BUILDING A PREVENTIVE CRIME GUN STRATEGY
A PLAYBOOK FOR SUCCESS

SECOND EDITION

by
Ronald Nichols

Brandon Huntley and James Needles
Contributors

ULTRA

2020

Building a Preventive Crime Gun Strategy: A Playbook for Success
ISBN: 978-1-9990038-2-1

Second Edition: 2019

Printed in the United States of America

Disclaimer

The opinions expressed in this book are those of the author and may or may not reflect those of Ultra Electronics Forensic Technology Inc.

To the maximum extent permitted by applicable law, Ultra Electronics Forensic Technology Inc. and its suppliers disclaim all warranties and conditions, either express or implied, including without limitation, implied warranties or merchantability, fitness for a particular purpose, title, and noninfringement, and those arising out of usage or trade or course of dealing, concerning these materials.

Trademarks

™ Trademarks of Ultra Electronics Forensic Technology Inc.

All other trademarks contained herein are the property of their respective owners.

Ultra Electronics Forensic Technology Inc.
5757 Cavendish Blvd., Suite 200
Côte-Saint-Luc QC H4W 2W8 CANADA

Email: info.na@ultra-ft.com
Tel: +1 514-489-4247
Toll free Canada/USA: +1 888-984-4247
Fax: +1 514-485-9336

www.ultra-forensictechnology.com

Dedication

This book is dedicated to the victims of firearm violence, their families, friends and loved ones.

Contents

Foreword

Building a Preventive Crime-Gun Strategy: A Playbook for Success provides law enforcement agencies with a comprehensive strategy for responding to firearm-related violence in their communities. Crime-gun intelligence is a critical part of this strategy and it is what sets this playbook apart from other approaches. However, it is only one of a number of important components that make up a successful approach to gun crime prevention. This playbook details the steps that must be completed prior to launching a crime-gun intelligence-gathering initiative. It then highlights the steps that can be used to help in current investigations. Finally, it identifies the steps required to ensure the strategy can be sustained and expanded to neighboring communities. The overall goal is to bring criminals to justice, and provide safe environments that allow citizens to realize their full human potential.

Introduction

Mass shootings—that is shootings in which four or more individuals are killed by the same individual[1]—strike fear into the hearts of many. Often, media attention is high and the public is bombarded with details of the shooting. As tragic as they are, deaths due to such mass shootings represent but a fraction of shooting-related deaths that occur throughout the United States on a daily basis. In *Figure 1*, we see that for the years 2014 through 2017, deaths from mass shootings account for just 1.9% of the total number of firearm-related deaths.

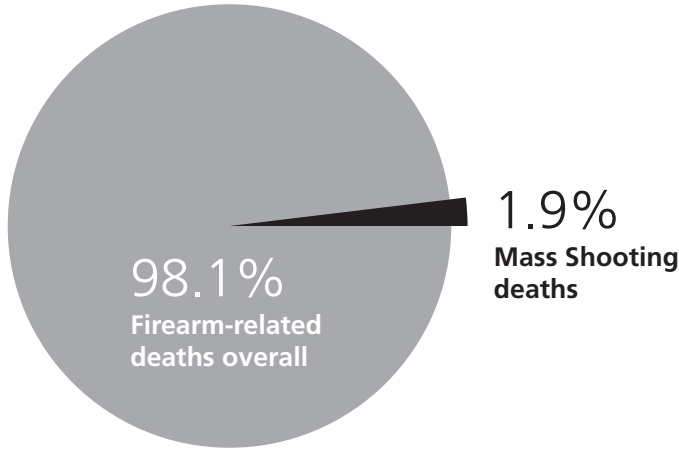


Figure 1: Percentage of firearm-related deaths over four years (2014–2017) and percentage mass shooting deaths since 1966.

While mass shootings receive a significant amount of media attention, it appears that the day-to-day problem of gun violence has become an almost accepted way of life in the United States. Since 2014, there have been over 57,100 firearm-related deaths. Close to 9% of those deaths involved the youth of our communities, individuals aged 18 and under. Considering that we often speak about future leaders coming from the next generation, this represents a significant amount of lost potential—not only for local communities but on a broader scale as well.

1 Berkowitz, B., Lu, D., and Alcantara, C., "The Terrible Numbers that Grow with Each Mass Shooting." *The Washington Post*, December 14, 2012. Last accessed February 15, 2018 at https://www.washingtonpost.com/graphics/2018/national/mass-shootings-in-america

In 2014, the *Council of State Governments* declared in a report[2] that firearm-related violence is a public health issue. The Council examined firearm-related violence from a broad perspective, including homicides, accidental deaths, suicides, and deaths with undetermined intent. The report identifies four different activities to prevent gun violence. The most salient point in terms of this playbook is the activity of "Institutionalizing gun-violence prevention programs to widely distribute successful prevention strategies." The strategy in this playbook outlines a program that addresses this activity and—when properly implemented—has proven successful in reducing firearm-related violence.

In 2010, firearms were used in 11,078 homicides in the United States, accounting for 68% of all U.S. homicides for that year.[3] This averages to a little over 30 firearm-related homicides per day. From 2005 to 2010, there was a daily average of 33 firearm-related homicides.[4] In addition, firearms were used in 41% of robberies and 20% of aggravated assaults.[5] For the 15-24 age group, deaths by firearms are expected to surpass motor vehicle deaths by the year 2020.[6]

Firearm-related crime results in significant personal and economic costs. In 2012, it was estimated that the nationwide societal cost[7] of firearm-related injuries was in excess of $174 billion with $71.5 billion of that directly related to homicides and assaults, $7.84 billion of that being governmental costs.[8] In Chicago alone, these costs were estimated at $1.1 billion for 2010, with Houston and Philadelphia at or near three-quarters of a billion dollars.[9]

A 2012 case study of eight major U.S. cities[10] included calculations of potential government savings and other benefits that would accompany significant reductions in violent crime. *Figure 2* highlights these savings.

2 The Council of State Governments. Firearms and Public Health, June 2014. Last accessed November 6, 2017. http://knowledgecenter.csg.org/kc/system/files/CR_FirearmsandPublicHealth.pdf.
3 http://smartgunlaws.org/gun-deaths-and-injuries-statistics
4 Ibíd.
5 http://readersupportednews.org/news-section2/320-80/15141-the-economic-cost-of-gun-violence
6 https://www.motherjones.com/politics/2015/04/charts-show-cost-price-gun-violence-america/ based on statistics from the Centers for Disease Control, last accessed May 25, 2018.
7 Costs include work loss, medical care, mental health, emergency transport, police, criminal justice, insurance claim processing, employer cost, and quality of life.
8 Miller, T. Children's Safety Network Economics and Data Analysis Resource center, at Pacific Institute for Research and Evaluation, December 2012.
9 http://readersupportednews.org/news-section2/320-80/15141-the-economic-cost-of-gun-violence
10 Shapiro, R. and Hassett, K. *The Economic Benefits of Reducing Violent Crime*. Center for American Progress, June 2012.

City	Reduction	Direct Cost Savings to Government	Direct Cost Savings to Victims	Savings in Intangible Costs to Victims	Total Government Savings per Resident
	10%	$5,000,000	$7,000,000	$73,000,000	$145
Boston	25%	$12,000,000	$18,000,000	$180,000,000	$360
	A 10% reduction would increase housing value by $4.4 billion.				
	10%	$24,000,000	$43,000,000	$420,000,000	$187
Chicago	25%	$59,000,000	$107,000,000	$1,000,000,000	$470
	A 10% reduction would increase housing value by $2.2 billion.				
	10%	$7,000,000	$15,000,000	$140,000,000	$138
Dallas	25%	$19,000,000	$36,000,000	$360,000,000	$450
	A 10% reduction would increase housing value by $2.4 billion.				
	10%	$17,000,000	$27,000,000	$265,000,000	$150
Houston	25%	$43,000,000	$67,000,000	$660,000,000	$370
	No report on housing value impact was reported.				
	10%	$4,000,000	$8,000,000	$80,000,000	$122
Jacksonville	25%	$12,000,000	$20,000,000	$200,000,000	$305
	A 10% reduction would increase housing value by $600 million.				
	10%	$5,000,000	$9,000,000	$90,000,000	$190
Milwaukee	25%	$12,000,000	$23,000,000	$225,000,000	$470
	A 10% reduction would increase housing value by $800 million.				
	10%	$17,000,000	$30,000,000	$300,000,000	$240
Philadelphia	25%	$43,000,000	$75,000,000	$742,000,000	$595
	A 10% reduction would increase housing value by $3.2 billion.				
	10%	$2,000,000	$2,000,000	$22,000,000	$50
Seattle	25%	$6,000,000	$5,000,000	$54,000,000	$123
	A 10% reduction would increase housing value by $2.9 billion.				

Figure 2: Costs—and savings associated with—reductions in violent crime for eight U.S. cities

The significant costs associated with firearm-related violence are not just financial. Just as important is the significant cost to public health and the tragic loss of individual lives and community potential. With such costs, it is incumbent upon law enforcement to seek ways to improve their crime reduction strategy, with an emphasis on reducing firearm-related violent crime in their communities. Advances in technology provide a growing number of opportunities to do just that. However, an effective preventive crime gun strategy requires more than just

technology: it also requires the appropriate allocation of people and processes[11]. Done properly, and with just a 10 percent decrease in violent crime, the cost of such a strategy is but a fraction of the direct savings that government can expect.

While the specifics of implementing a preventive crime gun strategy may differ, one theme is common to all successful implementations. That theme is innovation, which can be defined as "The application of better solutions that meet new requirements, unarticulated needs, or existing market needs."[12] Innovation is accomplished through the development of more-effective products, processes, services, technologies, and/or business models that are readily available to stakeholders including government and the general public.

In addition to this one common theme, a successful strategy is built upon a cornerstone. That cornerstone is NIBIN, an ATF administered network of over 200 local, state and federal-partner sites. In a report prepared by the Police Foundation[13] with information from responding U.S. chiefs of police, ballistic imaging is the most useful federal resource in the battle against violent crime in the United States. This report also mentions that NIBIN (National Integrated Ballistic Information Network) managed by ATF (Bureau of Alcohol, Tobacco, Firearms and Explosives) is "A critical forensic tool for solving gun crimes and to improve real time case information and intelligence data." [14] The technology behind the NIBIN federal program is **IBIS®** (Integrated Ballistics Identification System by Ultra Electronics Forensic Technology). IBIS is used to capture digital images of bullets and cartridge cases. It enables the sharing and comparison of significant quantities of exhibit information and images across a network of imaging sites, and provides automated identification of likely matching bullets and cartridge cases. Other technologies are available, but only IBIS is linked among jurisdictions and provides for the most comprehensive technological coverage in the United States.

11 Gagliardi, P. *The 13 Critical Tasks: An Inside-Out Approach to Solving More Gun Crime*, 2nd ed. Forensic Technology WAI, Inc., Montreal, 2014.

12 Maranville, S (1992). "Entrepreneurship in the Business Curriculum". *Journal of Education for Business*. Vol. 68 No. 1, pp. 27–31.

13 Police Foundation. "Full Report Reducing Violent Crime in American Cities: An Opportunity to Lead", January 2017.

14 Ibid.

Understanding Crime Gun Intelligence

Crime gun intelligence is a term that is common in today's discussions regarding violent gun crime. However, not all agree as to what it means and there are a number of definitions. For this reason, and before moving forward, it is important to have a common understanding of what it means in the context of this playbook.

In an article in *The Police Chief*, Pete Gagliardi[15] does an excellent job defining crime gun intelligence by breaking the phrase down into its component parts and further distinguishing *intelligence* from *information*[16]. He uses the "crime gun" definition provided by ATF in its *Firearm Tracing Guide: Tracing Firearms to Reduce Violent Crime*: "Any firearm illegally possessed, used in a crime or suspect to have been used in a crime."[17] This is not an indictment of guns: as inanimate objects, they are neither good nor bad. At the same time, it does recognize that they can be used—and are being used—by individuals who seek to commit violent criminal acts.

When discussing intelligence, Gagliardi does so in the context of discussions that took place within the *International Association of Chiefs of Police* at meetings and summits in 1998 and 2002. In 1998, the IACP agreed that criminal intelligence was "Information compiled, analyzed and/or disseminated in an effort to anticipate, prevent, or monitor criminal activity."[18] In 2002, the definition was refined because information really could not be used interchangeably with intelligence. As Gagliardi states, "The difference being that intelligence combines credible information with quality analysis and evaluation from which conclusions may be drawn."[19] In its best practices guide, ATF defines Crime Gun Intelligence in this way: "Crime Gun Intelligence (CGI) utilizes evidence-based technology to provide law enforcement a unique tool to enhance comprehensive violent gun crime strategies.

15 Principle Officer, Triple Barrel Strategies LLC, IACP Firearms Committee.

16 Gagliardi, P., "In the Crosshairs: Crime Gun Intelligence." *The Police Chief*, July 2018.

17 U.S. Department of Justice, Bureau of Alcohol, Tobacco, Firearms and Explosives. *Firearms Tracing Guide: Tracing Firearms to Reduce Violent Crime*. Washington, DC: National Tracing Center, 2011: 5. Furthering the definition, crime guns, "may include firearms abandoned or otherwise taken into law enforcement custody that are either suspected to have been used in a crime or whose proper disposition can be facilitated through a firearms trace."

