# THE IDENTIFICATION OF PATTERNS IN FIREARMS TRAFFICKING: IMPLICATIONS FOR FOCUSED ENFORCEMENT STRATEGIES

*A REPORT TO THE*
*UNITED STA TES DEPARTMENT OF TREASURY*
*BUREAU OF ALCOHOL1 TOBACCO & FIREARMS*
*OFFICE OF ENFORCEMENT*
*WASHINGTON1 DC*

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## FOREWORD

This is the first report in an ongoing series of studies being conducted by the Bureau of Alcohol, Tobacco and Firearms (ATF) to identify criminal firearms trafficking schemes and produce enforcement methods that will decrease firearms related violent crime in America.

In the same manner in which private corporations diagnose production problems, law enforcement must examine crime problems and devise programs that most effectively and efficiently apprehend violators and prevent future occurrences. In order for A TF to accomplish its mission of assisting municipal and State law enforcement in combating violent crime, we have taken both a scientific and planned strategic approach toward achieving this goal. The resulting report is a partnership between the Bureau and the academic community, specifically, in this case, Northeastern University, Boston, Massachusetts.

Utilizing traditional research methods and statistical analysis, the Northeastern University, Center for Criminal Justice Policy Research, conducted a study of national firearms trafficking patterns. Extensive information and support were provided by the National Tracing Center (NTC). The study revealed a pattern of firearms trafficking on a national basis, which related to violent crime.

As the number of violent crimes and the populace of America increase and enforcement resources are limited, random methods of operation become useless and archaic. In order for law enforcement strategies to be effective, they must be focused at identified targeted offenders. Furthermore, in a free society, law enforcement will only be effective in its endeavors through cooperative efforts with enforcement agencies at all levels, private industry, and individual citizens' involvement. This study and the actions of all participants were an excellent example of this relationship and those individuals and organizations are to be commended for their efforts.

**A REPORT TO THE**
**UNITED STATES DEPARTMENT OF TREASURY**
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## ABSTRACT

The report concerns the results of an intensive examination of the NTC's Firearms Trace System (FTS). Developed and managed by ATF, the FTS is designed to assist municipal, State, and Federal investigators in solving crimes in which a firearm has been recovered. As a result of a trace request, NTC personnel initiate a historical trace of the firearm in question, starting with the manufacturer of the weapon. The NTC attempts to provide the trace requester with the history of the firearm, detailing its passage from manufacturer to wholesaler, to gun dealer, and eventually to the individual purchaser.

The accumulation and storage of this information by the NTC represent a Federal memory of many "chains" of firearms transfers that have occurred during the last approximate 21/2 decades. Firearms are often traced by law enforcement officers in an attempt to gather pertinent information as to the origin or movement of a crime gun. Some of these crime-related firearms are sold by Federal firearms licensees (FFLs) which, inadvertently or otherwise, present one of the sources of firearms to the illicit market. Although the vast majority of FFLs operate in strict compliance of the Federal firearms laws and are partners with the law enforcement community in preventing the misuse of firearms, the small number of FFLs participating in illegal firearms trafficking are capable of causing exponential damage by supplying firearms directly or indirectly to the criminal element.

The research effort conducted at Northeastern University revealed patterns of firearms trafficking, on a national basis, which related to violent crime. Further, the researchers conclude that an extremely small number of FFLs are involved with a large, disparate number of firearms recovered at crime scenes. Using models developed at Northeastern University within the past year, the researchers conclude that further research may provide for the construction of predictive indicators within the FTS. Such indicators could assist in the early identification of patterns of firearms trafficking related to violent crime. The value of such indicators in the reduction of violent crime is substantial. It may well be possible to develop "front end" efforts, through these models, to reduce violent crime in the United States.

# PROJECT OVERVIEW

## ATF Program of Research

Approximately 1.3 million American citizens faced an assailant armed with a firearm according to a recent Bureau of Justice Statistics report. This figure also includes 70 percent of the 24,526 homicides in 1993 in which firearms were employed as the lethal weapon. Equally critical, as other crimes either have declined or plateaued, firearms-related assaults have increased, in particular among teens and adolescents. The purpose of this report is to help support the Bureau's effort to control crime-related firearms commerce and also reduce the incidents of violent crime.

This is the second report in a program of research undertaken by ATF. This program of work is designed to improve the agency's capacity to control illegal firearms commerce, as well as reduce firearms violence. The first report in this program, "Protecting America: The Effectiveness of The Federal Armed Career Criminal Statue," was completed by ATF in March 1992. This study analyzed the impact of Armed Career Criminal legislation and the Bureau's enforcement methods of that law on decreasing violent crime.

