PART VI:
National Integrated Ballistic Information Network (NIBIN) Updates and New Analysis

Overview

NIBIN technology captures images of ballistic evidence, including cartridge casings[1] recovered in shooting investigations (also referred to as "casings") and test-fired cartridge casings[2] from recovered crime guns (also referred to as "test-fires"), and stores those images in the NIBIN national database that conducts automated analysis for further review by expert technicians. NIBIN leads indicate that recovered casings, perhaps from multiple shooting events,[3] were likely fired from the same firearm. NIBIN also allows the matching of an image from a recovered casing to an image from a test-fired casing from a recovered firearm; a match links the recovered firearm to the shooting.[4] NIBIN matches provide law enforcement with essential investigative information about recovered ballistic evidence for cross-referencing with other evidence. This allows investigators to develop a more complete picture of what happened and who was involved.

This part further advances understanding of NIBIN use by law enforcement agencies (LEAs) in the investigation of firearm crimes and how NIBIN can inform solutions for recurring gun violence problems in our communities. NIBIN data provide a more accurate assessment of the time between the last known sale[5] and first known shootings (which is defined as time-to-first shooting), and the identification of firearms used in multiple shootings and the time between those shootings.

ATF NIBIN Investigations

Gang-Related Violence

In 2016, LEAs in Washington, D.C. developed evidence that a series of violent crimes, including four homicides, were the result of a gang feud between two neighborhood groups in the Southeast section of the city. Fired cartridge casings recovered from these crime scenes were entered into NIBIN. The NIBIN analysis assisted investigators in the identification of multiple crime guns discharged during these incidents indicating that some of those crime guns had been used in multiple offenses. Specifically, one crime gun, a 10-millimeter pistol (hereafter, "10mm Crime Gun"), was linked by NIBIN to nine shooting events between October 2016 and March 2017; these shootings included multiple assaults, two homicides, and a kidnapping.

Equipped with the NIBIN lead linking the 10mm Crime Gun to multiple shootings, investigators reviewed reports and evidence from each incident, conducted follow-up interviews with victims and witnesses, and developed additional investigative leads. Through this process, investigators identified Suspect One as the shooter using the 10mm Crime Gun. In March 2017, while outside a probation department office in D.C., Suspect One was shot. At the time Suspect One was shot, the vehicle he was

driving had been identified at other shootings linked to the 10mm Crime Gun. LEA officers obtained a search warrant for Suspect One's vehicle and located a 10mm pistol. Subsequent NIBIN analysis of this firearm confirmed that it was the 10mm Crime Gun used in multiple shootings, including the two homicides. Trace results on the 10mm Crime Gun established it had been purchased in Virginia by someone other than Suspect One less than two years before the first NIBIN-identified shooting.

Suspect One was convicted in federal court following a nine-week trial which featured evidence developed through NIBIN. Suspect One was convicted on two counts of first-degree premeditated murder while armed, conspiracy to kill and assault, conspiracy to obstruct justice, three counts of assault with intent to kill while armed, four counts of possession of a firearm during a crime of violence, seven counts of obstruction of justice, and four counts of unlawful possession of a firearm. Suspect One was sentenced to a total of 130 years imprisonment. Two co-defendants were also prosecuted and convicted, including a police department employee who leaked confidential investigative information to Suspect One prior to their arrest to help avoid detection. That co-defendant was sentenced to 15 years in prison.

Identification of Suspect in Unattended Homicide Shooting

On August 13, 2021, while responding to a request for a welfare check on an individual, officers from the Racine (Wisconsin) Police Department (RPD) determined that the individual had been shot to death inside her apartment. The officers found the deceased victim inside her locked apartment and recovered eight 9mm fired cartridge casings inside the apartment. The casings were entered into the NIBIN, but did not result in any leads. In addition, the ensuing investigation did not generate other evidence as to the identity of the shooter.

On September 3, 2021, RPD officers responding to a routine disturbance call encountered an individual who was passed-out and incoherent. During the encounter, officers determined the individual was armed with a 9mm pistol and was prohibited as a prior felon from possessing the firearm. Officers then arrested the individual (hereafter, "The Defendant") and seized the pistol. Following the arrest and seizure, RPD obtained a test-fire from the crime gun and submitted it for entry in NIBIN. NIBIN analysis of the test-fire matched the 9mm crime gun to the casings recovered at the homicide scene on August 13th.

Using the NIBIN lead, RPD and ATF's Chicago Crime Gun Intelligence Center (CGIC) developed additional evidence linking The Defendant to the homicide. The assistance provided by the ATF CGIC included identifying and enhancing exterior video footage from the victim's apartment complex, which was determined to have captured The Defendant leaving the homicide scene, and mapping of The Defendant's cell phone usage, placing him at the scene at the time of the murder.

The Defendant was subsequently charged with 1st degree intentional homicide in state court and, on July 22, 2022, was found guilty on that charge. He was subsequently sentenced to life in prison.

Multi-State Firearm Trafficking

While conducting a firearm trafficking investigation in March of 2023, ATF undercover Special Agents (SAs) purchased four firearms from Suspect One, a firearm trafficker from Louisville, Kentucky, who was selling firearms in the Philadelphia area. Following the undercover purchase, SAs entered test-fires from the four firearms into NIBIN. NIBIN analysis established that fired cartridge casings from each of the firearms had been recovered during shooting investigations in Louisville; these shooting

investigations included two assaults and a wanton endangerment offense. Additional review of the underlying investigative files indicated three of the incidents involved known gang members.

In April 2023, the Philadelphia-based SAs travelled to Louisville to conduct an additional undercover purchase of firearms from Suspect One. During the April 2023 undercover transaction, SAs purchased two additional firearms and three machinegun conversion devices (MCDs) from Suspect One. Evidence developed as a result of this transaction allowed investigators to identify Suspect Two, a co-conspirator whose role included supplying MCDs and other firearms to Suspect One. Suspect Two was found to be a subject of an ongoing ATF investigation in Louisville. Following the April undercover transaction, the ATF Philadelphia and Louisville investigations were combined. Investigative activities, including additional undercover transactions with Suspect One, continued until May 2023, when a total of three defendants were charged in federal court with firearm trafficking related offenses. During the investigation, ATF obtained custody of 61 firearms and MCDs linked to the Louisville-based trafficking ring. NIBIN analysis connected 15 of these firearms to a total of 32 Louisville area shootings, including three murders and eight assaults.

All Suspects were convicted in federal court on firearm trafficking related offenses and were sentenced to imprisonment terms of between three and five years.