18 IACP National Law Enforcement Policy Center. *Criminal Intelligence: Concepts and Issues Paper.* Alexandria, VA: IACP, 2002: 3.

19 Gagliardi, P., "In the Crosshairs: Crime Gun Intelligence." *The Police Chief*, July 2018: 45.

CGI combines all available information on crime guns and shootings to identify and disrupt the shooting cycle. Crime gun intelligence concentrates on the ways firearms are diverted from the normal venues of regulated commerce to the criminal market, seeks to intervene to prevent that diversion, and establishes connections of crime guns that have already been used. CGI reveals leads not otherwise available to assist in identifying offenders who are illegally purchasing or transferring firearms and the offenders who use them to commit violent crimes." [20]

In short, information by itself is not enough: that information has to be supplemented by analysis and evaluation in order to provide law enforcement with reliable criminal intelligence that can be used to make decisions on enforcement activities.

20 The National Crime Gun Intelligence Governing Board, *Crime Gun Intelligence: Disrupting the Shooting Cycle*, https://crimegunintelcenters.org/wp-content/uploads/2018/09/CGI-Manual-Best-Practices-ATF-27-AUG-18.pdf

Building a Preventive Crime Gun Strategy

There are eight components that make up an effective and sustainable preventive crime gun strategy. Each component is addressed in its own chapter which includes an overview followed by a discussion of the critical elements.

Figure 3: Components of a preventive crime gun strategy

When building a preventive crime gun strategy, it is important to identify and remove inefficient policies and processes and replace them with revised ones. This gives personnel a clear vision on how to perform their duties, allowing for a greater impact on reducing crime gun violence. It has to be made clear that implementing such a strategy is not a temporary initiative but a new way of doing business.

COMPONENT 1
STAKEHOLDER BUY-IN

Throughout the history of the NIBIN program in the United States, the genesis of many successful agency initiatives has been a vision that someone had about what an integrated preventive crime gun strategy could mean for his or her community. In some cases, it was a detective who heard of NIBIN and saw its potential value in helping to connect shootings. In others, it was a forensics laboratory that linked homicides or closed a case when test fires were acquired (imaged using IBIS) and linked to an open homicide investigation. Or maybe it was an evidence technician who attended a conference and heard about NIBIN's potential for linking shootings. As good as these beginnings were, the success would not have been sustained had others not become actively involved in what was happening. This phenomenon is called *stakeholder buy-in*. The key to program sustainability was that regardless of where in the chain-of-command the NIBIN program was initiated, it resulted in quick adoption as an agency-wide strategy involving high-level command personnel.

A unified vision is necessary and can only be achieved through the collaboration of all stakeholders.

It is important to understand what is meant by a *stakeholder*. A stakeholder is a person, agency, group, or business with a concern or interest in something. Expanding on this, it can also denote an organization or system in which all members or participants are viewed as having a vested interest in the success of that organization or system. The question we need to answer is this: "Who are the stakeholders in a preventive crime gun strategy?" The answer should include, at a minimum, one or more law enforcement agencies (local, regional, federal), specialized groups within those agencies, the forensic science laboratory (even if a NIBIN system will not be located there), and the prosecuting office(s). As the NIBIN program is developed, enhanced, and expanded, the number of stakeholders can be expanded to include other relevant agencies and departments.

A successful preventive crime gun strategy will involve a number of stakeholders, requiring them to work together with a unified vision. The vision should be simple, measurable, and meaningful throughout each of the eight components of the strategy. For example, the vision could be, "To make the streets safer and bring justice to victims and families." This vision is simple and concise, it is capable of being measured in terms of shooter identification/arrest statistics, and it is relevant to those stakeholders tasked with protecting the public and enhancing community potential.

Due to the multi-disciplinary nature of this approach and the team of individuals that is required, it is critical to move beyond simple cooperation and achieve *collaboration* among stakeholders and clients. This point may be viewed as trivial, but on a macro level, there are substantial differences between the two concepts. These differences are outlined in the table below.

COLLABORATION	COOPERATION
Stakeholders: • Take ownership of their role in responding to a problem • Become part of a team-based solution • Take responsibility for themselves without concern for what others are, or are not, doing • Respond to a crime problem with a vision of reducing crime in the future • Look for better ways	Stakeholders: • Do what is minimally needed to get through the problem • Become part of someone else's solution • Resent their role being forced upon them, and look for failings in others to absolve themselves of further responsibility • React to crimes that have already occurred with no vision for future reduction • Tend to look for ways out

Figure 4: Differences between collaboration and cooperation

Collaboration allows for the proper use of people, processes, and technology, each of which is critical to the success and sustainability of the preventive crime gun strategy. IBIS technology has been at the core of the NIBIN program in the United States since the late 1990s. However, it was not until 2012 that the program saw more-widespread success. The key was recognizing that then-current processes were not in-sync with the potential of the technology, which needlessly limited success. Just as the processes were misaligned, so too were the people. The important aspect of utilization is the proper alignment of personnel with processes and technology so that the knowledge, skills and abilities of personnel are appropriately matched to the task at hand. For example, using trained technicians instead of firearm examiners to perform IBIS acquisitions and reviews of correlation results, frees the examiners to perform the tasks for which they are specially trained, tasks that often would take priority over the IBIS tasks.

For proper development and alignment, stakeholders will be responsible for developing clear policies by which the strategy will be organized and governed. The foundation of these policies should be the resolution adopted at the 119th Annual Conference of the International Association of Chiefs of Police (IACP) in support of ATF's NIBIN program[21]. With this foundation in place, key policies will be needed to address the following issues:

- Thorough investigation of each firearm-related crime including the safe and proper collection of all crime guns and related evidence.
- Performance of appropriate National Crime Information Center (NCIC) transactions.
- Timely and comprehensive tracing of all crime guns through ATF's eTrace (Electronic Tracing System).
- Timely processing of crime guns, test fires and crime scene evidence through NIBIN.
- Timely lab submission and analysis of other forensic data from crime guns and related evidence such as DNA and fingerprints.
- Generation, dissemination, and investigative follow-up of the intelligence derived from the application of regional protocols.

The ultimate goal is to create a network that will give the investigators actionable crime gun intelligence within 48 hours of an offense. By doing this, the investigators will be placed in the advantageous position of being able to disrupt crime, as opposed to simply reacting to criminal events. This allows for the very real potential of removing active shooters from the streets before they can re-offend, thereby making our streets safer.

21 International Association of Chiefs of Police. 2012 Resolutions. Adopted at the 119th Annual Conference, San Diego, CA, October 3, 2012.

COMPONENT 2
REGIONAL APPROACH

Shooters and their firearms travel. For example, it is quite possible and likely that a shooting crime takes place in one jurisdiction and the shooter drives to another, is stopped by police and apprehended with the firearm, for an unrelated incident. If the two jurisdictions are not tied-in to the same network, then it is quite possible that the link will never be made. The firearm may sit on an evidence shelf and never be looked at until it becomes time to destroy it. Therefore, a critical component of a successful preventive crime gun strategy is to include a regional approach that bridges cross-jurisdictional gaps. Such an approach helps maximize the investigator's ability to link and solve crimes. The reason is simple: criminals and their firearms travel.

The importance of a regional approach is highlighted by this example of a regional law enforcement agency that pulled out of NIBIN claiming that only 3% of their links were to jurisdictions outside the county. They did not see any need to be part of NIBIN. However, the low rate of outside links did not make sense. This county's primary city was responsible for a relatively high level of gun violence and it is on a major highway linking it to primary cities in two other counties, 12 and 22 miles away. Intuitively, the rate of links outside the county should have been much higher than 3%. A short-term initiative in that primary city was begun—with NIBIN as the cornerstone of that initiative. Within four months, that city alone had developed 70+ leads using NIBIN. In addition, cities from outside the region were also linking shootings in their communities to shootings in the city that had begun the short-term initiative. Of the 70+ leads, 56% were linked to law enforcement agencies outside that county. None of this information would have been discovered without leveraging the regional capabilities of NIBIN.

Other technologies and processes (such as gunshot detection[22] and cell phone analysis) should also be evaluated for their potential in cross-jurisdictional capabilities. It is important though that they not be evaluated solely in light of how they have been used in the past—like NIBIN was for the regional agency in the above example. While not all technologies and processes are capable of crossing jurisdictions, it is essential that an agency interested in developing a successful preventive crime gun strategy does not isolate itself by adopting a technology or process that deliberately sets it apart from neighboring agencies and resources.

22 Gunshot Detection – An acoustic technology designed to identify and locate gunshots as they occur in an area covered by that technology.

In helping to promote a regional approach it can be expected that memorandums of understanding or agreement will have to be developed. These would be included under the policies discussed under *Component 1: Stakeholder Buy-In*, and are important when looking at the implementation of NIBIN as the cornerstone of the preventive crime gun strategy. The reason is that certain aspects of NIBIN can be labor-intensive and there will have to be agreement as to how and when the IBIS technology can be used and shared among jurisdictions. Successful jurisdictions have policies in place to deal with regional issues. Some examples of regional approaches to the sharing of IBIS technology are described below.

One law enforcement agency set up a regional approach in which it allowed trained users from other agencies to use its IBIS equipment to acquire ballistic evidence. In this way, the agency housing the equipment did not have to be responsible for anyone else's evidence. Google Calendar™ was used to schedule blocks of time for evidence acquisition. This method is useful when agencies have large amounts of evidence to acquire: it keeps much of the burden within that agency.

Everyone has a role to play. Build a collaborative solution in which everyone carries their fair share of the responsibility. The purpose of collaboration is to come together to make this strategy as efficient and effective as possible, for all parties involved.

In a second example, a host agency allowed other agencies to bring in their ballistic evidence, by appointment. The hosting agency would acquire the evidence while the evidence custodian waited. This method is helpful for agencies that do fewer acquisitions (because skills required for acquisition can diminish if not used regularly). It's also useful for the host agency, because it never takes custody of the evidence and does not have to deal with the administrative overhead of chain-of-custody.

Some law enforcement agencies are already poised for a regional approach because the IBIS technology is housed in a forensic science laboratory that services the region. However, processes may have to be modified for a successful preventive crime gun strategy. For example, some agencies have an inflexible intake policy. One regional agency limited the amount of evidence submissions that it would accept. Other agencies are fee-for-service based, which can dissuade agencies from submitting the firearm-related evidence from less-violent shooting incidents. Yet, it is these very incidents that could be the key to solving one or

more violent incidents. Even where no such obstacles exist, an inflexible intake policy may cause extensive internal administrative delays and prevent timely processing of firearm-related evidence.

One perceived obstacle that resurfaces time and again is accreditation[23] of forensic laboratories. For the purposes of preventive crime gun strategy implementation, there is ***nothing*** in the accreditation guidelines that prevents a forensic laboratory from conforming to the more timely processing of firearm-related evidence. A number of accredited forensic laboratories have successfully adjusted their internal policies and procedures so that there is minimum delay between receipt of firearm-related evidence or test fires and the release of an unconfirmed lead, all the while remaining within the accreditation guidelines. Many laboratories have also achieved a significant reduction in backlogs and processing times by working with investigators and prosecutors to determine which cases require a full and complete analysis of all firearm-related evidence, and which can be treated as "NIBIN only" cases. When handled as a "NIBIN only" case, the cartridge cases within a submission are evaluated, and representative samples are selected for entry into the NIBIN database. The case is then put away until a later time if further work is deemed necessary, either to confirm a NIBIN lead or to examine the evidence for court purposes. This allows for the evidence to be entered in a more timely manner.

To help improve the efficiency of the NIBIN site, some of these adjustments may require additional work from the submitting agency. For example, local agencies may be required to process their own firearms for DNA, latent prints, and test firing, submitting only the test fires for entry into NIBIN. While this policy applies only to those firearms routinely recovered, it still removes a tremendous burden from the NIBIN site. Once again, we return to *Component 1: Stakeholder Buy-In*. The key is to look for a collaborative solution such that everyone is carrying their fair share of the responsibility. Everyone has a role to play, and the purpose of collaboration is to come together to make this strategy as efficient and effective as possible for all parties involved.

One last critical element to be discussed in this regional approach is that it is best to start small and build from there. As is evident, there are lots of moving parts and things to be considered in a preventive crime gun strategy. Policies and processes will likely be modified and adapted to achieve the best approach. One policy or process may have unforeseen consequences for another policy or process. Upon implementation and review, it may be determined that the approach has not worked well at all, and that a different approach is necessary. It is easier to work out the kinks if the scope is initially kept small and built up from there. For

23 Accreditation – The status achieved by a law enforcement agency indicating it meets a minimum level of performance as mandated by the accrediting agency. The chief accrediting agency for forensic accreditation in the United States is ANAB (ANSI-ASQ National Accreditation Board).

example, a regional laboratory can start with a select city within its region, and make sure everything works well before extending the scope to other cities. This is the best approach, especially when there are extensive policies and processes that need to be adjusted.