The "Protecting America" report drew on a sample of criminal offenders who were involved in firearms-related crimes in 10 major American cities. The criminal offender respondents revealed five major sources of firearms: private parties (off-the-street sales); involvement in criminal acts (e.g., burglaries, robberies, or criminal association); retail firearms dealers~ flea markets or gun shows~ and relatives. The data supplied by the ATF study group was consistent with other government and academic research. Illegal and unregulated firearms trafficking often negates the intended effect of Federal, State, and local firearms laws and can add significantly to the frequency of violent crime by increasing the availability of firearms to criminal hands.

## Focus of the Present Study

In September 1994, ATF invited Northeastern University to use the agency's FTS data base for research on unregulated and/or illegal firearms commerce and the relation of such activities to violent crime. The researchers were specifically asked to examine the potential of this data base for identifying potential sources associated with the unregulated commerce of firearms involved in crime. The overall objectives of this research are twofold. First, to the extent that potential sources of unregulated commerce in firearms could be identified, ATF management thought it would be possible to more efficiently focus the agency's enforcement resources. Secondly, depending upon the results of this inquiry, ATF might incorporate new knowledge into its enforcement strategies. The process was, therefore, intended to transform specific types of research methods and results into operational support systems for special agents and inspectors in the field. The overall goal of the research was to help the agency develop more efficient and effective mechanisms and enforcement strategies to reduce violent crime in the United States. During the last 2 years, A TF has promoted research into firearms trafficking utilizing computer

technology, collaborative efforts with the academic community, and close joint participation .with State and local law enforcement. The following information will outline the specifics of our design and implementation of this research. Initial testing at several test sites has been extremely successful in accomplishing this plan's two objectives: (a) provide both Regulatory and Criminal Enforcement management the ability to focus resources on identified, known, or suspected violators and (b) supply the field special agents and inspectors with detailed information identifying traffickers and their method of operation relevant to their illegal activity.

## REVIEW OF POLICY AND EMPIRICAL RESEARCH

A relative void exists in research regarding firearms trafficking as it relates to violent crime control. A recent review (Cook and Moore 1995) of the role of the illicit firearms dealers notes:

> There is no systematic evidence on how important these illicit dealers are in supplying the guns used in crime; occasionally a police investigation will turn up a dealer who has sold hundreds or thousands of guns illegally (Dabbs 1994).

### Firearms Trafficking, Gun Availability, and Violent Crime

In contrast to firearms trafficking, a great deal more research has been conducted on the relation between gun availability and violent crime. Over the past 2 decades, a growing body of research has examined the availability of weapons on the commission and outcome of violent crimes.

Some research suggests that the type of weapon used in violent confrontations alters the outcomes in several important ways (Cook and Moore 1995). A series of studies of assault and homicide incidents indicates that attacks with guns lead to the death of the victim far more frequently than attacks using other types of weapons typically available to assailants (Zimring 1968, 1972; Block 1977; Vinson 1974).

The link between gun use in violent crime and homicide has led to the call for a reduction in gun availability. Several studies have supported the proposition that greater access to firearms tends to make assaults more lethal (Newton and Zimring 1969; Hedeboe et al. 1985; Sloan et al. 1988). One study compared patterns of violent crime in two cities in the Pacific Northwest--Seattle, Washington, and Vancouver, British Columbia (Sloan et al. 1988). These two cities, although similar in many ways, differed significantly in their approach to firearms control. In Vancouver, through a variety of regulations, handguns are far more strictly controlled. The two cities also differ in the number of firearms available. Firearms are far more commonly owned by the residents of Seattle than those of Vancouver.

The researchers also reported that the risk of death from homicide was higher in Seattle than in Vancouver (Sloan et al. 1988). The higher level of homicide in Seattle was

explained almost entirely by the 4.8 times higher risk of being murdered by a handgun in Seattle versus Vancouver.

This research suggests that the level of gun violence in a community may be related to the level of gun ownership. In cities where gun ownership is prevalent, research suggests that it will be easier for criminals to obtain guns, not only through licensed dealers, but also from acquaintances, family members, drug dealers, thefts, and black markets (Cook and Moore 1995). In addition, Cook (1979) notes that criminal offenders living in high availability cities might have a greater demand for guns than offenders living in low availability cities due to their own need for self-protection. Other issues important to the study of gun availability include the intent of the criminal and the immediacy with which the gun can be obtained. Reviewing 15 years of research on the impact of firearm availability on assault and homicide, Cook concluded that "the likelihood of death from a serious assault is determined, inter alia, by the assailants intent and lethality of the weapon used. The type of weapon is especially important when intent is ambiguous. The traction of homicides that can be viewed as deliberate (unambiguously intended) varies over time and space and is probably fairly small as a rule" (Cook 1983, 78).

Cook's observation is supported by earlier research conducted by Zimring (1972), who concluded that robbery murder is similar to robbery, and assaultive homicide is similar to aggravated assault. Zimring's work suggests the outcome of a violent encounter cannot be used as a consistent indicator of an offender's intent. Additional research supporting this finding is reported by Cook (1981), who found that the availability of firearms in communities appears to affect both the level of robbery with firearms and the level of robbery with homicide, but not the level of armed robbery. This pattern of violence associated with the availability of firearms has been persuasive as an instrumentality effect rather than changes in level of offenders' homicidal intent (Cook and Moore
1995).