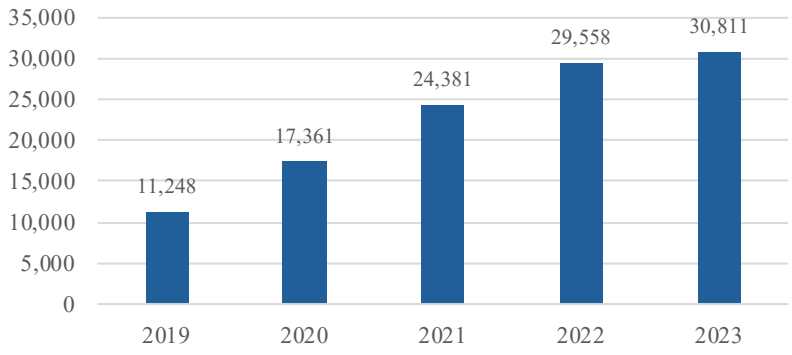
Shooting-Related NIBIN Pistols

A shooting-related NIBIN pistol[6] is a firearm for which ballistic evidence (either a cartridge casing or test-fire) is acquired into NIBIN. A total of 828,514 NIBIN pistols were recovered between 2019 and 2023 and successfully traced to a purchaser.[7] Of these NIBIN pistols, 14% (113,359 of 828,514) were used in one or more shooting events. This section focuses on this subset of NIBIN pistols.

Trends in Shooting-Related NIBIN Pistols

A total of 113,359 NIBIN pistols were used in one or more shootings and recovered between 2019 and 2023. Figure NIB-01 shows the number of NIBIN pistols recovered each year of the study period. The number of NIBIN pistols increased by 174% from 2019 (11,248) to 2023 (30,811). Although the number of NIBIN pistols increased annually, the year-to-year differences were not uniform. The largest year-to-year change in NIBIN pistols occurred between 2020 and 2021, with 7,020 more NIBIN pistols recovered in 2021 (24,381) than in 2020 (17,361). This was followed by the smallest year-to-year change with only 1,253 more NIBIN pistols recovered in 2023 than in 2022.

Figure NIB-01: Total Shooting-Related NIBIN Pistols

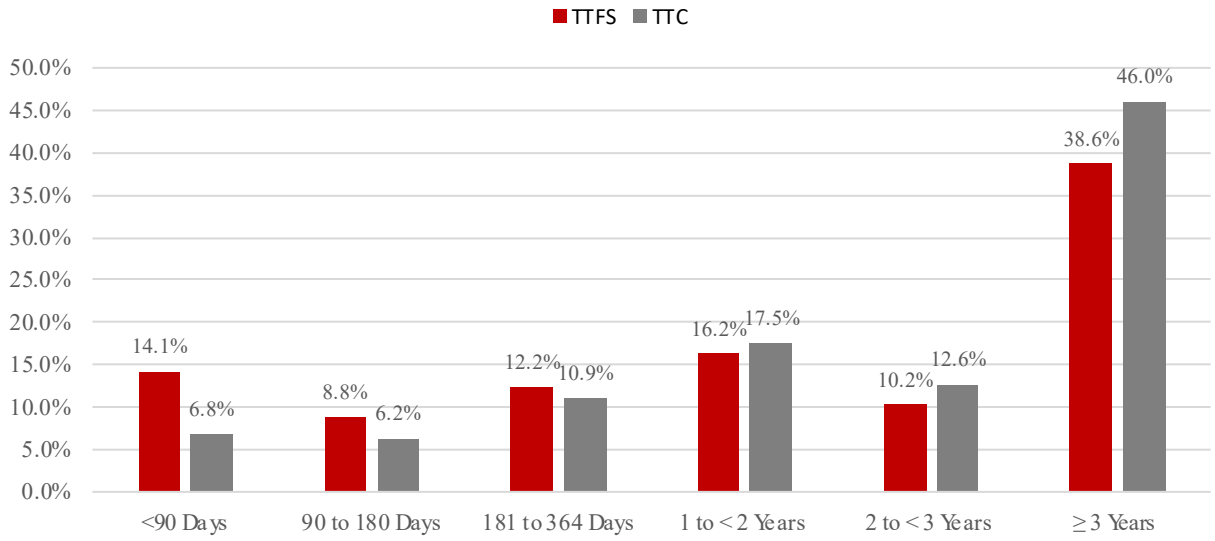


Time-to-first Shooting and Time-to-crime

The NIBIN Enforcement Support System (NESS)[8] provides LEA investigators with access to a full range of crime gun intelligence including the TTFS and time-to-crime (TTC) of recovered crime guns. Together, TTFS and TTC provide a more comprehensive understanding of a firearm's criminal use history. LEAs can use this intelligence to prioritize investigations in which there is evidence of trafficking (*i.e.,* short TTC) and investigations in which a firearm has been fired in a commission of a crime. Compared to TTC, TTFS is a more accurate measure of a firearm's first documented use in a criminal event. When this information is unavailable, TTC can serve as an appropriate substitution. When both TTFS and TTC are available, TTFS should take precedence.

The median TTFS for NIBIN pistols recovered between 2019 and 2023 was 1.9 years. In comparison, the median TTC for NIBIN pistols recovered between 2019 and 2023 was 2.6 years, 268 days longer than the median TTFS. Figure NIB-02 shows the TTFS and TTC groupings for NIBIN pistols recovered between 2019 and 2023. Most NIBIN pistols had a TTFS within three years of their last known purchase, accounting for 61% (69,637 of 113,359) of NIBIN pistols. Though still the majority, only 54% (61,218 of 113,359) of NIBIN pistols had a TTC within three years of their last known purchase. Furthermore, 35% (39,760 of 113,359) of NIBIN pistols had a TTFS less than one year, while 24% (27,126 of 113,359) had a TTC less than one year.

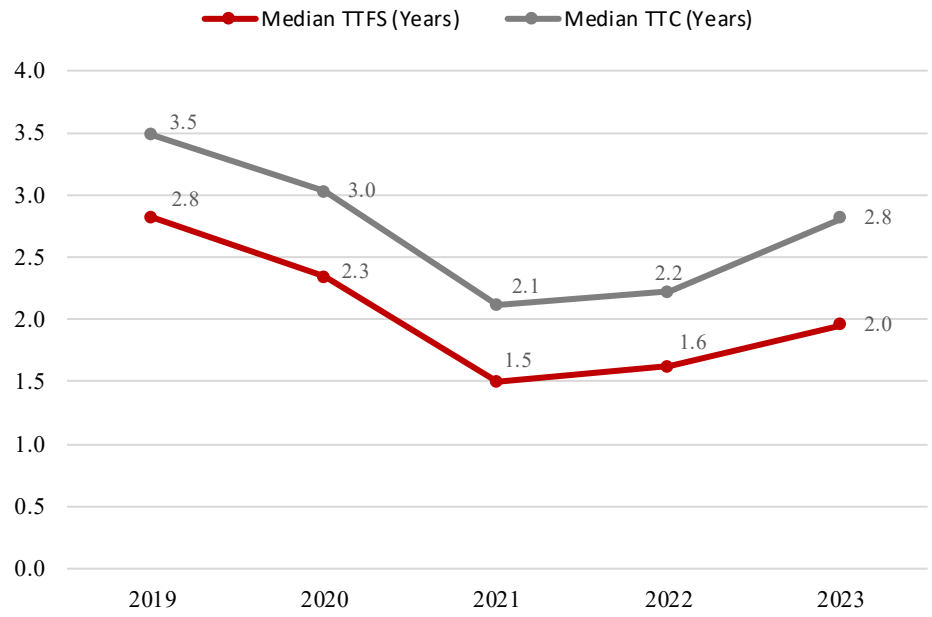
Figure NIB-02: Percentage of Shooting-Related NIBIN Pistols by TTFS and TTC Groupings, 2019 – 2023