COMPONENT 3
NIBIN – THE CORNERSTONE

Simply put, NIBIN is a program that generates actionable leads, linking shooting crimes and incidents that otherwise may not have been linked. The technology is capable of searching for links at speeds that are well beyond human capacity. It is limited only by the processes and procedures related to data acquisition and correlation results review. This allows detectives to obtain critical information in a timely fashion and advance their investigations. Furthermore, NIBIN can be leveraged across jurisdictional boundaries—it currently links over 200 sites and 3,000 law enforcement agencies in the United States. If necessary, it can be used to link agencies internationally. And there are other advancements in ballistic imaging technology. For instance, IBIS TRAX-HD3D™ technology is being evaluated for its applicability to casework in firearm identification as a virtual microscopy tool. This tool could allow agencies to use these images in lieu of exchanging physical evidence for forensic firearm-related comparisons.

A 2013 study conducted by the *National Institute of Justice* (NIJ) examined NIBIN and concluded that "Although NIBIN has tremendous potential as a tactical and strategic tool, it is rarely used for strategic purposes"[24]. To do so requires an approach different from the one used at time of study. This approach includes four critical keys: comprehensive data collection, timeliness, investigative follow-up, and feedback.

1. **Comprehensive data collection** begins at the crime scene. Every shooting scene has to be processed, and any shooting-related evidence collected, packaged, and submitted in a timely fashion. Once collected, all eligible firearm-related evidence has to be entered into NIBIN. This includes test fires and representative cartridge cases from all shooting scenes. For purposes of comprehensive data collection, all firearm-related evidence is to be viewed as having the same priority. The reason: until it is demonstrated that the evidence is not connected to any other shootings, each piece of firearm-related evidence is potentially the key to solving a no-suspect shooting or a series of shootings that were otherwise unknown.

24 King, W., Wells, W., Katz, C., Maguire, E., and Frank, J. *Opening the Black Box of NIBIN: A Descriptive Process and Outcome Evaluation of the Use of NIBIN and Its Effects on Criminal Investigations, Final Report*. Report 243875, Department of Justice, Washington, D.C., 2013.

2. **Timeliness** refers to the time between the incident and the notification of correlation review results to the investigator. Since the previously referenced NIJ report concluded that the value of notifications drops precipitously after only a one-week delay, the actual quality of the information being provided is directly linked to the timeliness of that information. In this case, timeliness is a factor of quality control. There are many potential barriers to timeliness. Many, if not most, can be overcome by the individual sites.

3. **Investigative follow-up** is needed on each NIBIN lead provided by the site. Any previously low-priority shootings that are now linked to a homicide investigation are potentially as critical as that homicide investigation. This is because potential witnesses to those low-priority shootings may have information that could lead to the successful identification of suspects in homicides (where witnesses are less inclined to share). This key also includes the timely analytical processing of the associated reports and investigations, so that investigators can focus on interviewing witnesses, as opposed to pulling the information together.

4. **Feedback** refers to a communication loop that includes everyone in the process. It can be very satisfying for a patrol officer to know that the effort made to pick up cartridge cases has resulted in a link that helped solve a homicide. While sites, especially those based in forensic laboratories, may balk at being informed of the usefulness of the information they provide, this information is critical to the continued morale and funding of the program. Feedback is also critical to help refine and improve the program including its processes and procedures. Typically, feedback is sparse, often anecdotal, and provides little substantive information to help budget-deciding officials make an intelligent decision on the allocation of limited resources. Therefore, it is possible that a program will have tremendous success and yet be underfunded because there is no documentation of that success.

When these four critical keys are used, NIBIN's potential as an investigative tool increases. These keys go beyond technology, so it is going to be important to evaluate and, where necessary, modify processes and procedures to ensure unnecessary bottlenecks and obstacles are eliminated. All processes and procedures—starting with the crime scene and continuing through to the release of forensic information regarding the evidence at that scene—should be evaluated. As we examine the various steps involved in the evidentiary path, we can see how each process would be impacted.

The Evidentiary Path

Standards for timely, comprehensive and consistent turnaround times during evidence processing of NIBIN data are contained in ATF's *NIBIN Minimum Operating standards* (MROS). For more information, refer to the **Appendix** at the end of this book.

There are five steps in the evidentiary path that are to be considered with respect to NIBIN. These are:

Step 1 – Evidence recovery

Step 2 – Evidence holding facility

Step 3 – Pre-NIBIN processing

Step 4 – IBIS technology

Step 5 – Notification

Each of these steps is addressed below.

STEP 1 – EVIDENCE RECOVERY

The key is comprehensive collection—the collection of everything firearm-related at the scene. This includes not only cartridge cases and firearms, but also unfired cartridge cases. Although not necessarily suitable for NIBIN entry, in the absence of the firearm, unfired cartridge cases can sometimes be linked to fired cartridges from the crime scene. For example, the unfired cartridges found in the possession of someone linked to shooting incidents (through license plate or previous NIBIN links), may have extractor or ejector marks that can be compared to marks on fired cartridge cases—even where no firearm has been recovered.

It is impossible to know which specific event will result in a crucial break for one or more shootings. Therefore it is necessary to treat each event as if it will be that break. In many communities, if a patrol officer receives a "shots fired" call, that officer will perform a drive-through, and if no victims or suspects are observed, he or she will close that call with no further intervention required. For effective crime gun intelligence, it is important that at least some sort of canvassing of the immediate area be performed to collect any fired cartridge cases.

Timeliness can be facilitated at the crime scene by processing and packaging the firearm-related evidence so that it is more easily segregated for NIBIN-related handling. Two processes are especially helpful.

- The first is to package recovered cartridge cases separately from the rest of the evidence whenever possible. This could mean placing each recovered cartridge case in a separate container, marking it with an exhibit number and then packaging the individual containers collectively into a separate appropriately-marked container. In this way, when the cartridge cases are needed for NIBIN acquisition, they are easily pulled from the rest of the evidence that has been recovered. Firearms are typically packaged in their own boxes anyway, and additional packaging would not be needed.

- The second process consists of highlighting within the evidence inventory or in the crime-scene report that NIBIN-eligible evidence was recovered from the scene. This may require a change to evidence inventory forms, for instance the inclusion of check boxes where the caliber of any recovered firearms or cartridge cases can be indicated. The space on the form could include a list of the common calibers along with an "unknown caliber" option. Responders, for example crime scene technicians and officers, could receive training on how to read common headstamps on fired cartridge cases and check the appropriate box. This way, when the report is submitted, the evidence-holding facility and others can be appropriately alerted without having to read the whole report or inventory.

STEP 2 – EVIDENCE HOLDING FACILITY

Typically, this is only an issue if the NIBIN site is *not* part of the law enforcement agency that recovered the evidence. The three primary concerns are fee-for-service laboratories, restrictions on the number of submittals, and restrictions on the type of cases that may be submitted. Each of these concerns is addressed below.

Some regional laboratories have adopted a fee-for-service structure to help offset the budgetary constraints of the parent agency responsible for those labs. If the NIBIN site is located within that laboratory, a decision has to be made as to whether a fee will be assessed for evidence submission for the purposes of NIBIN entry and correlation results review. In an effort to enhance the crime gun intelligence strategies in their regions, many regional NIBIN sites have elected to forego fees for this service. However, this is not always the case. One thing to keep in mind is that pre-NIBIN processing may be needed. Fee-for-service sites may offer no-fee NIBIN entry and review of correlation results, but pre-NIBIN processing may incur fees. Therefore, the agency recovering the evidence should consider performing latent print processing, DNA swabbing, and test firing of firearms so that the only responsibilities for the NIBIN site will be cartridge case triage, acquisition and correlation results review.

Some NIBIN sites may restrict the number of cases that can be submitted. It could be that they service multiple law enforcement agencies and are concerned they will be overwhelmed by the number of submittals. Or, they may be concerned that the submitting agency will overwhelm them by submitting far too many cases at once. Four things can help deal with this concern:

- The first is education. The site may be unaware of the importance of comprehensive data collection, so success stories from other agencies are valuable in helping them understand this importance.
- The second is to commit to not worrying about the backlog. As much as it would be nice to potentially bring closure to some of those cases, focusing on the backlog simply puts the current cases at risk and overloads the NIBIN site. The correct strategy is to remain current with the current evidence and develop a strategy with the site to work off the backlog as, and only as, time permits.
- The third is to minimize any pre-NIBIN processing the site would have to perform, as previously discussed.
- The fourth is to consider having someone trained to perform acquisitions and offer to have that person perform the acquisitions for your agency. The process is quite simple, and the training is approximately one week in duration. Various accredited laboratories hosting NIBIN sites have been successful in permitting this without violating accreditation guidelines. They just had to modify some procedures and policies.

Some NIBIN sites may also restrict the type of cases that are submitted or, for cases considered less urgent, place them into the backlog. This should be avoided because *every* case has the potential to be the key link. It is quite possible that an assault with a firearm in which a victim was wounded and in which there are no witnesses may come back with no leads. Meanwhile a case with witnesses, in which shots were fired (and missed) comes back with a lead through NIBIN, may be connected to a homicide or an armed robbery. All firearm-related incidents, especially shooting incidents with recovered cartridge cases, should receive the same level of priority for NIBIN after which the incidents can be prioritized for investigation.

It is critical that, if the NIBIN site is not part of the agency seeking to develop a preventive crime gun strategy, that the NIBIN site at least be an active collaborator in the process. The site cannot be simply told what is wanted and then expected to perform according to demands. This can lead to resentment, and very likely, push-back. It is essential that the NIBIN site be approached with a collaborative plan, one to which they can contribute.

The key to timeliness is minimizing the evidentiary footprint, both administratively and physically. The greater the distance that evidence has to travel and the more time it spends in administrative processing, the less it is available for pre-NIBIN and NIBIN processing. There are two major obstacles to the timely processing of evidence—decentralized evidence booking and remaining steadfast in the way that things have *traditionally* been done as opposed to the faster ways they *could* be done.

Firearm-related evidence has to get to the NIBIN site as quickly as possible. If evidence booking is centralized, then sorting NIBIN-eligible evidence for immediate processing can reduce time delays. If evidence booking is decentralized, then it will be important to identify ways in which the NIBIN-eligible evidence can be reliably handled separately from the rest of the evidence and expedited to the NIBIN site. Examples of ways in which this can be done is to have lockers into which the evidence can be placed after-hours, awaiting collection and transport to the NIBIN site. An internal or external NIBIN site could provide assistance in this matter. For example, one laboratory has mailbox lockers within a non-public, restricted area. Agency personnel can place envelopes containing fired cartridge cases (evidence cartridge cases or test fired cartridge cases) into these mailbox lockers. Laboratory personnel can empty the lockers every morning to process the previously-deposited cartridge cases. In this way, agency personnel who may have to navigate traffic during the day to get to the laboratory, can do it during off-hours, and spend less time doing so.

Regarding the administrative footprint, the most successful preventive crime gun strategies have recognized the importance of streamlining NIBIN-related evidence administratively, modifying policies and processes in order to accomplish this. Most often this modification occurs at the NIBIN site itself. If the site is within an accredited laboratory, accreditation does not prevent this streamlining. However, it will likely require an adjustment of policies and practices to accomplish it. Streamlining will also help the site because ideally—and to ensure best practices with respect to timeliness—submissions should be occurring at least three if not five times a week. The less a site has to do for these cases, the more it can focus on its duties. One site in particular took this issue very seriously when the municipal police department incorporated NIBIN into its property division. Evidence technicians were trained to routinely process firearm-related evidence for pre-NIBIN work including latent print processing, DNA swabbing, and test firing of firearms. Upon submission, NIBIN-eligible evidence was immediately segregated into a separate area for processing. Prior to it being placed on the shelf for longer term storage, the evidence was processed and entered into NIBIN. Over the period of one year, 75% of submitted evidence was entered and correlation results reviewed within 3 days, with 95% of submitted evidence so processed within a week. Evidence which routinely took more than a week included evidence from homicides and assaults with intent to kill. The number of NIBIN entries over the course of that

first year was close to 3,000. Timeliness was key to helping that agency identify and/or arrest over 100 individuals involved in shootings in that city that year.

In another example, due to severe restrictions on their ability to submit evidence to a regional laboratory, one agency sought and obtained its own IBIS TRAX-HD3D | BRASSTRAX™ and MATCHPOINT™ units. Over approximately 15 years prior to this move, the regional laboratory had acquired nearly 9,000 items of evidence and test fires with a NIBIN hit/lead rate of 1.6%. But within a single year of operation, the local agency was able to achieve a NIBIN hit/lead rate of 26% on approximately 2,750 items of acquired evidence and test fires. This was a strong response to a difficult situation and it worked out well for that local agency. It is important to note however, that there are other regional sites that have made the required changes within accreditation requirements and have been quite successful in collaborating with local agencies in developing effective *crime gun intelligence centers*.

The key in this step is to eliminate as much as is possible, all obstacles to comprehensive collection, and to reduce the administrative and physical footprint of the evidence. It is possible to do so within accreditation guidelines and this may necessitate modifications to current processes and policies. However, agencies can facilitate this through collaboration with their regional NIBIN site or through procurement of their own IBIS equipment.

STEP 3 – PRE-NIBIN PROCESSING

The third step on the evidentiary path is the pre-NIBIN processing of firearm-related evidence. This includes latent print processing, swabbing for DNA, test firing of firearms, and cartridge case triage. As we examine the four critical keys, timeliness stands out as especially relevant. The reason is that every step deemed necessary in the pre-NIBIN processing may delay the timely acquisition and review of correlation results for firearm-related evidence.