Easy or immediate access to firearms may also have a direct effect on the incidents of firearms violence in the case of assault. Baker (1985) observes that in many cases of assault, assailants tend to reach for weapons that are readily available. Since firearms appear to be more deadly than most other types of weapons available to offenders, easy access to firearms could lead to higher levels of homicides because in high gun availability environments, assailants are more likely to assault their victims with guns. Availability may also be conceptualized in terms of the time, expense, and other costs associated with obtaining a gun (Cook and Moore 1995). Many gun laws have attempted to strictly legislate gun availability. In 1975, the Bartley-Fox Amendment was enacted in Massachusetts. This amendment called for a mandatory I-year prison sentence for anyone convicted of carrying an unlicensed gun. A study conducted by Pierce and Bowers (1981) found that the short-term impact of the law was to reduce the number of robberies and assaults involving guns. They also found a potential reduction

in the deaths from robbery and assault because offenders may have substituted less lethal weapons for guns. More recent research by Loftin et al. (1993) in six cities found that independent of gun availability, increasing the penalties for using a gun in a crime led to a reduction in gun homicides in all six cities.

A Policy Framework for Regulation of Firearms Commerce, Ownership, and Use

What are the major potential decision points regarding the commerce, ownerships, and/or use of firearms? Gun control strategies in place today tend to focus on one of four successive decision points: (1) manufacturing or selling a gun, (2) purchasing a gun, (3) carrying a gun, and (4) using a gun for criminal purposes (pierce and Bowers, 1981, and Pierce, 1989). This proposal concerns research on crime control strategies that embrace all four decision points.

Regulatory approaches that cast the broadest net are ones that attempt to regulate the commerce of firearms. These include laws that regulate the supply of firearms through limitation on the importation, manufacture, sales, and transfer of guns. Such approaches also include policies to license owners (as we do for motor vehicles) of firearms.
The third decision point, the carrying of firearms, invokes laws that aim to regulate carrying of guns outside one's home or place of business. One could consider these laws as preventive measures. Zimring, et al. (1987) refers to these as ~'place and manner" laws. These types of laws, Zimring, et al. (1987) notes, attempt to reduce firearms violence by giving police the authority to intervene before violence or a crime has occurred. Thus, "place and manner" gun control strategies are aimed at encouraging citizens who are not legally authorized to carry a gun in public to leave their gun at home or at their place or business.

The fourth decision point concerns those laws affecting individuals who have decided to use firearms for criminal purposes. Many criminal gun-use laws, commonly referred to as "weapon enhancement" statutes, typically impose an additional term of imprisonment when crimes are committed with a gun. For example, Michigan's "felony firearms statute" added a mandatory 2 years to the sentence imposed for aggravated assault, armed robbery, forcible rape, and criminal homicide if a gun is used (Loftin and McDowall 1981). Laws of this kind are generally not controversial; they specifically target the "criminal element," persons who have, in fact, been convicted of violent felony offenses.

The research conducted for this study focused on the supply sources of firearms used in crimes. As such, this research is primarily concerned with the first two decision points because these focus on the commerce sale and ownership of firearms.

## REGULATION OF THE SALE AND TRAFFICKING OF FIREARMS

### Compliance with Firearms Industry Laws and Regulations

Over the past 60 years or so, there have been series of legislative acts that have promoted a regulatory framework for the firearms industry in the-United States. The Federal Firearms Act of 1938 "gave the Treasury Department control over a national licensing system incorporating gun dealers, manufacturers, and importers" (Spitzer 1995). The low license fee for dealing in firearms has assisted in the popularity of the license. (The initial firearms dealer license fee of $1, imposed in 1938, was increased years later, through passage of the Gun Control Act of 1968 (GCA) to only $10.) There have been, in this present decade, as many as 284,000 FFLs, whose business operations fall within the regulatory jurisdiction of ATF (Spitzer 1995).

Voluntary compliance with regulations and cooperation with the regulators have been the overwhelming response of the industry, as evidenced by FFL response to gun trace requests, now numbering over 70,000 per year. Until 1994, firearms dealers were not required to provide ATF with responses to the vast majority of trace requests. Although the Crime Act of 1994 imposed this requirement (FFLs must now respond within 24 hours to a trace request), voluntary cooperation with ATF was the norm regarding gun traces. However, there were exceptions, of course, which prompted this recent legislation. Those FFLs who are uncooperative in gun trace requests now face sanctions. FFLs, who ignore ATF regulations, thus, commit criminal acts when conducting firearms business, may oftentimes be central to the problem of illegal firearms trafficking. Their legal access to a supply of weapons can fuel a substantial stream of weapons into illegal markets.