Trends in TTFS and TTC

As shown in Figure NIB-03, the median TTFS and TTC for NIBIN pistols followed similar trends over the study period. Overall, the median TTC declined by 20% from 2019 (3.5 years) to 2023 (2.8 years), while the median TTFS declined by 29% from 2019 (2.8 years) to 2023 (2 years). Over this period, the yearly difference between the median TTC and TTFS remained relatively stable.

Figure NIB-03: Annual Median TTFS (Years) and Median TTC (Years) of Shooting-Related NIBIN Pistols



Single-use versus Multiple-use NIBIN Pistols

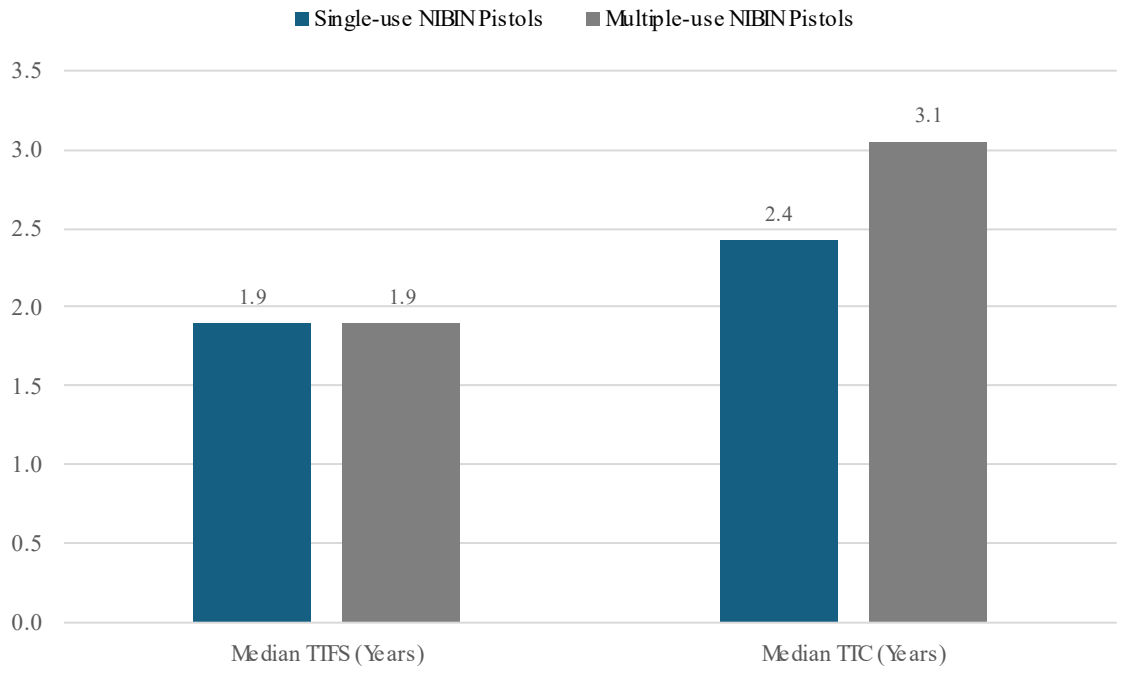
Between 2019 and 2023, the 113,359 NIBIN pistols were associated with 191,313[9] shooting events. As shown in Table NIB-01, 66% (74,926 of 113,359) of NIBIN pistols were used in only one shooting event between 2019 and 2023 (*i.e.,* 'single-use NIBIN pistols'), while 34% (38,433 of 113,359) were used in two or more shooting events (*i.e.,* 'multiple-use NIBIN pistols'). Multiple-use NIBIN pistols accounted for the majority of shooting events that occurred during the study period (60.8%; 116,387 of 191,313).

Table NIB-01: Shooting-Related NIBIN Pistols by Number of Shooting Events, 2019 – 2023

Shooting Events	Total NIBIN Pistols	Percent of NIBIN Pistols	Total NIBIN Shooting Events	Percent of NIBIN Shooting Events
1	74,926	66.1%	74,926	39.2%
2	21,085	18.6%	42,170	22.0%
3	8,435	7.4%	25,305	13.2%
4	3,879	3.4%	15,516	8.1%
5	2,081	1.8%	10,405	5.4%
5 or less	110,406	97.4%	168,322	88.0%
More than 1	38,433	33.9%	116,387	60.8%
More than 5	2,953	2.6%	22,991	12.0%
Total	**113,359**	**100.0%**	**191,313**	**100.0%**

Figure NIB-04 shows the median TTFS and TTC for single-use and multiple-use NIBIN firearms recovered between 2019 and 2023. At 1.9 years, their median TTFS were identical, indicating similar criminal use histories up until their first shooting event. However, the median TTC for multiple-use NIBIN firearms was significantly longer, at 3.1 years, which is 230 days more than the median TTC for single-use NIBIN firearms.

Figure NIB-04: Single-use versus Multiple-use NIBIN Pistols: Median TTFS (Years) and Median TTC (Years), 2019 – 2023



Purchaser and Possessor Characteristics for Shooting and Non-Shooting-Related Pistols

This section compares NIBIN pistols that were never used in a shooting event (hereon referred to as 'non-shooting-related NIBIN pistols')[10] to NIBIN pistols that were used in at least one shooting event. It upholds the same selection criteria as described in the prior section. Specifically, it exclusively considers pistols that were recovered between 2019 and 2023 and successfully traced to a purchaser. During this time period there were 113,359 shooting-related NIBIN pistols and 715,155 non-shooting-related NIBIN pistols.

Purchaser and Possessor[11] Age

Purchaser age was known for 97% of both shooting-related (109,748 of 113,359) and non-shooting-related (693,776 of 715,155) NIBIN pistols. Possessor age was known for 96% (71,189 of 74,550) and 93% (463,087 of 495,867) of shooting-related and non-shooting-related NIBIN pistols, respectively.

