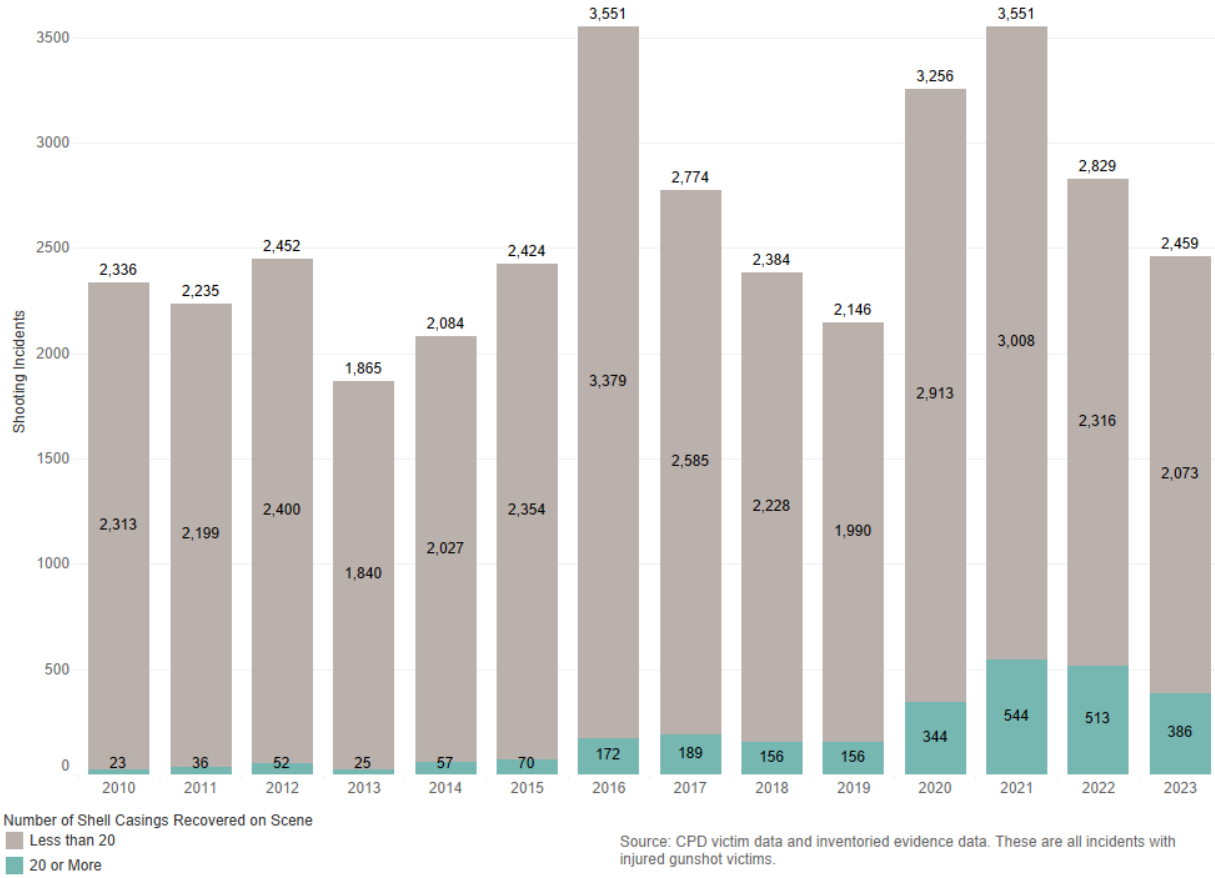


TABLE 13

Seized Magazine Capacity by Year in Chicago

Source: Chicago Police Department Inventoried Evidence

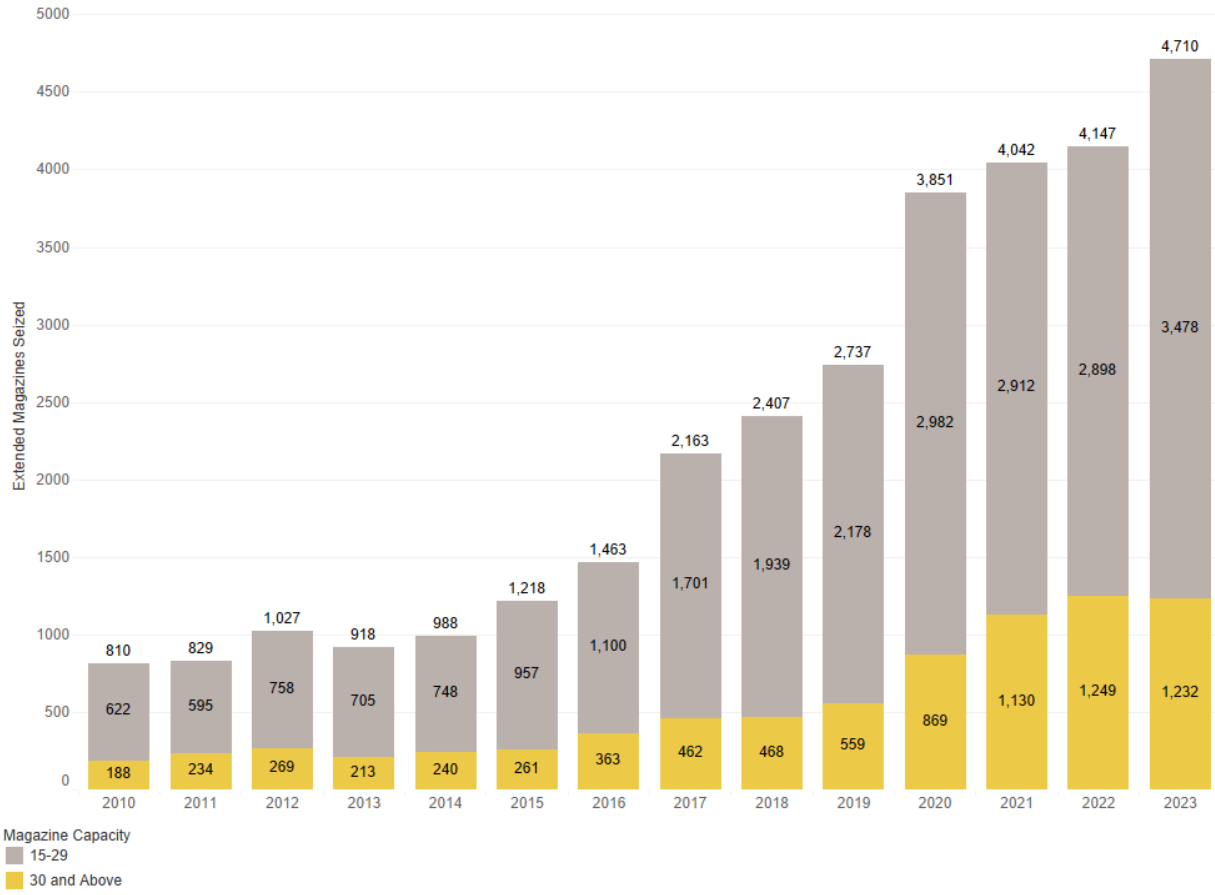


TABLE 14

Number of Firearms Modified to Fire Automatically Seized by the Chicago Police Department
Source: Chicago Police Department Inventoried Evidence