### The ATF National Tracing Center

The ATF, U.S. Treasury Department, is responsible for the enforcement of the GCA. Toward that end, the Bureau has established the National Tracing Center (NTC). The NTC is "the sole agency responsible for tracing firearms used in crimes and recovered at crime scenes" (Magaw 1994). Firearms tracing is described as "the systematic tracking of firearms from manufacturer to purchaser for the purpose of aiding law enforcement officials in identifying suspects involved in criminal violations, establishing stolen status, and proving ownership" (Bentsen 1994). The NTC is located in Falling Waters, West Virginia.

The NTC, headed by a special agent in charge, hosted a series of firearms tracing workshops for selected special agents and support staff in 1994 for the purpose of developing models for identifying sources of illegal firearms trafficking. These meetings prompted the formation of a "Criminal Acquisition of Firearms Group," in Washington, DC, and also Falling Waters, West Virginia. This group, chaired by the Chief, Firearms

Enforcement Division, consists of special agents, support staff, and personnel from Northeastern University. The group explored the continuing Bureau initiative of "Protecting America" through analysis of the FTS as it related to violent crime in the United States.

The Firearms Tracing System

The NTC has developed and implemented a Firearms Tracing System (FTS) to conduct traces of firearms. This development is a continuing process, which was initiated soon after passage of the GCA. During this present decade, automation has facilitated the Bureau's FTS. The FTS consists not only of a system, but also of Bureau employees. Many of these employees have years of experience in responding to police requests for firearms traces, in the identification of firearms, and in communications with federally licensed firearms manufacturers and dealers.

In 1993, the NTC traced over 50,000 firearms, and in FY-94 and FY-95, the NTC traced over 79,800 firearms for each year. Many municipal, county, State, and Federal law enforcement agencies use the trace capabilities of the NTC during the course of a year in the furtherance of a investigations. To a lesser extent, trace requests also originate from foreign governments and police agencies. International trace requests and NTC responses are channeled through the Bureau's International Enforcement Branch. In addition to tracing firearms used in crimes, the NTC is also the repository for the records of FFLs who have gone out-of-business (OOB). This is an important NTC function, as more than half of all firearms traces require information from the Center's OOB files. The NTC houses, on microfilm and paper, over 85 million individual firearms transaction records of OOB dealers (Bentsen 1994).

The collection of FTS information concerning thousands of trace requests and the NTC trace responses to those requests represent the core memory of the FTS. This resource is central to the potential for identifying sources of illegal firearms trafficking. The value of the FTS as a potential resource in reducing violent crime became clearer as the working group meetings progressed. During the past 2 years (1994 - 1995), ATF explored the potential of the FTS with a focus on violent crime reduction. In addition to the original goals of the FTS (e.g., to assist local, State, and Federal investigators solve violent crimes), the Bureau recognizes that a systematic analysis of the FTS may significantly improve the capacity of the system to assist law enforcement agencies in regulating firearms trafficking.

Importantly, after firearms inspections, the most frequent official Bureau contact with licensed firearms dealers, occurs through gun trace requests. When these contacts are recorded as data in the FTS, the development of certain patterns, over time, were hypothesized by the researchers. It is an examination of these potential patterns within the FTS that was the central focus of the work at Northeastern University. Patterns of

contacts and responses of FFLs to trace requests and also patterns of purchasing, firearms recoveries, time intervals, etc., were explored in order to determine whether there were identifiable sources of illegal firearms trafficking. Such patterns might serve as potential indicators of criminal activity useful in violent crime control and reduction.

## ANALYSIS OF FIREARMS TRAFFICKING PATTERNS'

The analysis draws on two major sets of information collected by the ATF. The first set is drawn from the Bureau's FTS. The second set is drawn from the Bureau's data base on FFLs who are currently in business and also those FFLs who are now OOB. The analysis will proceed From an examination of the most general factors associated with firearms trafficking (such as variation in State level policy) to an analysis of more discrete potential sources of illegal trafficking.

### Data Sources for the Analysis

Information the Bureau collects on FFLs is primarily descriptive, e.g., location information, such as address and telephone number, data on dealer ownership, and compliance history from the firearms inspections program. The Bureau collects a broad range of information on firearms associated with criminal activities during the tracing process conducted at ATF's NTC. Typically, local or State law enforcement agencies, ATF offices, and other Federal offices submit trace requests to ATF concerning firearms that have been recovered From some criminal activity. A trace on a crime-related gun generally involves the following steps. First, the weapon must have a legible serial number. Weapons without serial numbers cannot be traced. Identifying information for weapons with serial numbers are sent to the manufacturer of the weapon. The manufacturer is asked to provide information on the wholesale/retail distributor to which they sold the firearm in question. From that point on, the weapon is traced through all wholesale/retail distributors involved in the sale of the weapon. The NTC typically stops the trace at the point where a weapon is sold for the first time to a private citizen. Although a gun trace for a crime-related 'weapon can go beyond the point of final retail sale, that process is very expensive in terms of investigatory resources, and as a consequence, this more extensive form of gun trace is not typically undertaken by the Bureau, except in the case of significant criminal investigations.