There were no notable differences in purchaser age between shooting and non-shooting-related NIBIN pistols (see Table NIB-02). For shooting-related NIBIN pistols, young adults ages 25 to 34 were the most common purchasers. For non-shooting-related NIBIN pistols, adults 25 and older were the most common purchasers.

Possessors of shooting-related NIBIN pistols were considerably younger than possessors of non-shooting-related NIBIN pistols (see Table NIB-03). Possessors under the age of 25 (juvenile and youth combined) were associated with 51% (35,965 of 71,189) of shooting-related NIBIN pistols 33% versus (152,684 of 463,087) of non-shooting-related NIBIN pistols.

Table NIB-02: Shooting and Non-Shooting-Related NIBIN Pistols: Purchaser Age Group, 2019 – 2023

	Shooting-Related NIBIN Pistols		Non-Shooting-Related NIBIN Pistols	
Age Group	**Number**	**Percent**	**Number**	**Percent**
Youth (18 to 24)	32,863	29.9%	176,946	25.5%
Young Adult (25 to 34)	39,369	35.9%	251,356	36.2%
Adult (35 and older)	37,516	34.2%	265,474	38.3%
Total	**109,748**	**100.0%**	**693,776**	**100.0%**

Table NIB-03: Shooting and Non-Shooting-Related NIBIN Pistols: Possessor Age Group, 2019 – 2023

	Shooting-Related NIBIN Pistols		Non-Shooting-Related NIBIN Pistols	
Age Group	**Number**	**Percent**	**Number**	**Percent**
Juvenile (17 and younger)	6,332	8.9%	18,212	3.9%
Youth (18 to 24)	29,633	41.6%	134,472	29.0%
Young Adult (25 to 34)	22,634	31.8%	171,854	37.1%
Adult (35 and older)	12,590	17.7%	138,549	29.9%
Total	**71,189**	**100.0%**	**463,087**	**100.0%**

Purchaser and Possessor Gender

Purchaser gender was known for 96% of both shooting (109,299 of 113,359) and non-shooting-related (689,643 of 715,155) NIBIN pistols. Possessor gender was known for 84% of both shooting (62,799 of 74,550) and non-shooting-related (417,970 of 495,867) NIBIN pistols.

Tables NIB-04 and NIB-05 show the percentage of purchasers and possessors by gender for shooting and non-shooting-related NIBIN pistols, respectively. For both NIBIN pistol types, men were more likely to be the purchaser and possessor, though a higher percentage of women were purchasers compared to possessors.

Table NIB-04: Shooting and Non-Shooting-Related NIBIN Pistols: Purchaser Gender, 2019 – 2023

	Shooting-Related NIBIN Pistols		Non-Shooting-Related NIBIN Pistols	
Gender[12]	**Number**	**Percent**	**Number**	**Percent**
Male	85,170	77.9%	524,346	76.0%
Female	24,129	22.1%	165,297	24.0%
Total	**109,299**	**100.0%**	**689,643**	**100.0%**

Table NIB-05: Shooting and Non-Shooting-Related NIBIN Pistols: Possessor Gender, 2019 – 2023

	Shooting-Related NIBIN Pistols		Non-Shooting-Related NIBIN Pistols	
Gender[13]	**Number**	**Percent**	**Number**	**Percent**
Male	58,725	85.7%	378,476	85.4%
Female	4,074	5.9%	39,494	8.9%
Total	**62,799**	**91.6%**	**417,970**	**94.3%**

Purchaser and Possessor Relationship

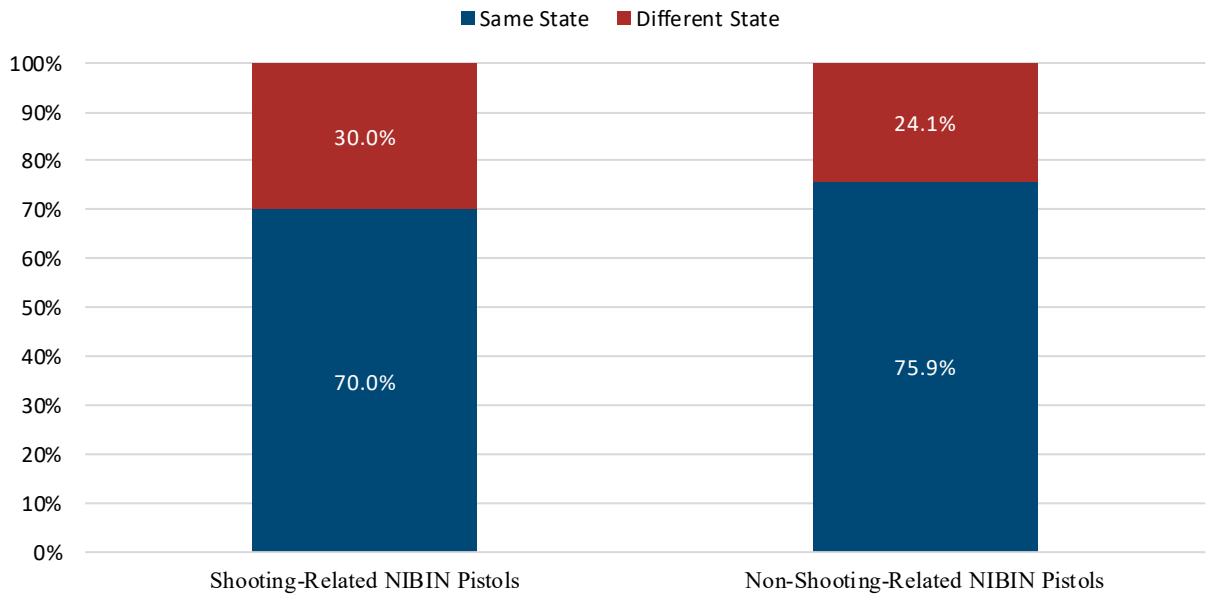
Purchaser and possessor information were known for 66% (74,544 of 113,359) of shooting-related NIBIN pistols and 69% (495,826 of 715,155) of non-shooting-related NIBIN pistols. All comparisons presented

herein are based on the population of NIBIN pistols for which both purchaser and possessor characteristics were identified.

Both types of NIBIN pistols predominantly involved a purchaser that was different from the possessor. Shooting-related NIBIN pistols (90.9%; 67,730 of 74,544) were more likely to involve a different purchaser than possessor when compared to non-shooting-related NIBIN pistols (80.5%; 399,359 of 495,826).