Of the pre-NIBIN processing steps, two of them—test firing and cartridge case triage—are unavoidable because it is part of overall NIBIN processing. Latent print processing and swabbing for DNA are not and this is where a significant part of the challenge comes into play. It can almost be considered a Catch-22 situation. Normally, if the evidence was not going to be processed for NIBIN then the latent print processing and DNA swabbing would not even be a consideration. However, since it is going to be processed for NIBIN, then the latent print processing and DNA swabbing become more of a consideration. They are now deemed necessary. The reason: after firearm-related evidence has been processed for NIBIN, the opportunity to process it for latent prints and DNA has been lost. If that firearm-

related evidence is a key piece of evidence, the latent prints or DNA could prove to be extremely important, so it is reasonable to want to protect that evidence.

There is no single solution that will work for all agencies or in all situations. However, whenever pre-NIBIN evidence processing is deemed essential, it should be done as expeditiously as possible. This may mean that the responsibility is delegated to a party other than the one that has traditionally performed the task. For example, swabbing of a firearm for DNA can be performed by non-laboratory individuals as long as they are properly trained. Delays due to firearm-related evidence languishing in DNA and latent print backlogs must be avoided at all costs. Therefore, it is important that this issue become a focal point of the collaborative discussion that is to take place between clients and stakeholders during the initial and on-going discussions about how to deal with pre-NIBIN processing.

It may be determined that under some circumstances pre-NIBIN processing will not be necessary. In other circumstances it may be decided that packaging the evidence in a different way could help alleviate some concerns with NIBIN handling. For example, one agency packaged recovered cartridge cases in flip-top plastic vials for which the lid could be removed, and the cartridge cases accessed for visual examination without ever touching the cartridge case. In this way, multiple cartridge cases could be examined while preserving latent prints and DNA, except on the few selected for NIBIN entry.

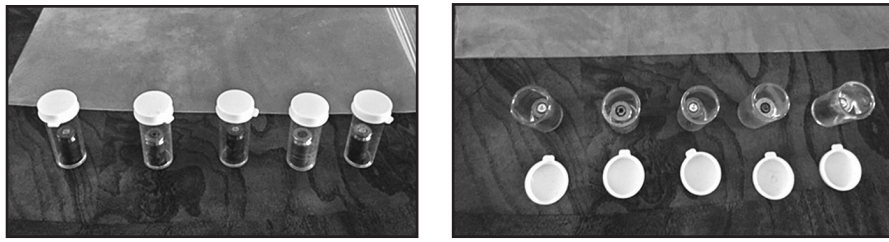


Figure 5: A flip-top vial provides easy viewing of firearm produced marks without the need to touch the cartridge case.

Another potential solution is to delegate these various pre-NIBIN processing tasks to other individuals. For example, some NIBIN sites now require submitting agencies to submit only test fires and not the firearms themselves. In this way the NIBIN site does not get backlogged with firearms from multiple agencies. In addition, the tasks of processing for latent prints and DNA swabbing are now in the hands of the submitting agency as well. Historically, firearm examiners were the individuals most-often tasked with comparing cartridge cases and advising

the NIBIN technicians which of the submitted cartridge cases to enter. This task can be very time-consuming and agencies have found it much more expedient to train NIBIN technicians to triage groups of cartridge cases for purposes of selecting the best candidate(s) for entry into NIBIN. In the time it takes a firearm examiner to process and document one case for NIBIN entry, a technician can now handle 4 or 5 cases (at a minimum).

Pre-NIBIN evidence processing is an important issue: it should not be summarily dismissed. While there are occasions and circumstances under which it should not be needed, there are just as many in which it is advisable. Pre-NIBIN evidence processing should be a focal point of a collaborative discussion between clients and stakeholders so that if it is deemed to be necessary, then it will be done quickly. Several law enforcement agencies have demonstrated that the implementation of extensive pre-NIBIN processing is not an automatic obstacle to timeliness. Processes and procedures were adjusted to allow for both the pre-NIBIN processing and the timely acquisition of evidence into NIBIN.

STEP 4 – EVIDENCE ACQUISITION AND CORRELATION RESULTS REVIEW (IBIS TECHNOLOGY)

The fourth step in the evidentiary path is evidence acquisition and correlation results review. Many sites have used technicians for acquisition but have resisted using technicians for selecting cartridge cases for entry and correlation results review. The correlation results review process is a comparative process for which firearm examiners have already been trained. Therefore, sites have resisted investing the time needed to train technicians, and have left the review process to firearm examiners.

To become more efficient and effective, it's critical that sites move from firearm-examiner-based NIBIN operations to technician-based NIBIN operations.

The challenge with having a firearm examiner responsible for these duties is that correlation results review is often a low priority. Combine that with historically understaffed firearm examination units, it should not be surprising that one of the largest challenges NIBIN has faced is the number of un-reviewed correlation results. It is not an issue of intent, it is an issue of demand. To maximize timeliness, individuals should be dedicated to correlation results review as a primary function of their responsibilities, not an adjunct function. The required training involves more time and effort, but the end-result will be a much more efficient and

effective operation. NIBIN-user training is a requirement as of July 2018 as per ATF Minimum Required Operating Standards (MROS). Refer to page 41.

If sites want to become more efficient and effective, it is critical that they move away from firearm-examiner-based NIBIN operation to a technician-based NIBIN operation. Current IBIS hardware and software makes this transition much easier than previous versions because typical correlation results reviews are much easier to perform. At the very least, technicians can present to firearm examiners those cases in which a NIBIN lead is believed to exist, so that the examiner can make the final determination as to whether something should be considered a NIBIN lead.

Given the current state of the technology, the skill set needed to perform IBIS-related tasks is much simpler than what is required for the tasks of a firearm examiner. Also, obliging firearm examiners to perform evidence acquisition and correlation results review is not the best use of their talents and abilities. Unless multiple firearms of the same make and model are consistently being used at the same shooting scene, well-trained technicians will be able to perform cartridge case triage, a key pre-NIBIN processing issue. A review of data compiled by the ATF *NIBIN National Correlation and Training Center* (ATF NNCTC) has shown that with well-trained technicians and adequate quality review, the accuracy of ATF NIBIN leads is very high (with a false positive rate of less than 1%). This is exceptional. Using well-trained technicians to handle the tasks associated with acquisition and correlation results review is a more-efficient use of resources than using highly-trained firearm examiners for these functions. Plans for this option should be made. Training is available for these tasks because evidence acquisition and correlation results review are critical components of an effective preventive crime gun strategy.

STEP 5 – NOTIFICATION

The fifth step on the evidentiary path is notification. This step includes not only the actual results of the correlation results review, but how efficiently and effectively those results get back to investigators and the tracking of those results. For this purpose, cases in which no leads were developed can be as important as cases in which leads were generated, because non-lead results reduce non-productive investigative effort. Notification is very important because if the processes are not handled properly, all the hard work that had been invested up to this point may be lost. As we examine the step's four keys, three are critically important—timeliness, investigative follow-up, and feedback.

Timeliness is a given. The sooner the notification can be delivered, the better it is for the investigator. Ideally, notification occurs within 72 hours of the incident, if not sooner. This will generally mean that actual confirmation[25] of the cartridge cases involved in any NIBIN lead is not required before issuing the NIBIN lead. There are NIBIN sites that have been able to incorporate confirmation of the potential NIBIN lead prior to issuing the notification. In one case, that site simply compares the two specific cartridge cases in the lead. But more often than not, this is not possible. Until their policy changed, one site had a two-year delay between obtaining results from IBIS and confirming the results so that they could issue a notification. When the investigator finally received the notification, it was of limited value.

Non-lead results can be as important as lead results: they help eliminate the investigative effort that might otherwise have been expended.

Sufficient protection can be put into place to guard against the unintended use of any NIBIN lead. For example, if it is agreed that NIBIN leads shall not be used for anything other than providing investigators with timely intelligence, then a disclaimer could be placed into the body of the lead notification form that indicates that limitation. An example of such wording is, ***"This is for investigative purposes only and is not to be used for any court-related purpose."*** If it is agreed that NIBIN leads can be used to help establish probable cause for a search warrant, then investigators and attorneys should be educated about the fact that further forensic work may be needed prior to the case going to court and that the laboratory should be given sufficient time to do that work.

Due to its critical importance, there is often so much attention and money spent on obtaining the technology that the other two parts of the formula—people and processes—are frequently overlooked. However, it is imperative that they be addressed at every level. Processes have to be in place to allow for the effective

25 Confirmation – A determination made by a trained firearm examiner that at least two cartridge cases were fired from the same firearm. This determination (NIBIN hit) may be necessary for court proceedings involving the evidence in question and is performed using comparative microscopy.

dissemination of notifications to investigators, and there must be sufficient personnel assigned to handle what is expected to be a significant number of NIBIN leads resulting from comprehensive and aggressive data collection. It is not unusual for NIBIN sites that are aggressive in comprehensive data collection to discover that 20% to 30% of their shooting cases are related and generate NIBIN leads. Therefore, it is important, prior to the implementation of the preventive crime gun strategy, that investigators be provided education with respect to expectations. In addition, it will be important to ensure that the unit responsible for follow-up, including analysts, be adequately staffed to handle the volume of NIBIN leads.

If it is not possible to have the staffing levels required to follow-up on all the generated NIBIN leads, there should be a process in place so that leads are triaged, and the most critical ones are handled. This process could be the responsibility of someone on the immediate command staff of the group who performs an overall view of all leads and then distributes the more critical leads to investigators. For example, one group meets on a weekly basis to distribute new leads and to follow up on leads from the previous week(s). This has proven to be a very effective strategy.

> Instead of linking shootings already under investigation, NIBIN is best used as a tool to prioritize shooting cases.

Feedback with respect to notifications helps motivate everyone involved in the case. This is especially true when individuals have been delegated responsibilities that may be over and above their normal assignment. For example, it is rewarding for patrol officers who have recovered cartridge cases at shooting incidents in which there were no obvious suspects or victims, to know that the extra time they spent helped identify and remove an active shooter from the streets.

The notification process is a very simple one—with wide-reaching ramifications. The timeliness with which the investigators receive the information is critical, as is their follow-up on the NIBIN leads. It is important to have a cohesive strategy for the dissemination and follow-up of notifications, and this strategy should include accountability. Finally, feedback is important. Implementation of an effective preventive crime gun strategy will generally mean that individuals are being asked or directed to go beyond what they had once been doing. Feedback regarding the value of that effort can be very personally-rewarding and motivating.

Summary

NIBIN is the cornerstone of a successful preventive crime gun strategy because it is the only tool that can successfully link firearm-related evidence in a timely and comprehensive fashion. In order for NIBIN to be an effective cornerstone, law enforcement agencies have to capitalize on its technological potential. When it was initially implemented, it was limited to cartridge cases that had already been examined by a firearm examiner and as a result, the program languished. The vision did not match the potential. Rather than being used as a tool to link shootings that are already being examined, it is best used as a tool to identify which shootings should be *prioritized*.

The key here is that these processes do not have to be the perfect processes to which forensic laboratories are accustomed. NIBIN has never been presented as a perfect tool but rather, a tool that is capable of screening a large volume of cases. It may not be perfect, but it is highly informative. Laboratories have been so focused on perfection and defending that perfection that, in some respects, they have lost sight of their role and their ability to provide the valuable, timely intelligence investigators need to move on to the next step. So while investigators may end up getting "perfect" information, it has little-to-no value to their investigation because of the time it took to receive that information. "Imperfect" information that is of a high quality can however add a great deal of value to an investigation if it is provided in a timely fashion. With an effective preventive crime gun strategy, the potential for preventing future crimes is very real. It is with this vision that NIBIN can serve as the cornerstone for a successful preventive crime gun strategy.

COMPONENT 4 – OVERLAY TECHNOLOGIES

NIBIN is but one of a variety of technologies available to assist law enforcement in battling violent and organized crime. In developing a successful preventive crime gun strategy, it is essential that these technologies be examined for their potential to help in the overall effort. Individually, these technologies can provide some information. When strategically overlaid however, the power to provide information can be exponential. For example, consider the following diagram. In this hypothetical situation, six shootings are all linked to a single firearm by NIBIN, and the shooting data has been captured and time-stamped using gunshot detection technology. With this data in hand, investigators obtain cell phone tower records for the appropriate towers and find one cell phone number in common with all six towers, providing them with a potential lead to a suspect or suspects.

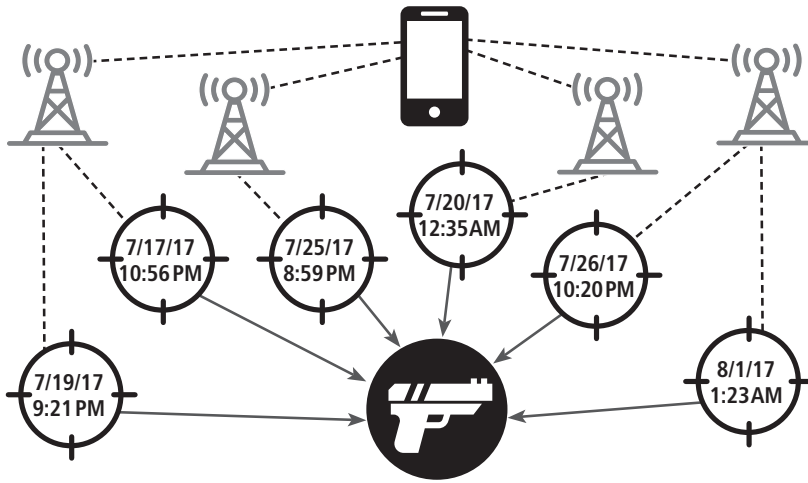


Figure 6: Example of overlay technologies

Examples of Technologies Available for Implementing a Preventive Crime Gun Strategy

As previously discussed, **NIBIN** uses IBIS technology to link firearm-related evidence and gain information about how shootings or other firearm-related incidents are related to one another. Much like AFIS and CODIS can help link individuals to a crime scene through fingerprints and DNA, NIBIN can link shootings to other shootings as well as link recovered firearms to shootings.