The type of information that the ATF collects on crime-related guns in its FTS includes the following: (1) information on the manufacturer and make, model, and caliber of the gun being traced; (2) data on the type of crime the gun was associated with; (3) the date of the first sale of the firearm to a private citizen; (4) the date a trace was requested on the firearm (the date associated with requesting a firearm trace is typically very close to the time of the crime to which the firearm is associated); (5) information on the level of cooperation in providing data on the firearm by the FFL who sold or purchased the weapon in question; (6) information on the first private purchaser of a crime-related

firearm; and (7) information on the FFLs who purchased and sold the crime-related firearms.

The above-described information formed the basis for the following analysis. Importantly, the NTC is continuously improving the quality and reliability of the information included in the FTS.

**Analysis of the Geographic Distribution of FFLs**

On the surface, identifying potential patterns of firearms trafficking appears to be a highly challenging task. One of the possible challenges to this task is the large numbers of FFLs. At the time data was received for the analysis, there were approximately 258,000 active FFLs in the United States. The distribution of these dealers across the United States shows significant variation. (See Map 1.) For example, on a per capita basis, 216 counties in the United States (out of a total of3,141 counties in the entire United States) have over 400 FFLs per 100,000 county residents. In contrast, 566 counties in the United States have under 100 FFLs per 100,000 residents. As Map 1 indicates, the highest per capita concentration of FFLs appears to be in the Western and Mountain regions of the United States that are areas known for their hunting and outdoor activities.

A different distribution of FFLs emerges when we examine the absolute numbers of FFLs across counties. Under this approach, the counties with the highest levels of absolute number of FFLs are typically those counties with the highest population densities. As shown in Map 2, counties within the high population corridors along the east and west coasts also tend to have high numbers of FFLs within their boundaries. Map 2 also suggests that selected rural areas in the North Atlantic and Mountain States, as well as some in the South, also appear to have high numbers of FFLs within their boundaries.

**Analysis of Potential State Level Patterns of Firearms Trafficking**

Variations in firearms trafficking by State represent a first level of analysis. Laws governing the sale, ownership, and transfer of firearms vary significantly across States. Given the significant variation in State laws and regulations, it is not unreasonable to expect that trafficking in firearms that are associated with crime might also vary across States. Table 1 shows the percentage of FFL dealers in each of the 50 States who have at least one crime-related firearm traced back to the dealer at the point of final sale to a private citizen. In the country as a whole, 8.4 percent of the 258,000 FFLs active in 1994 had a crime-related firearm traced to them. On a State level, dealers in Georgia had the highest number of crime-related firearms traced back to them; 16.4 percent of the dealers in Georgia had at least one firearm traced back to them. In contrast, only 3.1 percent of FFLs in Hawaii had a crime-related firearms traced back to them. This represents the lowest rate in the Nation. Other States with low firearms tracing rates

were North Dakota, Montana, Iowa, Wyoming, Alaska, New York, South Dakota, and Nebraska. In each of these States, less than 5 percent of their FFLs had crime-related firearms traced to them. In contrast, in seven States (Delaware, Virginia, North Carolina, South Carolina, Georgia, Alabama, and Mississippi) crime-related firearms were traced back to 13 percent or more of the FFLs in each of the respective States.

In Table 2, the analysis focuses on only those FFLs who have had crime-related firearms traced to them. As in Table 1, the analysis focused on State-level differences. Two measures are presented in this table. First, the average number of traces per dealer among those dealers with at least one firearm traced is shown in column one. The second column presents the average time to crime for all firearms traces within the State. "Time to crime" is defined as the span of time from a retailer's sale of a firearm to a private citizen to that point in time when a law enforcement agency requests a gun involved in a crime.

Analysis of Table 2 indicates that among FFLs, with at least one firearm trace, on average, such dealers have had 5.57 gun traces. Significant variations appear to exist across States with the average number of traces per dealer ranging from a low of 1.80 in Wyoming to a high of 13.8 in Maryland. (It should be noted that Vermont had an artificially high number of traces per dealer as a result of successful "sting" enforcement operations conducted by ATF.) States also appear to exhibit substantial variations in the average time to crime of firearms traced to last sale retail dealers within their boundaries. Variations range from a low of 3.2 years for Maryland to a high of 5.8 years for New Jersey and North Dakota.

The results shown in Table 1 and Table 2 suggest that significant variations exist across States in the degrees that FFLs are associated with firearms traced to crime. The variation may reflect a variety of factors including different regulatory approaches to firearms commerce across States. Although these results may hold important information for the regulation of firearms, the cross-state variations shown in Table 1 and Table 2 are not sufficient to support the development of ATF's "focused enforcement strategy" for controlling the trafficking of firearms associated with criminal activities. Subsequent portions of this analysis will examine more discrete aspects of firearms trafficking with the objective of identifying patterns that can better support ATF's "focused enforcement strategies" against violent criminals and illegal firearms trafficking.