The state of residence of the purchaser and possessor was known for 78% (58,247 of 74,544) of shooting-related NIBIN pistols and 80% (395,769 of 495,826) of non-shooting-related NIBIN pistols. As shown in Figure NIB-05, shooting-related NIBIN pistols (30.0%; 17,500 of 58,247) were more likely to involve purchasers and possessors from different states than non-shooting-related NIBIN pistols (24.1%; 95,494 of 395,769).

Figure NIB-05 Shooting and Non-Shooting-Related NIBIN Pistols: Purchaser and Possessor States, 2019 – 2023



NIBIN Pistols Stolen from FFLs or Interstate Shipments

There were 3,920 NIBIN pistols that were recovered and reported stolen from an FFL or interstate shipment between 2019 and 2023 (i.e. 'stolen NIBIN pistols'). TTFS calculations differ for stolen pistols as the date of purchase is replaced with date of theft.[14] Specifically, TTFS was calculated as the number of days between a crime gun's date of theft and its first shooting event.

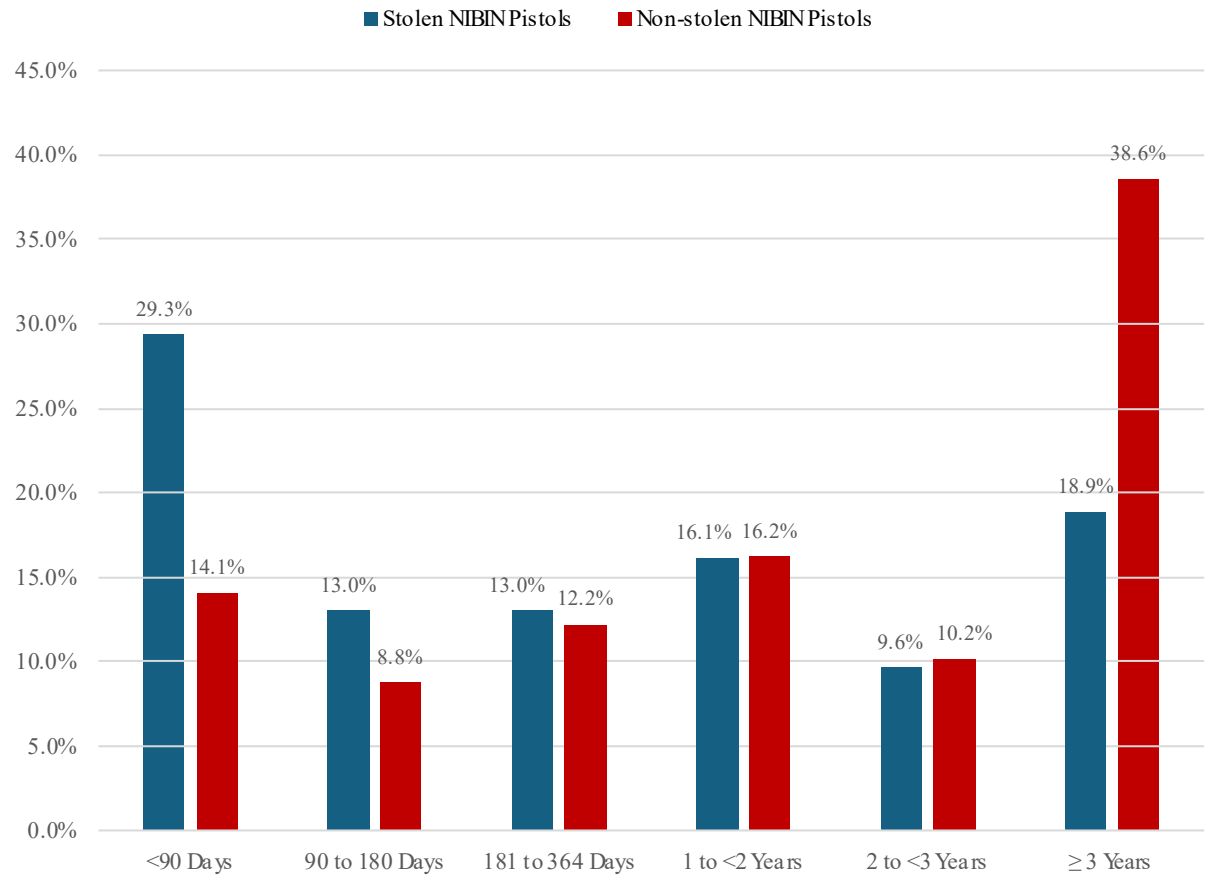
Shooting-Related Stolen NIBIN Pistols

Of the 3,920 recovered NIBIN pistols, 16% (632) were used in at least one shooting. These 632 stolen NIBIN pistols accounted for 1,217 shooting events. TTFS was calculated for nearly all (630) stolen NIBIN pistols. The median TTFS for stolen NIBIN pistols was 258 days, which is over a year shorter

than the median TTFS for shooting-related (non-stolen) NIBIN pistols traced to a purchaser (1.9 years).[15] Figure NIB-06 shows the TTFS groupings for shooting-related stolen versus non-stolen NIBIN pistols.

Stolen firearms are immediately in the possession of criminal offenders. As such these firearms are at greater risk of rapidly being used in shootings. More than half of stolen NIBIN pistols were used in a shooting event within one year of being reported stolen (55.4%; 340 of 614). In comparison, 35% (39,760 of 113,359) of non-stolen NIBIN pistols were used in a shooting event within a year of their most recent purchase.

Figure NIB-06: TTFS Groupings of Stolen and Non-Stolen NIBIN Pistols, 2019 – 2023

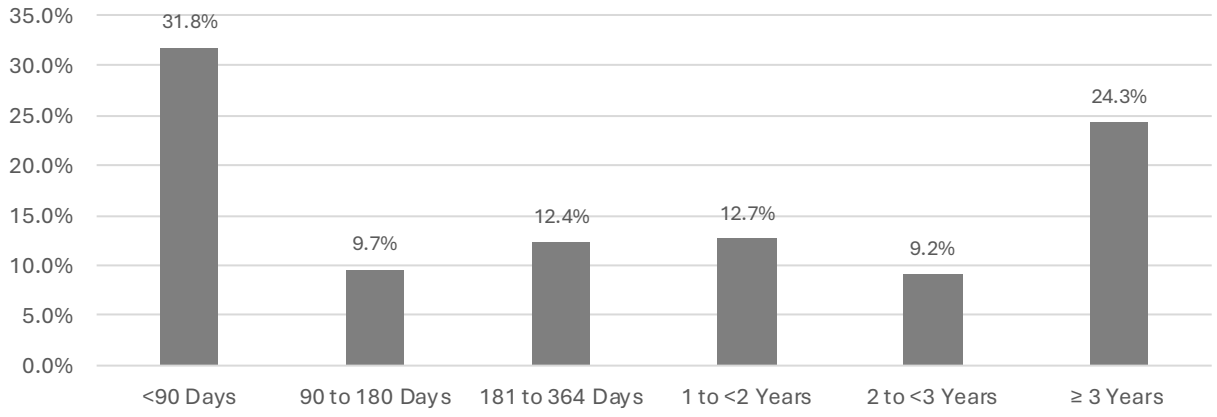


Non-Shooting-Related Stolen NIBIN Pistols

Non-shooting-related stolen NIBIN pistols represent 84% (3,288 of 3,920) of the NIBIN pistols reported stolen from an FFL or interstate shipment and subsequently recovered between 2019 and 2023. Theft-to-recovery (TTR) is calculated as the number of days between a crime gun's date of theft and its recovery by law enforcement. Of these stolen NIBIN pistols, TTR was known for nearly 83% (3,238 of 3,920). The median TTR for these 3,238 stolen NIBIN pistols was 293 days.