Gunshot detection is acoustic technology that reliably captures and identifies gunfire and uses audio triangulation to pinpoint the location of the shooting to within feet. It can provide reliable information with respect to location and time along with number of shots fired, the number of firearms involved, and the direction of travel if the shooters are in motion. Acoustic technology can have a significant positive impact on comprehensive data collection, one of the keys to a successful preventive crime gun strategy. Even if law enforcement agencies were to respond to every report of shots fired and collect the associated evidence, not all shootings are necessarily reported. ShotSpotter reports that almost 8 out of 10 shootings go unreported to 911[26]. Therefore, even if comprehensive collection was being performed at all *reported* scenes, it is quite possible that over 75% of the potential evidence remains on the streets. Using such a system, one such agency has gunshot detection coverage for a few significant square miles of the community in which there is a high number of shootings, and the technology is so efficient that responding officers can readily find fired cartridge cases (if any are there to be found).

ATF's **eTrace** (Electronic Tracing System) enables the tracing of firearms via a web-based application which is used to systematically track a recovered firearm from its manufacturer or importer and subsequent introduction into the distribution chain, to an unlicensed purchaser. When a law enforcement agency recovers a firearm at a crime scene it can request a firearms trace. The information can be used to link a suspect to a firearm in a criminal investigation, to identify potential traffickers and straw purchasers (individuals who purchase multiple firearms for distribution to those who are legally prohibited from purchasing firearms).

Cell phone analysis involves accessing two basic types of evidence: electronic evidence and retained data evidence. Electronic evidence includes the subscriber's call history, contacts, calendar information, and information stored on the SIM card. Retained data evidence is telecom records including the details of incoming and outgoing calls and the geographical location of the mobile phone when those calls took place.

Social media software provides investigators with targeted, rapid, and comprehensive investigative information that may be available through Twitter tweets, Facebook posts, Instagram photos, and YouTube videos (just to name a few). This can include information regarding various shootings, known associates, recent sightings, and future plans. While this information can be gathered manually, software allows for more comprehensive coverage using the various social media platforms. Stories abound of individuals messaging each other through Facebook messenger, one asking the other why he was shooting at him or his house, and other suspects posting pictures of themselves with their firearms.

26 www.shotspotter.com, accessed June 12, 2017.

The various technologies offer investigators different bits of information that can be used to develop comprehensive intelligence. This in turn provides investigators with the ability to target and arrest offenders, removing them from the streets before they can re-offend. In addition, the use of these technologies to corroborate or refute suspect and witness statements will aid in the successful prosecution of crime gun suspects. For example, cell phone tower data can be used to place a suspect at the scene of a shooting incident that he/she previously denied any knowledge of.

Investigators can use overlay technologies to identify, hold accountable and ultimately, prevent suspects from committing more crime.

This is done through comprehensive analysis of all available information that can be gathered about the shootings using these technologies. For example, two cases may be linked by ballistic evidence and one may be linked to a third case by cell phone records. In this case, the link through the cell phone records may be as valuable as the ballistic link. But to be effective, link analysis has to be accurate and timely.

Just as IBIS-related processes are better suited to a technician than to a firearm examiner, link analysis is better suited to an intelligence analyst than an investigator. Can an investigator do the task? Most certainly. However, a properly trained intelligence analyst has specialized training and can sift through many reports, finding and organizing the relevant data much faster than an investigator typically would. Therefore, by having an intelligence analyst perform this task, essential elements of the preventive crime gun strategy can occur simultaneously. The NIBIN site can be issuing NIBIN leads, the intelligence analyst can be working on link analysis, while investigators can be following up on the link analyses that have already been provided to them.

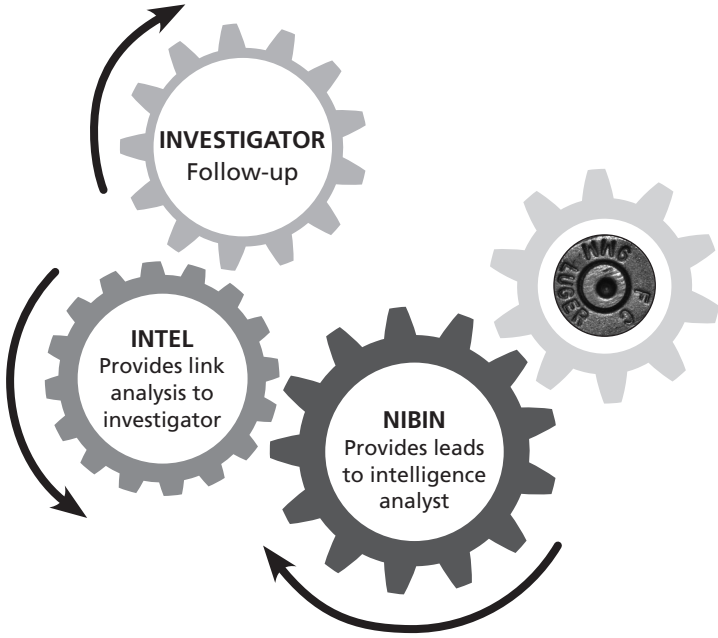


Figure 7: Interactive and constant processing

As important as it is, IBIS is but one piece of the technology puzzle. There are many others that have value in not only establishing potential links between shooting incidents but in providing intelligence to identify suspects. It is important to leverage all this information and the best way to do that is through comprehensive, timely, and reliable link analysis. As important as the link analysis is in bringing this all together, it will not mean much if the proper avenues of communication have not been established for the rapid and proper dissemination of the intelligence to investigators. The goal is to develop pertinent information from all available sources into actionable leads, as well as provide investigators and prosecutors with irrefutable data to corroborate witness testimony.

COMPONENT 5
KNOW THE OFFENDERS AND HOW THEY INTERACT

The fifth component of an effective preventive crime gun strategy is knowledge of offenders, how they interact with one another and with the community at large. Statistics indicate that this is critically important. For instance, "10 Percent of locations generate more than 60 percent of crimes, 10 percent of offenders are involved in more than 50 percent of crimes, and 10 percent of victims are involved in 40 percent of victimizations".[27] And "In instances where there are two shooting events linked by ballistics through NIBIN, 50% of the time, a third shooting event utilizing the same firearm will occur within 90 days".[28] Clearly, it is important to know the offenders and how they interact. There are two essential elements to this component.

The first one is understanding who is in the community. This is more than simply answering a 911 call. This involves engaging the general public and making them partners in solving crime. Not only does this have the benefit of gaining information, but it also communicates to the public that law enforcement has a vested interest in making communities safer. This knowledge might encourage citizens to cooperate more fully with law enforcement, rather than taking the law into their own hands.

Knowledge of offenders and their interactions is key to successful investigative follow-up.

Many offenders obtain their firearms through their social networks. The value of a comprehensive social network analysis lies in the fact that not only can information be gained about the crime under investigation, information may be gained about others as well. Various NIBIN sites have reported that up to 30% of shootings entered into NIBIN are linked to other shootings, indicating that the social network of those involved in shooting crimes can be quite small and tight. Therefore, a social network analysis will often include an assessment of, and information regarding, gang affiliations.

27 Spelman, W., and Eck, J.E., "Sitting Ducks, Ravenous Wolves, and Helping Hands: New Approaches to Urban Policing." *Public Affairs Comment*, 1989; as cited in Major Cities Chiefs Association, Flynn, E. and Silleti, L., Violent Crime Reduction Operations Guides, 2018.

28 Rutgers University, Masters of Business and Science Program. NIBIN Data Analysis, 2018; as cited in The National Crime Gun Intelligence Governing Board, Crime Gun Intelligence – Disrupting the Shooting Cycle, August 2018.

The use of technology will not identify all suspects in all investigations all the time. Knowing offenders and how they interact with one another is key to having a successful strategy for investigative follow-up. Police and prosecutors should be working together to come up with data-driven strategies to identify those individuals most-likely to commit violent crimes. If tactics are optimized this will not necessarily require more officers on the streets.

The second essential element is knowledge of previous firearm offenses along with knowledge of probation and parole issues. This is valuable because the goal is to get active shooters off the streets as quickly and efficiently as possible. If this is achieved through revocations of parole while other offenses are being investigated, then so be it. In fact, the investigation can then often proceed at a less critical, less urgent pace, giving investigators the opportunity to be more thorough and comprehensive in building a package for the prosecutor.

Identification and/or apprehension of shooters is the primary goal in the overall mission of reducing crime gun violence in communities. Overlaying technologies provide location and movement information, but knowledge of offenders and how they interact will help ensure that the most comprehensive intelligence is developed. It is this intelligence that will lead to the arrest and conviction of shooters, making the streets safer for all.

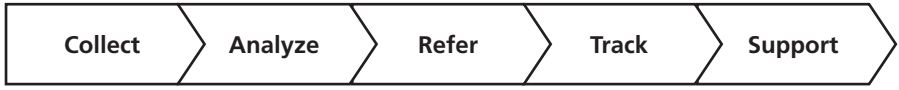
COMPONENT 6
USE A SINGLE INTELLIGENCE UNIT

Not all gang members are shooters. Generally, in any given region across the United States, a small percentage of criminals commit a high percentage of shootings. To have an impact on gun violence, it is essential to identify and prosecute shooters before they can re-commit.

Rarely does a single law enforcement agency have all the tools and expertise needed to benefit a crime gun intelligence strategy. But collaboration allows for the pooling of resources and coordination of information from multiple record management systems: it makes sense both in terms of management, and information availability. Success—and sometimes failure—is a team endeavor. Collaboration implies a shared mission which is the foundation for better service for the community at large. A single intelligence unit helps to maintain this very important focus.

Given the variety of technologies and law enforcement agencies involved, the use of a single hub through which all information is processed is a best practice that maximizes the investigator's ability to solve and even prevent gun violence.

ATF established the *Crime Gun Intelligence Center* (CGIC) model which is present in 25 locations across the United States. The core mission is to provide timely and accurate intelligence in the identification of shooters and the sources of their guns. To effectively meet this mission, each CGIC operates under five core concepts:



The *National Crime Gun Intelligence Center Initiative* (NCGICI) states, "CGICs are an interagency collaboration focused on the immediate collection, management, and analysis of crime gun evidence, such as shell casings, in real time, in an effort to identify shooters, disrupt criminal activity, and to prevent future violence. CGICs rely on an ongoing collaboration between ATF, local police departments, the local crime laboratory, probation and parole, local police gang units, prosecuting attorneys, U.S. Attorney's Office, crime analysts, community groups, and academic organizations. The primary outcome of a CGIC is the identification of armed violent offenders for investigation and prosecution".[29]

29 www.crimegunintelcenters.org

Each CGIC is a regional clearinghouse for firearm-related crime-data and intelligence. Partnering with entities such as fusion centers and real-time crime centers, the CGIC's top priority is to collect data. This data comes from incident reports, firearms traces, gun-crime incidents, cell phone analysis, gunshot detection system alerts, license plate readers, social media, crime camera images, and from NIBIN. The raw data is analyzed by skilled federal, state, and local personnel including firearms industry operations and criminal investigations: this is where commonalities between shooting events beyond ballistics, or solvability factors are discovered. Timely actionable leads are referred to individual investigators who are the "end users."

A collaborative intelligence-sharing effort among law enforcement agencies is essential to a preventive crime gun strategy.

As one can imagine, with this level of integration, it is essential that there be strong inter- and intra-agency communication that allows for the rapid dissemination of the critical information. It is very likely that investigators will receive many more NIBIN leads than they can investigate. Just like cartridge cases should be triaged prior to entry into NIBIN, an investigator may need to triage the NIBIN leads that he or she receives, and prioritize those most-likely to have a large return-on-time-invested.

One agency does this through weekly meetings:

- The individual in charge of the center gathers the leads, prioritizes them, and assigns a color to indicate priority.
- The leads are then distributed for follow-up to the various investigators who are expected to report back, as a point of accountability.
- If there are too many NIBIN leads, it may be necessary to seek internal or external assistance to process those leads.

CGICs have taken an approach where representatives from local and federal agencies join together to deal with the shooting crime in their region. This has been very successful: parent agencies have responsibility for the homicides and assaults, while supporting agencies assist with the lower-profile firearm-related incidents. A single intelligence unit also helps to keep the group focused on the overall mission. If this focus is divided, it is more likely that personal agendas or inter- and intra-agency rivalries will get in the way of the overall mission.

CGICs also provide officer safety bulletins related to suspects and specific crimes in targeted areas while enabling prosecutors and case investigators to streamline inquires for trial preparation. A single intelligence unit is the focal point of the work from the previous components and, if those components are properly accomplished, the investigator should be able to move forward with the intelligence within 24 to 72 hours. While that timeframe may appear to be aggressive, it is achievable provided the other components are maximized for efficiency. It will be important for the intelligence unit to define success, and this definition of success should allow for the completion of the last two components: *public buy-in* and *expanding the program*.