Analysis of Crime and Weapon Specific Patterns Trafficking

For the analysis of crime and weapon specific patterns of firearm trafficking, we will examine time to crime across categories of crime and also across types of weapons. Table 3 presents these findings. Part one of Table 3 shows average time to crime across major categories of crime. For the population of all firearms traces, the average time to

crime is 5.39 years. Across different types of crime, however, there appears to be modest variation in the measure. Not surprisingly, the highest average time to crimes (6.6 and 6.5 years) are associated with burglary and stolen weapons. In contrast, drug offenses and the general category of weapons offenses exhibit the shortest average time to crime.

Part two of Table 3 presents the average time-to-crime for four major types of firearms: pistols, revolvers, rifles, and shotguns. Comparison across categories of firearms reveals a fairly large difference in the average time-to-crime for pistols versus the other three types of guns. Specifically, the average time-to-crime for pistols is 3.7 years in contrast to 8.4, 7.1, and 7.4 years for revolvers, rifles, and shotguns respectively. The above pattern suggests that on average, pistols are likely to go more quickly From retail sale to a crime-related activity than are the other three major types of weapons.

This pattern may arise because pistols are in great demand by individuals involved in many types of crime. As a result, we might expect a high demand for pistols so that pressure is applied in procuring these weapons From FFLs or through straw purchasers rather than through burglary or stealing. Burglary can be an unreliable, low yield, and possibly high-risk source for firearms. Once again, these finding~ may be useful for regulatory efforts, but they do not offer direct support for enforcement efforts. In the next section, we focus our analysis on patterns associated with dealers.

## Analysis of Potential Patterns of Trafficking Associated with FFL Dealers

In this section, we examine potential patterns of firearm trafficking associated with FFLs. First, the relation between potential prior business activity of an FFL and gun traces to an FFL is examined. Next, the relatively simple concept of the level of gun traces to FFLs is examined as a potential indicator for possible firearms trafficking. Finally, the analysis investigates average "time to crime" of firearm traces to an FFL as another potential indictor of trafficking.

Table 4 presents information on the relationship between possible prior business activity of FFLs and the probability of gun traces to FFLs. Prior business activity is defined as the presence of a currently OOB FFL at the specific address of a currently in-business FFL. The reason to address this question arises because some FFL owners may allow their FFL licenses to lapse and then reapply for a new license. Such activity may occur in order to avoid providing firearms record data to ATF's NTC. In order to examine the strength of this hypothesis, a method was developed using OOB FFL records to identify potential prior business activities of currently in-business FFLs. Using the OOB FFL file, the business address of any currently in-business FFL was checked against the addresses of OOB dealers. If a match was made between these two addresses, this was taken as an indicator of prior business activity for a currently active FFL.

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Part one of Table 4 shows that 8 percent of the active FFLs shared the same address with an OOB FFL dealer. Part 2 of Table 4 presents information on the relationship between crime-related gun traces and the prior business activity status of FFLs. As Table 4 shows, 17.6 percent of FFLs with an indicator of prior business activity had at least one gun traced to them as last retail seller versus only 7.6 of the FFLs with no indicator of prior activity. This result is interesting for potential policy purposes, but the difference in the percentage of gun trace activity by prior business status although large is not sufficient alone to support a focused enforcement strategy.

Table 5 presents information on the distribution of FFLs firearm traces, controlling for the number of traces to a given FFL. Table 5 reveals fairly dramatic differences in the distribution of gun traces across FFLs. Column 1 of Table 5 shows that 91.6 percent of all FFLs had no crime-related guns traced back to them as the last retail seller. In sharp contrast, .1 percent of all FFLs (145) accounted for approximately 25 percent of all guns traced back to active FFLs. Similarly, approximately .4 percent of all dealers accounted for almost half of all guns traced back to FFLs. As Table 5 shows, each of the FFLs in this category had 25 or more firearms traced to them as the final retail seller. The above patterns do not necessarily mean that a dealer is involved in illegal trafficking of firearms. However, these patterns do suggest that there are FFLs who should be subject to more frequent compliance inspections, and this information then can be an important component in developing a focused firearms enforcement strategy.

Table 6 presents information on the distribution of in-business FFLs and the distribution of firearms traces controlling for the average time to crime of all gun traces to a given FFL. The concept underlying this indicator is relatively straight forward. If guns traced to a FFL dealer reveal on average a relatively short "time to crime," this may suggest that the activities of the dealer, or activities of individuals purchasing from that dealer, or possibly the overall crime context associated with the neighborhood surrounding an FFL needs to be examined. As with the number of firearms traces associated with the dealer, average time to crime is an indicator of a potential trafficking problem, but it does not necessarily indicate illegal activity on the part of FFLs.