Figure NIB-07 shows the TTR groupings for non-shooting-related stolen NIBIN pistols. More than half (54.0%; 1,742 of 3,238) of non-shooting-related stolen NIBIN pistols were recovered within one year of being reported stolen, with the most common TTR grouping less than 90 days (31.8%, 1,029 of 3,238).

Figure NIB-07: Percentage of Stolen, Non-Shooting-Related NIBIN Pistols by TTR Groupings, 2019 – 2023



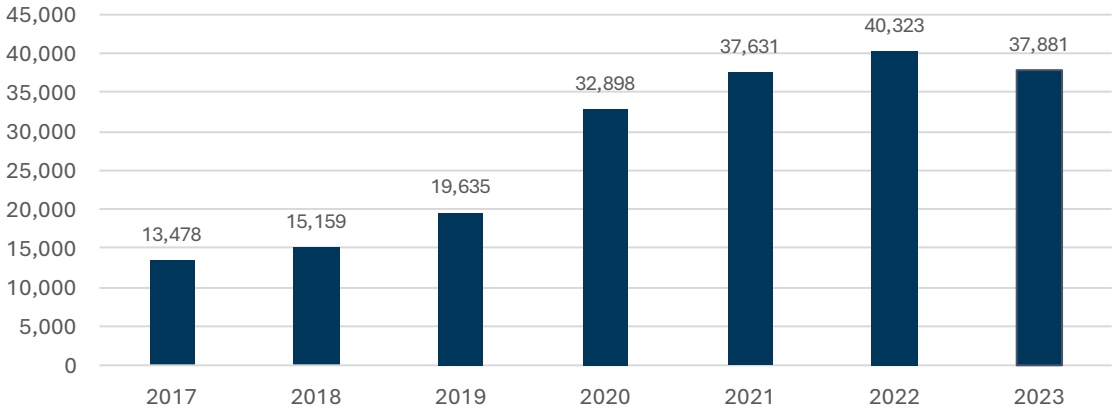
Characteristics of Firearms with a NIBIN Lead

In this section, NIBIN firearms are firearms with a NIBIN lead date between 2017 and 2023, that were used in two or more shooting events, at least one of which occurred during this timeframe. [16] For these NIBIN firearms, the time between shooting events was calculated for each year of the study period. To be included in a given year's assessment, a NIBIN firearm must have been used in a shooting event during that year. Calculations were also only performed on NIBIN firearms with standard shooting patterns. [17]

Trends in Multiple-use NIBIN Firearms

There were 170,419 NIBIN firearms that had a NIBIN lead date between 2017 and 2023. Figure NIB-08 shows the number of NIBIN firearms involved in two or more shooting events each year of the study period. The number of NIBIN firearms increased by 181% from 2017 (13,478) to 2023 (37,881), with an increase observed for each year, except for 2023. [18] The largest year-to-year increase occurred between 2019 and 2020, with 13,263 more NIBIN firearms involved in a shooting event in 2020 (32,898) than in 2019 (19,635).

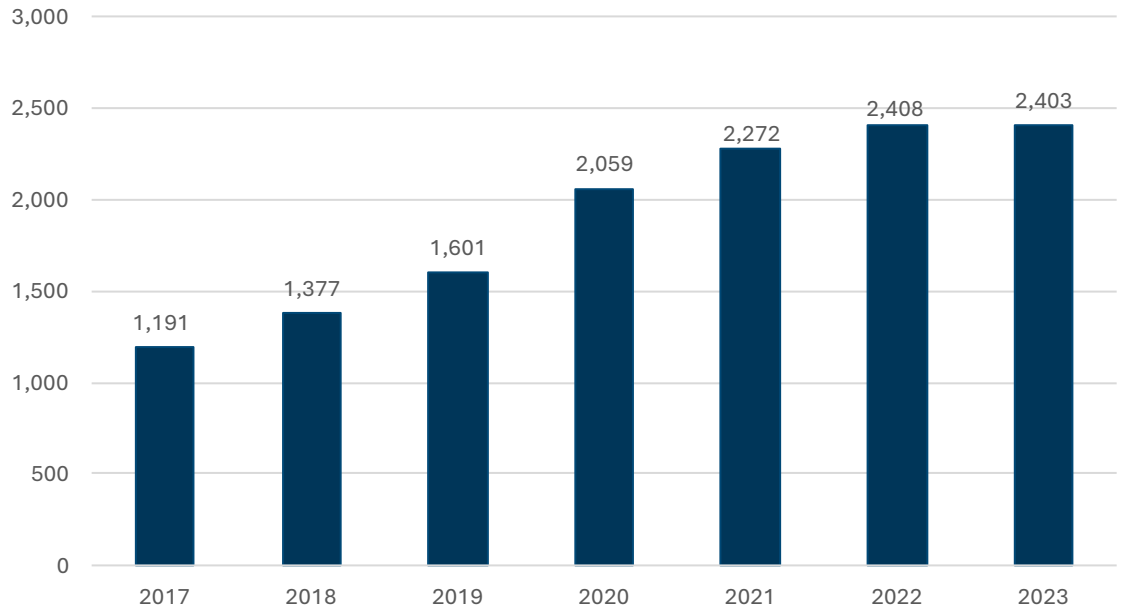
Figure NIB-08: NIBIN Firearms Involved in Two or More shooting Events



Notes. A NIBIN firearm may be repeated across years.

As shown in Figure NIB-09, the number of LEAs that submitted cartridge case evidence for this population of NIBIN firearms followed a similar trend. Between 2017 and 2023, the number of LEAs grew by 102% from 2017 (1,191) to 2023 (2,403). The number of LEAs increased each year from 2017 to 2022, with growth slowing after 2021 and slightly declining in 2023. The largest increase in LEAs occurred between 2019 (1,601) and 2020 (2,059), with an addition of 458 LEAs. This period also aligns with the largest increase of NIBIN firearms used in two or more shooting events.