For more information on CGICs, visit www.crimegunintelcenters.org.

COMPONENT 7
PUBLIC BUY-IN

When discussing public buy-in, the primary focus is to provide stakeholders with sufficient information to demonstrate the value of the program and the potential it has. It is essential that successes be defined and used to highlight the program which, in turn, will help to promote goodwill and confidence in law enforcement. As this public buy-in increases, there is a much greater potential for increased budget for more technologies and program expansion.

A common mistake made by law enforcement agencies is trying to put this component second, after stakeholder buy-in. The problem with this approach is that the agency may have spent too much money on good intentions only to be left with unfulfilled promises. As a result of this and ever-tightening budgets, local governments have had to become much more judicious when allocating available monies. It would be best if they had more than a theory and a promise upon which to base their money allocation decisions.

> Before trying to obtain the funding required for a more widespread preventive crime gun strategy, it's important to show success on a smaller scale.

The implication of this component is that success will have to be demonstrated before the monies required for a more widespread preventive crime gun strategy can be allocated. Therefore, before trying to obtain funding for the more widespread strategy, it will be important to demonstrate success on a smaller scale. This means that sacrifices will likely have to be made. For instance, reallocating existing resources while asking only for those that are essential to the small-scale success of the strategy. For example, NIBIN is the cornerstone of any successful preventive crime gun strategy, large or small. Therefore, IBIS will be a necessary component. However, personnel resources may have to be reallocated from existing areas to manage the acquisitions and correlation results reviews. In short, it is expected that sacrifices will be needed early on, mainly through the reallocation of existing resources.

While this overall preventive crime gun strategy has seen various levels of success in many regions nationwide, there is no single detailed blueprint for success. The key for each successful agency was that it started small, building as needed from there. This point was addressed under the second component, understanding

that ultimately, an effective preventive crime gun strategy requires a regional approach. However, to go immediately to trying to implement a regional approach can threaten the stability and sustainability of the strategy. Therefore, it is critical to iron out the wrinkles on a smaller scale before advancing to a larger scale.

Numbers do not tell the whole story. We can identify one shooter removed from the streets. What we don't know is the number of lives saved as a result.

The issue at hand is how to measure success. Historically, NIBIN success was measured by the number of acquisitions performed and the number of NIBIN leads and hits produced. However, given the 2013 study sponsored by the *National Institute of Justice* (NIJ)[30] , NIBIN was performing far below its potential. Therefore, the numbers were more of a reflection of its use and not of its effectiveness. Also, measuring success purely by the number of convictions may be short-sighted. A preventive crime gun strategy is a highly integrated strategy with many components. Therefore, measuring success cannot be focused on isolated components. Convictions are important but a conviction rate cannot be the sole measure of an entire program's effectiveness.

Some strategies measure reductions in firearm-related violence since the implementation of the strategy. Overall, this may be a good approach, but there are some important variables to consider before, during, and after the implementation of technologies and strategies. For example, if gunshot detection technology is implemented as part of the strategy, one can expect that there will be an initial increase in the number of reported shootings because studies have demonstrated that shootings may be vastly under reported, especially in areas where they are more commonplace. However, during the implementation phase, law enforcement agencies don't always communicate effectively with the communities they serve, and this can result in the impression that things are getting worse instead of better. This perceived increase in the number of shooting incidents must be effectively communicated to, and discussed with, community and civic leaders who have an expectation that crime rates should be decreasing.

30 King, W., Wells, W., Katz, C., Maguire, E., and Frank, J. *Opening the Black Box of NIBIN: A Descriptive Process and Outcome Evaluation of the Use of NIBIN and Its Effects on Criminal Investigations, Final Report*. Report 243875, Department of Justice, Washington, D.C., 2013.

It is best to measure success from both short- and long-term perspectives, defining appropriate measurements for each. In the short-term, success can be communicated through individual stories demonstrating the value of the strategy's implementation. Such a story came from one region in the Northeast. During a car stop, an individual was arrested for possessing a firearm. He was set for release on a Monday, but quick work by the newly rejuvenated NIBIN site processed the firearm and linked it to a previous homicide. This short turnaround time, unprecedented for the site prior to the establishment of the strategy, was key to ensuring the arrested individual was not released. Had the strategy not been in place, history suggests this firearm would have gone unchecked for months, giving the individual freedom to re-offend. This statistic counts as a single shooter taken off the streets. What is unknown is the number of victims that may have been saved because this one suspect was removed from the streets.

In the long-term, success can be summarized through well-defined statistics in addition to a collection of stories demonstrating the value of the implementation. For example, in a published report of its strategy, the city of Denver highlighted the following statistics from January 2013 through March 2015[31]:

DENVER
January 2013 to March 2015

310
Confirmed links between shootings

75 **Different shooters** were identified and/or arrested

34 facing state charges

Facing federal charges

Parole revocations were made

Officer safety bulletins were issued, warning police of potential shooters of which they should be aware.

31 Reno, C., Kotas, Z., "The Denver Crime Gun Intelligence Center (CGIC): An Example of Successful Implementation of NIBIN as an Investigative Tool." *AFTE Journal* 47(4): 238-243.

While this component of public buy-in cannot be placed early in the development of the preventive crime gun strategy, it is important to keep it in mind for later consideration and implementation, and to keep necessary data from the very beginning. Stakeholders must be mindful of how successes will be defined so that they can be appropriately measured as the strategy progresses. Furthermore, they must also be mindful of what is needed to expand the program in terms of technology and personnel. When faced with genuine and meaningful information that highlights the success of the strategy on its current scale, budgetary officials will be in a much stronger position to justify the well-thought-out expenditures needed for program expansion.

COMPONENT 8
EXPAND THE PROGRAM

As a community achieves success in its fight against violent crime, it can further secure itself by moving outward. Key outlying communities frequented by shooters should be identified so that those communities can be incorporated into the strategy. As these outlying communities are brought into and become directly involved in the regional initiative, covered regions will begin to overlap, thereby providing greater security to the community.

Several keys must be kept in mind with respect to program expansion. The first key is to use feedback from all components of the preventive crime gun strategy to identify areas in which the current strategy can be made more efficient and effective. Doing so allows the current strategy to be as streamlined as possible making expansion easier, more fluid, and less disruptive to the already established routine. This routine may change as a result of the expansion, but it should be sufficiently polished before the expansion takes place so that the necessary changes are more easily implemented.

> Key outlying communities frequented by the shooters should be incorporated into the strategy.

The second key is related to the first in that expansion can introduce new issues that had not been previously encountered. Therefore, the initial expansion should proceed slowly, so that it is possible to identify issues as they are discovered. In this way, they can be more easily mitigated.

The third key is that any outlying community that wants to be part of the strategy should make a significant investment in terms of technology, personnel or finance. Without this investment, there will be no meaningful or lasting value gained from that community's participation. For example, four communities were encouraged to participate in a regional program. Each agreed to provide personnel to input evidence into a centralized IBIS system. However, once trained, only one agency took advantage of the IBIS technology and it ceased to participate once other responsibilities got in the way. It has to seem like more than just a "good idea" to those communities. They have to embrace the idea that the best solution is for them to participate in this regional concept and to provide the resources necessary to ensure that they add to the success of the region, and not detract from it.

Growth is a natural by-product of success. As a preventive crime gun strategy becomes successful, there will be a desire from other quarters to either join with or emulate the strategy. It is best that nearby communities become part of an existing strategy because, as seen from the second component, greater success is realized with a regional approach. As the region increases in size geographically, the criminal element responsible for the firearm-related violence in the region becomes slowly choked out thereby making the streets safer.

Frequently Asked Questions

How do I get started?

Research can be tedious. But it is important. It helps to focus the group, provides insight into best practices, and identifies areas to be avoided. Five resources are of particular value and highly recommended. These are:

1. Gagliardi, P. *The 13 Critical Tasks: An Inside Out Approach to Solving More Gun Crime, 2nd ed*. Forensic Technology WAI Inc., Montreal, 2014. This book surveys law enforcement agencies that have developed successful programs using IBIS. It lists the tasks essential to success, notes issues that are the greatest potential obstacles, and describes approaches for dealing with them. It should be considered essential reading for the leadership team. The book can be obtained at no cost through Ultra Electronics Forensic Technology.
2. King, W., Wells, W., Katz, C., Maguire, E., and Frank, J. *Opening the Black Box of NIBIN: A Descriptive Process and Outcome Evaluation of the Use of NIBIN and Its Effects on Criminal Investigations, Final Report.* Report 243875, Department of Justice, Washington, D.C., 2013. This report highlights four critical elements of a successful crime gun strategy. Researchers conclude NIBIN can be a successful tool if it is properly implemented.
3. Reno, C., and Kotas, Z. *The Denver Crime Gun Intelligence Center (CGIC): An Example of Successful Implementation of NIBIN as an Investigative Tool. AFTE Journal* 47(4): 238-243. This article shares the positive impact a collaborative effort can have in the area of crime gun intelligence. It identifies strategies that are in place, discusses policy and process changes that had to take place, and highlights successes due to this shift in philosophy.
4. Crime Gun Intelligence Centers web site–www.crimegunintelcenters.org. As part of the National Resource and Technical Assistance Center for Improving Law Enforcement Investigations (NRTAC), this website provides a wealth of information regarding crime gun intelligence and includes links to articles, presentations, and other resources. Crime Gun Intelligence: Disrupting the Shooting Cycle, National Crime Gun Intelligence Governing Board, August 2018.
5. *Crime Gun Intelligence: Disrupting the Shooting Cycle*, National Crime Gun Intelligence Governing Board, August 2018. A best-practices guide for implementing a crime gun intelligence program as part of a comprehensive violent crime strategy. Available from www.crimegunintelcenters.org/wp-content/uploads/2018/09/CGI-Manual-Best-Practices-ATF-27-AUG-18.pdf

Is there one major key upon which I should focus?

The overarching key is innovation—the willingness to critically evaluate current processes, procedures, and policies, and embrace new ways of thinking. One common mistake is to associate innovation solely with technology. A technology implementation generates a need to reassess personnel assignments and processes in order to better leverage the power of that technology. Fitting a new technology into existing processes can severely limit the effectiveness of that technology. A misallocation of personnel, such as using experienced firearm examiners to perform technician-level work, can also handicap the potential of a technology. People, processes, and technology have to be properly aligned, and innovation is needed to accomplish this.

What are the initial steps that I should take?

There are three initial steps when formulating a preventive crime gun strategy.

STEP 1: Develop a leadership team. At a minimum, the leadership team should include one command-level individual from each law enforcement agency/major component (e.g., forensic laboratory within a parent agency already represented) that will be involved in the preventive crime gun strategy. These individuals should have authorization to make decisions on behalf of that agency/component and be able to enforce the implementation. The leadership team should also include personnel from the local ATF office and CGIC and other law enforcement agencies in the region, as well as representatives from the local prosecutor's office and the U.S. Attorney's office. This leads to collaboration and will provide the leadership team opportunities to make suggestions that will make the prosecution and sentencing of serial shooters much more effective. It is important to restrict the leadership team to a group of individuals who can design and implement policy. It will also be important to solicit information and advice from personnel who are actually doing the evidence intake, investigative follow-up and other tasks.

One thing in particular should be addressed here: several successful preventive crime gun strategies had their birth at levels lower than typical command staff personnel. Forensic laboratories have recognized the potential for NIBIN and have encouraged the submission of all shooting incidents for analysis. There have even been instances where lab personnel obtain the evidence from evidence storage themselves—even if not requested by an investigator—and enter it into NIBIN. At one location, an evidence technician recognized the value of NIBIN and began to submit evidence to another agency for entry. This is fine but, at the same time, may not provide the sustainable success that a comprehensive agency-wide strategy would provide. It is necessary to move this from a bench-level priority to an agency-wide priority as quickly as possible, or the true potential of the strategy will never be realized.

STEP 2: Recognize that it is already too late for cases in the backlog. One of the four critical components of successful preventive crime gun strategy is the timeliness with which cases are handled. This is not to say that cases in the backlog are not important. However, we tend to move in the direction in which we are looking and if we are looking backward, that's where we will drift. The first thing that must be agreed upon by the leadership team is that cases in the backlog are not a priority. Whatever the planned start date is, remaining current from that day forward will be the priority. If there is time, then the cases in the backlog can be entered, starting with the most recent and then moving backwards. This is because the newer cases provide the best opportunities for getting an active shooter off the street.

STEP 3: Identify a target area that will generate the greatest impact while being small enough to manage. When a program is beginning, especially one with as many components as a preventive crime gun strategy, quite a few adjustments will be required. Flexibility is critical as various issues are flushed out and unanticipated issues begin to appear. In initiating a strategy, it is best to start small so that the kinks can be worked out before expanding to a larger area of responsibility where they may become unmanageable. For a large city, this could mean focusing on a district or two, and refining processes and procedures before expanding. Also, many cities envision serving as a regional hub for other agencies. This should be avoided until processes and procedures are running smoothly on a smaller scale and even then, it is best to add one city or two at a time to measure the impact. Regional law enforcement agencies should operate in a similar way. Start with a moderately-sized city to develop and refine the procedures before expanding to other cities within that region. The urge for wholesale deployment must be resisted.