Using average time to crime as an indicator, Table 6 shows that 2.8 percent of all gun dealers (and approximately 35 percent of dealers with guns traced to them) show an average time to crime for gun traces associated with them as the last retail seller of under 2 years. These dealers account for approximately 27.6 percent of all guns traced back to active dealers. The results of Table 5 and Table 6 indicate that the number of traces to a gun dealer, as well as, the average time to crime for traces to a given dealer can be used to help support a focused firearms trafficking enforcement strategy. In the future, these indicators can be refined, and other indicators may be identified to provide additional support to ATF enforcement efforts. Critically, as indicators are identified or refined, they can be incorporated directly into the ATF Project LEAD Firearms Trafficking Analysis System.

**Summary and Conclusion**

This study has focused on information contained within the NTC's FTS and its potential usefulness in the development of ATF's "focused enforcement strategies" against violent crime involving the use of firearms. A major portion of this study concerned the identification of patterns of firearms trafficking revealed through the analysis of firearms traces conducted by the NTC for law enforcement agencies throughout the United States.

The population of firearms for which traces have been requested by law enforcement agencies is a special segment of all firearms that have entered commerce in the United States. The firearms studied here are of interest to law enforcement agencies for many reasons, but the usual reason for a trace request is the association of a firearm with a specific crime. Thus, this population of firearms and the trafficking patterns identified in this research are not necessarily representative of patterns of commerce in firearms that have not been traced. On the contrary, this study is far removed from any attempt to analyze the legal commerce of the vast majority of firearms in the United States. No analysis, comparison, or conclusion of this research is either intended towards or related to, the general legal commerce of firearms conducted on a daily basis within the United States.

Analysis of the regulated, legal commerce in firearms is, in fact, far removed from the focus of this project. For this study has focused narrowly on the aberrant portion, that is, only those firearms traced, and not the total spectrum of commerce in firearms. This aberrant portion of firearms in commerce has been turned into a research resource through this sustained focus on only those firearms associated with traces. Accordingly, the researchers, in exploring the potential uses of firearms traces, have drawn conclusions relevant to their original commission: the reduction of violent crime in America through the research-assisted development of focused enforcement strategies of ATF.

The legal firearms industry in the United States conducts business in overwhelming compliance with Federal laws and regulations. However, it had been recognized that the Bureau could not adequately provide regulatory oversight, with its staffing, for each of the 284,000 FFLs on the rolls in 1994 (Treasury 1994). Over the past nearly 2 years, there has been a substantial decrease in the number of FFLs who are not actually engaged in the business of dealing firearms as a result of an increase in fees and an aggressive screening process during the review of firearms license applications and renewals. These changes were initiated under the Secretary of the Treasury. ATF continues to meet the regulatory challenges that have faced the Bureau. The conclusions of this present research effort affirm that the overwhelming response of the legal firearms industry has been one of compliance with Federal regulations. The results of this project reveal that only a minuscule number, in comparison to the total number of licensed

firearms dealers, are repeatedly associated with firearms that have been recovered in crimes by police agencies.

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TABLE 1

## Percentage of FFLs with at Least One Firearm Trace by State

| State | Percentage of Gun Dealers with Traces | Total Number of Dealers |
|---|---|---|
| ME | 6.2 | 2,118 |
| NH | 6.8 | 1,697 |
| VT | 6.5 | 1,466 |
| MA | 6.2 | 4,554 |
| RI | 6.0 | 680 |
| CT | 6.1 | 3,533 |
| NY | 4.9 | 10,613 |
| NJ | 9.4 | 2,099 |
| PA | 8.4 | 12,909 |
| OH | 9.4 | 9,698 |
| CA | 5.4 | 21,510 |
| IN | 8.3 | 6,139 |
| IL | 7.7 | 8,980 |
| MI | 5.7 | 12,026 |
| WI | 8.1 | 5,978 |
| MN | 5.2 | 5,656 |
| IO | 4.4 | 3,675 |
| MO | 5.6 | 8,069 |
| ND | 3.4 | 1,564 |
| SD | 4.6 | 1,509 |
| NE | 4.6 | 2,618 |
| KS | 5.8 | 3,687 |
| DE | 13.5 | 569 |
| MD | 10.1 | 3,682 |
| VA | 13.3 | 7,071 |
| WV | 9.4 | 3,360 |
| NC | 13.1 | 6,748 |
| SC | 15.9 | 2,560 |
| GA | 16.4 | 6,473 |
| FL | 11.9 | 11,193 |
| KY | 10.4 | 4,880 |
| TN | 9.8 | 5,140 |
| AL | 13.4 | 3,605 |
| MS | 14.5 | 3,391 |
| AR | 12.0 | 3,526 |
| LA | 10.7 | 4,739 |
| OK | 9.3 | 4,545 |
| TX | 10.9 | 18,432 |
| MT | 3.9 | 3,267 |
| ID | 5.7 | 2,453 |
| WY | 4.4 | 1,806 |
| CO | 8.6 | 4,217 |
| NM | 11.8 | 2,066 |
| AZ | 11.4 | 4,371 |
| UT | 5.8 | 2,132 |
| NV | 6.4 | 2,168 |
| WA | 5.3 | 5,923 |
| AK | 4.4 | 3,034 |
| OR | 5.9 | 4,682 |
| HI | 3.1 | 772 |