Figure NIB-09: Number of Law Enforcement Agencies Submitting Cartridge Case Evidence



The number of LEAs submitting cartridge case evidence serves as an indicator of the geographic scope of shooting events at the jurisdictional level.[19] Table NIB-06 shows the number of NIBIN firearms used in two or more shooting events with a NIBIN lead date between 2017 and 2023, categorized by the number of LEAs submitting cartridge case evidence. In nearly 70% (119,160 of 170,419) of NIBIN leads, the submitted cartridge case evidence originated from a single LEA.

Table NIB-06: Total NIBIN Firearms by Submitting LEA, 2017 – 2023

LEAs Submitting Cartridge Case Evidence	Total NIBIN Firearms	Percent
1	119,160	69.9%
2	44,636	26.2%
3	5,451	3.2%
4	932	<1%
5 to 8	240	<1%
Total	**170,419**	**100.0%**

Total Shooting Events

Of the 170,419 NIBIN firearms, 61% (103,117) were associated with only two shooting events (Table NIB-07). Nearly all the NIBIN firearms were linked to 10 or fewer shooting events.

Table NIB-07: NIBIN Firearms by Total Shooting Events, 2017 – 2023

Total Shooting Events	Total NIBIN Firearms	Percent	Cumulative Percent
2	103,117	60.5%	60.5%
3	35,810	21.0%	81.5%
4	15,191	8.9%	90.4%
5	7,382	4.3%	94.8%
6	3,808	2.2%	97.0%
7	2,089	1.2%	98.2%
8	1,188	0.7%	98.9%
9	654	0.4%	99.3%
10	433	0.3%	99.6%
11 or More	747	0.4%	100.0%
Total	**170,419**	**100.0%**	

Table NIB-08 shows the median number of shooting events by the number of LEAs submitting cartridge case evidence. NIBIN firearms involving more than two LEAs tended to be associated with more than two shooting events. NIBIN firearms that involved three LEAs had a median of four shooting events, with the median number of shooting events increasing with the number of additional LEAs submitting cartridge case evidence.

Table NIB-08: Median Shooting by Number of Submitting LEAs, 2017 – 2023

Submitting LEAs	Total NIBIN Firearms	Median Shooting Events
1	119,159	2
2	44,636	2
3	5,451	4
4	932	5
5	183	7
6	42	8
7	12	11
8	3	14

Time Between Shooting Events

The median time between shooting events decreased with repeated use of a NIBIN firearm. The median days between shooting event sequences declined by 67% from 48 days between the first and second shooting events to 16 days between the ninth and tenth shooting events (Table NIB-09).

Table NIB-09: Median Time Between Shooting Events (Days), 2017 – 2023

Shooting Events	Median Days
1 and 2	48
2 and 3	34
3 and 4	28
4 and 5	24
5 and 6	22
6 and 7	20
7 and 8	18
8 and 9	16
9 and 10	16

As shown in Table NIB-10, as the number of shooting events increase the median time between shooting events generally decreases. For example, the median time between the first and second shooting event for NIBIN firearms only used in two shooting events was 56 days, compared to 29 days for NIBIN firearms used in ten shooting events.

Table NIB-10: Median Time Between Shooting Events (Days): Shooting Event Sequence by Total Shooting Events, 2017 – 2023

	Shooting Event Sequence								
Total Shooting Events	**1 and 2**	**2 and 3**	**3 and 4**	**4 and 5**	**5 and 6**	**6 and 7**	**7 and 8**	**8 and 9**	**9 and 10**
2 (103,117)	56								
3 (35,810)	43	43							
4 (15,191)	38	29	37						
5 (7,382)	34.5	26	26	34					
6 (3,808)	33	22	22	22	32				
7 (2,089)	30	20	18	19	21	32			
8 (1,188)	32	21	17	17	17	21.5	27		
9 (654)	34	25	17.5	13.5	16	15	18.5	26	
10 (433)	29	20	13	12	13	12	12	20	24

Notes. The total number of NIBIN firearms is shown in parentheses.

Summary

Between 2019 and 2023, more than 828,000 NIBIN pistols were recovered and successfully traced to a purchaser, with 14% involved in one or more shooting events. These shooting-related NIBIN pistols were associated with more than 191,000 shooting events and had a median TTFS of only 1.9 years. Moreover, the median TTFS and TTC for shooting-related NIBIN pistols decreased between 2019 and 2023, indicating that violent gun offenders were using pistols diverted from lawful commerce to commit crimes involving shootings more quickly than previously documented. The data for NIBIN pistols reported stolen from an FFL or interstate shipment presents an even more dangerous trend: they were used in a shooting more than one year faster than non-stolen NIBIN pistols.

Shooting-related NIBIN pistols were more likely than non-shooting-related NIBIN pistols to involve a different purchaser than possessor, and those possessors were more likely to reside in a different state than the original purchaser; both factors indicate that the shooting-linked pistols were obtained by the possessor through trafficking channels -- including trafficking involving theft. Possessors of shooting-related NIBIN pistols were also significantly younger than possessors of non-shooting-related NIBIN pistols, data consistent with studies showing higher propensity of involvement in violent gun crime among juveniles, youth, and young adults.[20]

NIBIN data also reinforces longstanding law enforcement perceptions that crime guns are frequently used to commit multiple shootings. During the period 2017 to 2023, NIBIN leads linked more than 170,000 crime guns (NIBIN firearms) to at least two shooting events, with a steady trend across the six-year period of an increasing number of NIBIN leads associated with two or more shootings. This trend is in part attributable to increasing participation by LEAs in the NIBIN program and reinforces the evidentiary and intelligence value of LEA participation NIBIN. Increased participation of LEAs in NIBIN results in increased submission of cartridge casings which, in turn, generates a higher volume of leads linking

shooting events. While the majority of NIBIN firearms were involved in only two shooting events, the number of linked shooting events associated with a NIBIN firearm steadily increased across the six-year period, providing LEAs with both evidentiary leads and insight into crime gun trafficking and usage trends across jurisdictional boundaries. Cross-jurisdictional NIBIN leads are only possible when all LEAs participate in NIBIN. Equally significant, the NIBIN data confirmed longstanding LEA perceptions that after a crime gun is used in an initial shooting, the same crime gun is likely to be used in subsequent shootings in increasingly shorter timeframes — an occurrence known as the "shooting cycle." As shown in Tabe NIB-10, the median times between shooting events decreased significantly across the six-years between 2017 and 2023.