What are some overall strategies and goals that we should begin to develop?

Strategies and goals should be developed for each of the four critical keys to a successful crime gun strategy: **COMPREHENSIVE COLLECTION**, **TIMELINESS**, **INVESTIGATIVE FOLLOW-UP,** and **FEEDBACK**. This is not the time to be working out the actual processes and procedures but to come to an agreement as to the overall direction that will be taken for each key. Many times, this discussion will help formulate the development of any memorandums of understanding or agreements that may be put into place, formally or informally, as may be the case for intra-agency concerns. Ultra Electronics Forensic Technology has materials available that can help guide the research so that it is as comprehensive and relevant as possible. These are addressed in *Component 3: NIBIN – the Cornerstone*.

How much equipment will I need?

At optimum user efficiency, BRASSTRAX™ can perform approximately seven acquisitions per hour which amounts to 56 over an eight-hour shift, 280 acquisitions per week, 14,560 per year. These estimates do not necessarily include pre-acquisition triage. However, the software and process is efficient: while the device is acquiring images of the current cartridge case, administrative information for the next cartridge case to be entered can be recorded. In addition, reports of entry can be printed which can substitute for any worksheets that may be required of technicians so that duplicate work is not being performed.

With respect to correlation results reviews and MATCHPOINT™ activity, it is estimated that an average of four reviews can be performed in an hour which amounts to 32 over an eight-hour shift, 160 per week, 8,320 per year. These estimates do not include any administrative work associated with documentation. However, procedures can be written to minimize such work.

A Memorandum of Understanding (MOU) will have to be established with ATF, which will allow your department access to the NIBIN network. ATF would then coordinate the installation of the data line and cover the monthly costs associated with the service.

Will I need any other equipment or supplies?

A stereo microscope is very important. The marks on cartridge cases are quite small and a stereo microscope will help identify the various marks on a fired cartridge case. It is also useful when triaging cartridge cases: rather than entering all cases from the shooting scene, a representative sample of multiple cartridge cases can be entered into NIBIN. Normally, when cartridge cases are brought into a police laboratory, they are examined for the presence of tissue, blood, or other such residue. These residues can be of great value to forensic scientists, but they also pose a risk of infection. If you are given a cartridge case with such residues on it, see your lab supervisor or contact the laboratory that services your department to make sure the residues have already been analyzed. Gloves can be worn to reduce the risk of infection when cleaning crime scene evidence. Cans of compressed air are helpful in blowing debris off cartridge cases. Cotton tip swabs with acetone can be useful for the same purpose. Supplies to repackage and reseal evidence may also be necessary. Finally, a supply of ammunition will be required for law enforcement agencies and sites performing test fires.

What training is necessary?

NIBIN training is a requirement as per ATF Minimum Required Operating standards (MROS).

Three IBIS training areas that should be addressed are: acquisition training, cartridge case triage training, and correlation results review training (depending on the systems ordered). Timing in these areas is important because training cannot be done too soon—the authorization will expire if not used. If training is done late, the program will lag from the beginning.

Acquisition Training

To be eligible to use the IBIS technology as part of the NIBIN program, acquisition training is required. It is limited to operation of the hardware and software for entering cartridge cases into NIBIN using the BRASSTRAX™ Acquisition Station. For this training to be successful, it is essential that the trainees have general knowledge of the operation of firearms and the marks that firearms leave on cartridge cases. However, there isn't sufficient time to effectively present this preliminary training at the same time as the acquisition training. Therefore, it is essential that this preliminary training be performed prior to the acquisition training.

The acquisition training should be provided concurrent with, or just before, the installation of the equipment. It is currently offered by Ultra Electronics Forensic Technology with the purchase of the equipment, through the ATF NIBIN National Correlation and Training Center (NNCTC) and through local NIBIN Authorized Trainers (NAT). The key is to minimize the number of personnel who will be taking this training. It may seem like a good idea to get as many trained as possible to have as much coverage as possible. However, this is not recommended for several reasons. The first is that it is not possible to train more than two individuals on a single BRASSTRAX™ system in a given week. The second is that the skills gained during training need to be continually practiced otherwise those skills can perish. If there is insufficient caseload to keep all trained personnel active and proficient, then quality may suffer. Thirdly, training emphasizes the importance of acquisition and removes the possibility that acquisition is viewed as just "other duty as assigned".

Cartridge Case Triage Training

This training is not required by ATF to secure a username and password. However, it does improve timeliness by offloading the triage task to a technician. Training involves assessment of cartridge cases for purposes of sampling to reduce the number of requisite entries into the system. This can be done using a stereo microscope and minimal training. It is a skill that can be performed by a trained

technician in a matter of minutes, depending on the number of cartridge cases submitted. This training does not qualify one to make determinations of common source or how many firearms were used at a scene. Those determinations fall within the purview of a trained firearm examiner, and the training needed for that is far more comprehensive than simple triage training.

Cartridge case triage training is generally one to three days in length, based on student aptitude, and should be taken before, concurrent with, or very soon after the acquisition training. If done before, it provides an excellent introduction to the marks that a firearm leaves on cartridge cases, and this can be very useful during acquisition training. Cartridge case triage training is available through Ultra Electronics Forensic Technology or through the NNCTC. The training can also be provided on-site if the agency has a trained firearm examiner. The examiner can consult with Ultra Electronics Forensic Technology for guidance on the training that can be provided on-site.

Correlation Results Review Training

Correlation results review training is not required by ATF to secure a username and password. However, it is essential for those not trained in basic firearm identification practices in order to perform and report reliable and accurate correlation results reviews. This training generally takes from one to three months, depending on the aptitude of the individual being trained. Such training is available through the NNCTC. It can also be provided on-site if the agency has a trained firearm examiner.

The training consists of two primary components. The first component consists of software familiarization, principles of comparative pattern analysis, and practice looking at known cases with and without NIBIN leads. This provides an initial foundation of knowledge and helps to develop the skills and abilities necessary to perform the task. It is expected that this can take as little as two weeks, provided the trainee is allowed to focus on just this task. This component is currently available through the NNCTC or provided on-site by a trained firearm examiner or technician. The second component is the longest and is a mentoring process under a trained and experienced firearm examiner or technician. Apart from this mentoring process, there is no other way to gain the experience needed to perform independent reviews. It can be done remotely, but this requires extra time and effort to manage.

What processes and procedures should be clarified and/or developed?

This is the point at which general strategies are defined into work instructions for the staff so that the goals can be met. This includes processes, procedures and policies for each of the following areas:

1. **Evidence collection and submittal, especially for regional sites and partners:** Identify any changes to standard forms and how NIBIN-related evidence in particular will be handled so that the administrative footprint is minimized as much as possible. The process for obtaining, transporting, and receiving NIBIN-related evidence should be as streamlined as much as possible.

2. **Acquisition and correlation results review:** Identify the processes and procedures that will be put into place for acquisition and correlation results review. This should include caliber range and any pre-acquisition processes or procedures to be performed by technicians such as cartridge case triage. These processes and procedures should identify any reporting requirements for any pre-acquisition work, acquisitions, and correlation results reviews.

3. **Quality assurance/quality control:** This is highly recommended, especially for technician-based correlation results reviews, and is required if the site is seeking accreditation under ISO/IEC 17020 or ISO/IEC 17025[32]. These quality processes and policies would address such things as qualifications, training requirements, on-going proficiency testing, technical review of work performed, and authorization of work statements. If correlation results reviews are to be reviewed by another individual(s) or, if NIBIN leads require the concurrence of a trained firearm examiner, this is where these issues would be addressed.

4. **Distribution of NIBIN leads:** The mailing list for lead distribution should be identified and prepared. In addition, procedures for updating this list should be established so that there are no information gaps when assignment changes are made within a law enforcement agency.

5. **Investigative follow-up:** Policies directing expectations with respect to follow-up should be defined. In addition, regular investigator meetings can be established, and notification channels be put into place, so that there is a general understanding of who is responsible for what.

32 ISO/IEC 17020 accreditation: Accreditation requirements for forensic inspection agencies. ISO/IEC 17025 accreditation: Accreditation requirements for testing and calibration laboratories. ISO/IEC: International Standards Organization/International Electrotechnical Commission.

6. **Feedback:** Performance metrics must be finalized, and processes put into place, to ensure the capture of relevant information.

These areas may require the development of new processes or the modification of processes that are already in place. Regardless, there should be sufficient communication to those responsible for carrying out the tasks that they understand what is needed and why. This allows them to have an appreciation for new or different responsibilities and the potential impact of their work. If education is needed because of software programs (or hardware apart from IBIS technology) to be incorporated, this is the time to do it. Other law enforcement agencies can be consulted with respect to sample processes, procedures and policies. Ultra Electronics Forensic Technology is also a resource for such materials.

APPENDIX

Minimum Required Operating Standards (MROS) for National Integrated Ballistic Information Network (NIBIN) Sites

The descriptions and definitions contained in the MROS are those of the Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF), and provided by ATF for reference purposes. The MROS has not been edited by the author or Ultra Electronics Forensic Technology.

Minimum Required Operating Standards For National Integrated Ballistic Information Network (NIBIN) Sites

The following consists of definitions and standards. The standards are Minimum Required Operating Standards (MROS) that place specific requirements on all NIBIN Sites. Equivalent measures not outlined in this document may also meet the standard if determined sufficient through an audit process.

EFFECTIVE DATE :

THESE STANDARDS SHALL TAKE EFFECT JULY OF 2018.

SECTION 1 SCOPE

The standards describe the minimum operating requirements that Sites accessing and utilizing NIBIN shall follow to ensure the quality and integrity of the ballistic data shared on the Network**.** These standards apply to all Sites accessing the NIBIN network.

SECTION 2 DEFINITIONS

As used in these standards, the following terms shall have the meanings specified:

Accreditation – Status achieved by an agency that indicates they meet a minimum level of performance mandated by the accrediting agency.

Accuracy – The degree of conformity of a measured quantity to its actual (true) value.

Acquisition – The digital imaging of various firearm-related markings present on cartridge cases into NIBIN.

Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) – ATF is the Federal agency administering the NIBIN network.

Association of Firearm and Tool Mark Examiners (AFTE) – AFTE is the international professional organization for practitioners of **Firearm and/or Toolmark Identification** and has been dedicated to the exchange of information, methods and best practices, and the furtherance of research since its creation in 1969.

Audit – An inspection used to evaluate, confirm, or verify activity related to quality.

BrassTrax HD3D – The current acquisition station developed by Forensic Technology that captures highly detailed images of cartridge cases, to include firing pin impressions on the primer, breech face, extractor and ejector markings. Also referred to as 'Trax' and 'Cartridge Case Acquisition Station'.

Business Day – The days of operation of the NIBIN Site, this excludes holidays, weekends, or other days of closure.

Correlation – The automated comparison of an acquired digital image to other images in the databases using an algorithm that provides a list of ranked, possible matches.

Correlation Review – The on-screen comparison of digital images by a trained technician/specialist to determine the potential for two cartridge cases to have been fired from the same weapon.

Crime Gun Intelligence Center (CGIC) – An ATF-led interagency collaboration focused on analyzing and investigating gun crime in a local community. CGIC unites cutting-edge technology and a dedicated multiagency investigative team to identify, disrupt and prosecute serial shooters and their sources of crime guns.

Employee – A person either in the service of the applicable Federal, State or local Government, subject to the terms, conditions and rules of Federal/State/local employment and eligible for the Federal/State/local benefits of service; or formerly in the service of a Federal, State, or local Government who returns to service in the agency on a part time or temporary basis. For purposes of a vendor laboratory, an employee is a person in the service of a vendor laboratory and subject to the applicable terms, conditions and rules of employment of the vendor laboratory.

Evidence – Any item or object, collected from a crime scene or as part of a criminal investigation, that has been submitted for forensic examination.

Firearms Examiner – A forensic scientist who is an expert in evidence regarding firearms and ballistics. They perform forensic comparisons and analyses, serve as expert witnesses, and prepare courtroom evidence. They may provide training to law enforcement personnel. Also referred to as a Firearms Examiner.

Integrated Ballistics Identification System (IBIS) – An automated ballistics imaging and analysis system that populates a computerized database of digital ballistic images of bullets and cases from crime guns. Technology that enables the imaging and identification of large quantities of firearm evidence across a network of Sites, as well as the automated identification of likely matching bullets or cartridge cases.

MatchPoint Plus – Current system developed by Ultra Electronics - Forensic Technology, Incorporated that stores the ballistic images and contains the algorithm program for correlation reviews.

Microscopic Comparison – The process employed by a trained firearms examiner to determine whether or not fired cartridge cases came from the same firearm. Also referred to as a 'Scope' and 'Confirmation'.

National Crime Gun Intelligence Governing Board – The group consisting of members of ATF, police departments, and forensic laboratories that oversees implementation and function of NIBIN program. Formerly referred to as the NIBIN Executive Board or 'NEB'.

National Integrated Ballistic Information Network (NIBIN) – The program managed by ATF that automates the imaging of the unique identifiers of cartridge cases fired from firearms and stores the digital images into a database for comparison across a national network of participating Sites.

NIBIN Authorized Trainer (NAT) – A technician trained and authorized by ATF to train others in the acquisition of ballistic images.

NIBIN Hit – The result of two or more firearms ballistic evidence acquisitions that have been confirmed as a match by a firearms examiner. NIBIN Hits are based on correlation review of digital images using MatchPoint Plus™ and microscopic confirmation by a firearms examiner. This information/intelligence can be used for investigative purposes and is suitable for court purposes.

NIBIN Lead – An unconfirmed, potential association between two or more pieces of firearm ballistic evidence based on a correlation review of the digital images in the NIBIN database by either a firearms examiner or a trained NIBIN technician. A NIBIN Lead is intended to provide a lead for investigative purposes.

NIBIN National Correlation and Training Center (NNCTC) – The ATF facility located in Huntsville, Alabama that performs timely correlation reviews for multiple NIBIN Sites and also provides training for Qualified NIBIN Users.

NIBIN Program Administrator – An individual the NIBIN Site has designated to communicate with all parties (i.e. submitting law enforcement agencies, ATF CGICs, etc.), involved in the NIBIN process. The NIBIN Program Administrator must be a qualified NIBIN user and full-time employee of the NIBIN Site. The NIBIN Program Administrator should be responsible for implementing and directing policies and procedures of the NIBIN Site.

NIBIN Site – Location at which NIBIN acquisition and/or correlation technology is present. NIBIN Sites are located in forensic laboratories, police departments, etc. Also referred to as 'Site'.

NIBIN Technician – A trained technician/specialist able to use IBIS equipment. A NIBIN Technician may be trained for the acquisition or correlation review of digital images of firearms ballistic evidence. NIBIN Technicians trained for acquisition only must have the appropriate level of training for those duties and be able to capture and submit digital images into the system. NIBIN Technicians trained for both acquisition and correlation must have training in both areas, are be able to determine potential links of two or more cartridge cases fired from the same weapon. Also referred to as an IBIS Technician.

Notification – A written or electronic communication to the submitter of firearms ballistic evidence indicating the results of an acquisition/correlation review. Notifications are not Laboratory Reports.

Procedure – Protocol, Standard Operating Procedure (SOP) or other equivalent – The established practice to be followed in performing a specified task or under specific circumstances.

Qualified Auditor – An individual trained by ATF to conduct NIBIN Site audits for compliance to minimum required operating standards.

Qualified NIBIN User – A technician and/or firearms examiner trained by ATF, Forensic Technology, and/or a NAT program to perform acquisition and/or correlation reviews of ballistic images on the national network.

Rank Sort Function – The function of Ultra Electronics - Forensic Technology, Incorporated software on MatchPoint machine that lists all potential matches of ballistic images to item under review in order of score across all images of regions of interest.

Secondary review – The process that ensures the work performed meets quality standards, and requires two qualified individuals to concur on the finding. For NIBIN, ATF defines secondary review as a second correlation review or examination by a trained IBIS technician and/or firearms examiner using MatchPoint.

Service – The performance of those adjustments or procedures specified which are to be performed by the user, manufacturer or other service personnel in order to ensure the intended performance of instruments and equipment.

Suitable ballistic evidence – All fired cartridge cases recovered by law enforcement as well as test-fired cartridge cases from firearms recovered by law enforcement that were illegally possessed, used in a crime, or suspected by law enforcement officials of having been used in a crime.

Test Fires – Cartridge cases known to be fired from a specific firearm in law enforcement custody.

Triage – The process of assessing cartridge cases to determine the best representative sample from a group of cartridge cases having similar firearm produced markings for NIBIN entry. This is not, nor should it be interpreted as a comparative examination to determine how many firearms may have been responsible for firing the cartridge cases.

Ultra Electronics – Forensic Technology, Incorporated – Company that created the IBIS System in 1991. Also referred to as FT and FTI.

SECTION 3
MINIMUM REQUIRED OPERATING STANDARDS

ATF, through the National Crime Gun Intelligence Governing Board, has established the following minimum required operating standards to ensure the consistency, integrity, and success of NIBIN:

STANDARD 1
QUALITY ASSURANCE PROGRAM

The NIBIN Site shall establish, follow and maintain a documented quality system that is appropriate to the NIBIN acquisition and correlation processes and is equivalent to or more stringent than what is required by these Standards.

1.1 The quality system shall be documented and include or reference the following elements:

- Goals and objectives
- Organization and management
- Personnel
- Facilities
- Acquisition, Correlation, NIBIN Lead Dissemination Procedures
- Evidence Control
- Validation
- Equipment Calibration
- Reports
- Reviews
- Corrective Action
- Audits
- Training Records
- Safety
- Outsourcing

STANDARD 2
ORGANIZATION AND PERSONNEL

The NIBIN Site shall:

2.1 Have a managerial staff with the authority and resources needed to discharge their duties and meet the requirements of the Standards in this document.

2.2 Have a NIBIN Program Administrator. For agencies or departments with multiple NIBIN Sites, each Site shall have a designated NIBIN Program Administrator.

2.2.1 The NIBIN Program Administrator shall meet the following qualifications:

2.2.1.1 Be a full-time employee of the agency/department operating the Site. A full time on-Site contractor with employee privileges is also appropriate for this position.

2.2.1.2 Minimum experience requirements: a qualified NIBIN user that has completed acquisition and correlation training.

2.2.2 The NIBIN Program Administrator shall be responsible for the following:

2.2.2.1 General duties and authority:

2.2.2.1.1 Oversee the operations of the Site and success of NIBIN program.

2.2.2.1.2 Authority to initiate, suspend and resume NIBIN operations for the Site or an individual.

2.2.3 The minimum specific responsibilities to be performed by the NIBIN Program Administrator include the following:

2.2.3.1 To evaluate and document approval of all methods used by the Site and to propose new or modified procedures as needed.

2.2.3.2 To review the training records for newly qualified NIBIN users and approve their qualifications prior to performing NIBIN acquisitions or correlations, and to document such review.

2.2.3.3 To coordinate with audit personnel for NIBIN Site audits.

2.2.4 Accessibility: The NIBIN Program Administrator shall be accessible to the Site and ATF to provide onSite, telephone or electronic consultation as needed.

2.2.4.1 In the event that the NIBIN Program Administrator position of a Site is vacated and there is no individual at the Site who meets the requirements of this standard and can serve as a NIBIN Program Administrator, the Site shall immediately contact the ATF and submit their contingency plan within 14 days to the ATF for its approval. Work in progress by the Site may be completed during this 14-day period but no new casework shall be started until the plan is approved by the ATF.

2.3 Ensure personnel operating within the NIBIN system shall have the proper level of training and experience for their position and that all individuals performing acquisitions and/or correlation reviews are Qualified NIBIN Users.

2.3.1 A qualified NIBIN user shall be an employee or contract employee of the Site and meet the following qualifications:

2.3.1.1 Minimum training requirements:

2.3.1.1.1 The qualified NIBIN user must complete ATF-approved acquisition training administered by ATF, FT, and/or an NAT in order to utilize a NIBIN acquisition machine and acquire ballistic images.

2.3.1.1.2 The qualified NIBIN user must complete both ATF-approved acquisition and correlation training administered by ATF, FT, and/or an NAT in order to utilize a NIBIN correlation machine and perform correlation review of ballistic images.

2.4 Maintain records on the relevant qualifications, training, skills and experience of the NIBIN Administrator and Qualified NIBIN Users.

STANDARD 3
FACILITIES

The NIBIN Site shall have a facility that is designed to ensure the integrity of the NIBIN analyses as well the evidence.

3.1 The NIBIN Site will comply with all ATF, DOJ and/or other Federal security requirements related to the NIBIN program, network, or systems to ensure the integrity of the program.

3.2 The Site will house NIBIN equipment in monitored, physically restrictive environments and clearly identify the restricted areas. NIBIN equipment shall be in a room that is locked and monitored.

3.3 The Site will ensure building facilities are secured outside of normal working hours. (Monitored 24 hours or locked and alarmed when no one is at Site.)

3.4 The Site will ensure security alarm systems (e.g., motion, thermal) in building housing NIBIN equipment. Test quarterly. Maintain test records for review. (Security alarm does not have to be installed in the NIBIN room)

3.5 Access to the Site shall be controlled and limited in a manner to prevent access by unauthorized personnel but to allow for the timely submission of evidence by serviced police departments/agencies.

3.6 All exterior entrance/exit points require security control. The Site will safeguard access to NIBIN equipment areas via key, magnetic card, or cipher lock.

3.7 The distribution of all keys, combinations, etc., shall be documented and limited to the personnel designated by NIBIN Program Administrator.

3.8 For personnel no longer directly using NIBIN equipment, the Site will make sure procedure is in place to collect/and or change access into NIBIN room. (Either change lock and or collect keys used for access.)

3.9 The Site will document visitor procedures to restrictive areas and maintain and update a restrictive area authorized personnel roster.

STANDARD 4
EVIDENCE CONTROL

The Site shall have and follow a documented evidence control system to ensure the integrity of physical evidence.

4.1 Evidence shall be marked with a unique identifier on the evidence package. The Site shall clearly define what constitutes evidence and what constitutes work product. The Site shall have and follow a method to distinguish each sample throughout processing.

4.2 Chain of custody for all evidence shall be documented and maintained in hard or electronic format. The chain of custody shall include the signature, initials or electronic equivalent of each individual receiving or transferring the evidence, the corresponding date for each transfer, and the evidentiary item(s) transferred.

4.3 The Site shall have and follow documented procedures designed to minimize loss, and/or deleterious change of evidence.

4.4 The Site shall have secure, controlled access areas for evidence storage and work product in progress.

STANDARD 5
PROCEDURES

The Site shall have and follow written procedures for all steps of the NIBIN process; these procedures must be approved by the NIBIN Program Administrator.

5.1 The Site will not have any policies that inhibit or restrict NIBIN submissions of suitable ballistic evidence to the Site by any serviced law enforcement agency/ department.

5.2 The Site will document and follow standard operating procedures for the acquisition of all ballistic images.

5.2.1 The Site will perform acquisitions of all suitable ballistic evidence submitted to the Site.

5.2.1.1 The Site will document and follow procedure for the triage or grouping of multiple items of ballistic evidence from the same firearm.

5.2.1.2 The Site will perform acquisitions of the best suitable examples of ballistic evidence following the triage process.

5.2.1.3 The Site will perform acquisitions of all suitable ballistic evidence within 2 business days of receipt at the Site.

5.2.1.4 The Site will accurately enter all required information pertaining to the ballistic evidence during the acquisition process.

5.2.1.5 The Site will record the date of the acquisition of each of item of ballistic evidence.

5.3 The Site will document and follow standard operating procedures for the correlation review of ballistic images.

5.3.1 The Site will document and follow procedure for the correlation review of potential NIBIN Leads. All correlation reviews will be done by a qualified NIBIN User that has completed both acquisition and correlation training.

5.3.2 The Site will perform and document a second correlation review of potential NIBIN Leads. This secondary review will be performed by another Qualified NIBIN User that has completed both acquisition and correlation training. Both the initial and secondary correlation reviews will be completed within 2 business days of the acquisition of the ballistic images of the item of evidence.

5.3.3 In the performance of correlation reviews, the qualified NIBIN users at the Site will examine, at minimum, ballistic images of the top 30 from the rank sort list determined by the ballistics imaging software.

5.3.4 The documentation of any correlation review (primary or secondary) shall include at a minimum the primary case identifier(s), date of the review, the name of the NIBIN user, and the items of evidence involved in the correlation, and the result of the review.

5.3.5 Sites utilizing the NNCTC for correlation reviews of ballistic images will not be subject to the requirements of Section 5.3.

5.4 The Site will document and follow standard operating procedures for the dissemination of NIBIN leads.

5.4.1 Following the concurrence of a potential match from the secondary correlation review, a NIBIN lead will be disseminated within 24 hours to the agency submitting the specific ballistic evidence or its authorized representative for this product, such as the ATF Crime Gun Intelligence Center (CGIC).

5.4.2 The Site will record the date of lead dissemination of each NIBIN lead.

5.4.3 Sites utilizing the NNCTC for correlation reviews of ballistic images will not be subject to the requirements of Section 5.4.

STANDARD 6
CORRECTIVE ACTION

The Site shall establish and follow a corrective action plan to address processes and procedures when the minimum required operating procedures are not met. The corrective action plan shall identify possible causes for non-compliance with the standards and address plans and measures to meet these standards. Documentation of the corrective actions shall be maintained in accordance with Standard 1.

6.1 Corrective actions shall not be implemented without the documented approval of the NIBIN Program Administrator.

STANDARD 7
AUDITS

All Sites will be audited in accordance with these standards by an ATF audit team beginning in July 2018. By December 31, 2020, each Site must undergo the ATF audit and be in compliance with these standards in order to maintain access to the NIBIN network. After December 31, 2020, all Sites will undergo a regular ATF audit on a biennial basis, once every two years.

7.1 Audits shall be conducted by an audit team comprised of qualified auditor(s).

7.2 All required documentation and records of the NIBIN analysis of submitted ballistic evidence pertaining to the accuracy and timeliness of acquisitions, correlation reviews, and NIBIN lead disseminations shall be maintained and made available during the audit.

7.3 All required documentation and records of training and experience for the NIBIN Program Administrator and Qualified NIBIN Users shall be maintained and made available during the audit.

7.4 All required documentation and records to verify compliance with these NIBIN standards shall be maintained and made available during the audit.