The NIBIN data set forth in Volume II and updated in this Volume strongly reinforces the value of comprehensive data collection and timely submission into NIBIN. By identifying links between shooting events not previously known by LEAs to be related – particularly shootings that have occurred in different jurisdictions – NIBIN allows LEAs to identify and cross-reference evidence collected in the distinct shooting investigations, synthesize those distinct investigations to more rapidly identify suspects and the context of the criminal activity, and, most importantly, prevent future shootings. The value of NIBIN, moreover, is further magnified when combined with the other core elements of crime gun intelligence – tracing, DNA and fingerprint analysis, electronic and social media analysis, and full exploitation of traditional investigative findings (*e.g.,* witness interviews). Overall, the data analyzed throughout each volume of the NFCTA validates the effectiveness of crime gun intelligence-driven strategies to address violent crime involving firearms. By drawing on a combination of forensic science, data analysis, and traditional investigative tools, crime gun intelligence stratagems provide LEAs timely, accurate, and actionable evidentiary leads supporting enforcement efforts and, in aggregate, inform prevention strategies.[21]

ENDNOTES

[1] Although commonly referred to as "casings," the technical term for an ammunition casing is "Cartridge Case." The definition of cartridge case is: The container for all the other components which comprise a cartridge. Serves as a gas seal during the firing of a cartridge. Association of Firearm & Tool Mark Examiners, Glossary, 6th Edition, Version 6.091922

[2] The technical term for an "imaged test-fired casing" is "Test Cartridge Case." The definition of a test cartridge case is: A cartridge case obtained while test firing a firearm in a laboratory to be used for comparison or analysis. Association of Firearm & Tool Mark Examiners, Glossary, 6th Edition, Version 6.091922

[3] A shooting event represents a cartridge casing that was collected from a crime scene by an LEA and entered into NIBIN.A firearm in a shooting event may have been discharged multiple times, but is only represented as one shooting event.

[4] A NIBIN lead is an unconfirmed, potential association between pieces of firearm ballistic evidence that is based on a correlation review of the digital images in the NIBIN database by a trained NIBIN technician. A NIBIN lead is distinct from a NIBIN "hit." A NIBIN "hit" occurs when a certified firearms examiner conducts a microscope examination of the actual physical ballistic evidence (i.e., comparing two or more recovered casings or comparing a recovered casing(s) with a test-fire) to confirm those items of ballistic evidence had been fired from the same firearm and were a "match". See, ATF NIBIN Fact sheet. September 2021. https://www.atf.gov/resource-center/fact-sheet/fact-sheet-national-integratedballistic-information-network.

[5] In instances in which the firearm was documented as stolen in NIBIN Enforcement Support System (NESS) the TTFS will be calculated based on the stolen date rather than the last known purchaser date.

[6] These NIBIN pistols must also have a positive value for TTFS. The calculation of TTFS results in a negative value if the date of a crime gun's first shooting event occurred before the date of its most recent purchase. This phenomenon is rare and may occur for several reasons, including when a crime gun is recovered by an LEA, test-fired, traced, returned to its lawful owner or sold, and then used in a shooting. In addition, this section's focus on pistols reflects their prominence as the most recovered crime gun weapon type (see NFCTA Volume II, Part IV: NIBIN & Ballistic Evidence.).

[7] Not all NIBIN firearms that are successfully traced are discharged in criminal acts. Many involve acts such as criminal possession or brandishing that do not involve discharging/shooting a firearm.

[8] For more information on NESS, please refer to NFCTA Volume II, Part I: NIBIN.

[9] It should be noted that the number of shooting events is calculated by each individual NIBIN pistol and thus one shooting event might involve more than one NIBIN pistols.

[10] A non-shooting-related NIBIN pistol is a pistol that was recovered between 1/1/2019 and 12/31/2023 and traced by 7/1/2024. These firearms were entered into NIBIN and were not associated with any known shooting event.

[11] The possessor information is derived from trace data; for firearms involved in a shooting, the possessor may or may not be the shooter.

[12] The purchaser's gender was non-binary for 27 and 196 of shooting related and non-shooting related NIBIN firearms, respectively.

[13] The possessor's gender was non-binary for 3 and 36 of shooting related and non-shooting related NIBIN firearms, respectively.

[14] In rare circumstances, a stolen firearm may be traced to a purchaser if it is sold to an FFL and purchased after it is recovered by an LEA.

[15] Excluded from this calculation are 18 NIBIN firearms that were used in a shooting event prior to being reported stolen by an FFL, resulting in a negative theft-to-first-shooting value.

[16] A NIBIN lead represents a match between two NIBIN acquisitions (a cartridge case from a crime scene or test-fire of a recovered crime gun), indicating that they were discharged from the same firearm. NIBIN leads are identified by a qualified firearm examiner or NIBIN technician. For more information, please refer to NFCTA Volume II, Part I: NIBIN.

[17] A NIBIN firearm has a standard shooting pattern if all its NIBIN acquisitions are cartridge cases or if only the terminating NIBIN acquisition is a test fire.

[18] Data for this chart does not extend beyond 2023. Data for additional shootings that may have occurred beyond 2023 are not reflected.

[19] An LEA may submit ballistic evidence on behalf of another LEA, and an LEA may have more than one account for submitting ballistic evidence. For these reasons, the number of LEAs submitting cartridge case evidence for NIBIN firearms is an approximation rather than a precise measure of the jurisdictional scope of shooting events.
[20] Braga, Anthony A. 2004. *Gun Violence Among Serious Young Offenders*. Problem-Oriented Guides for Police Series, Problem-Specific Guide Number 23. Washington, DC: U.S. Department of Justice, Office of Community Oriented Policing Services; Braga, Anthony A. and Philip J. Cook. 2023. *Policing Gun Violence: Strategic Reforms for Controlling Our Most Pressing Crime Problem.* New York: Oxford University Press.
[21] Gagliardi, Peter. 2010. *The Thirteen Critical Tasks: An Inside-Out Approach to Solving More Gun Crime*. Quebec, CA: Forensic Technology Incorporated; De Biasi, Alaina. 2024. "The Impact of the Detroit Crime Gun Intelligence Center on Fatal and Nonfatal Shooting Clearance Rates." *Journal of Criminal Justice*, *94*.https://doi.org/10.1016/j.jcrimjus.2024.102233; Braga, Anthony A. and Glenn L. Pierce. 2004. "Linking Gun Crimes: The Impact of Ballistics Imaging Technology on the Productivity of the Boston Police Department's Ballistics Unit." *Journal of Forensic Sciences*, 46 (4): 701 – 706; Braga, Anthony A. and Glenn L. Pierce. 2011. "Reconsidering the Ballistic Imaging of Crime Bullets in Gun Law Enforcement Operations." *Forensic Science Policy and Management*, 2 (3): 105 – 117.