TABLE 2

## Average Number of Traces and Average Time to Crime Among FFLs with Gun Traces by State

| State | Average Number Of Traces | Average Time To Crime (years) | Total Number of Dealers |
|---|---|---|---|
| ME | 3.2 | 4.9 | 132 |
| NH | 4.1 | 5.1 | 116 |
| VT | 12.1 | 4.0 | 95 |
| MA | 6.9 | 5.6 | 283 |
| RI | 6.3 | 5.6 | 41 |
| CT | 5.0 | 4.7 | 215 |
| NY | 5.7 | 5.2 | 519 |
| NJ | 7.9 | 5.8 | 197 |
| PA | 5.5 | 3.7 | 1,089 |
| OH | 8.1 | 4.4 | 912 |
| CA | 5.8 | 5.0 | 1,155 |
| IN | 4.2 | 4.7 | 510 |
| IL | 9.3 | 5.0 | 689 |
| MI | 4.0 | 4.9 | 682 |
| WI | 5.7 | 4.0 | 483 |
| MN | 3.8 | 5.0 | 296 |
| IO | 1.7 | 4.0 | 161 |
| MO | 4.0 | 4.5 | 451 |
| ND | 2.5 | 5.8 | 53 |
| SD | 2.0 | 5.2 | 69 |
| NE | 4.3 | 4.1 | 120 |
| KS | 3.9 | 4.0 | 215 |
| DE | 6.9 | 4.1 | 77 |
| MD | 13.8 | 3.2 | 372 |
| VA | 10.1 | 3.9 | 940 |
| WV | 4.1 | 3.9 | 317 |
| NC | 4.7 | 4.1 | 886 |
| SC | 6.9 | 4.2 | 408 |
| GA | 6.6 | 4.2 | 1,062 |
| FL | 5.9 | 4.2 | 1,328 |
| KY | 3.5 | 4.0 | 506 |
| TN | 2.9 | 4.4 | 506 |
| AL | 5.0 | 4.2 | 482 |
| MS | 4.6 | 3.9 | 493 |
| AR | 3.4 | 4.5 | 424 |
| LA | 4.9 | 4.6 | 508 |
| OK | 3.0 | 4.6 | 421 |
| TX | 5.0 | 4.0 | 2,008 |
| MT | 2.5 | 5.4 | 129 |
| ID | 2.1 | 4.7 | 141 |
| WY | 1.8 | 5.4 | 80 |
| CO | 3.8 | 3.8 | 364 |
| NM | 4.8 | 4.0 | 243 |
| AZ | 8.0 | 3.5 | 499 |
| UT | 2.5 | 4.2 | 124 |
| NV | 6.9 | 3.9 | 139 |
| WA | 3.1 | 4.5 | 315 |
| AK | 3.6 | 4.5 | 133 |
| OR | 2.4 | 4.8 | 387 |
| HI | 2.4 | 4.8 | 24 |

TABLE 3

## Average Time to Crime by Selected Gun Trace Factors

| Type of Crime | Average Time to Crime | Number of Traces |
|---|---|---|
| Homicide | 6.1 | 15,461 |
| Robbery | 5.6 | 4,109 |
| Assault | 5.6 | 9,869 |
| Burglary | 6.6 | 2,237 |
| Stolen Weapon | 6.5 | 13,986 |
| Drug Offense | 5.5 | 27,478 |
| Weapons Offenders | 5.2 | 120,551 |

| Major Weapon Type | Average Time to Crime | Number of Traces |
|---|---|---|
| Pistol | 3.7 | 109,360 |
| Pistol Revolver | 8.4 | 42,974 |
| Rifle | 7.1 | 22,531 |
| Shotgun | 7.4 | 17,531 |

TABLE 4

## Characteristics of In-Business FFLs with Indicators of Being Previously in Business

### 1. Distribution of Prior Business Indicators

| Prior Business Activity | Percent | Number of Dealers |
|---|---|---|
| Not in Prior Business | 92.0 | 237,826 |
| In Business Previously | 8.0 | 20,798 |
| Total FFL's | 100.0 | 258,624 |

### 2. Percent FFLs with Gun Traces Controlling on Prior Business Activity

| Prior Business Activity | Percent | Number of Dealers |
|---|---|---|
| Not in Prior Business | 7.6 | 237,826 |
| In Business Previously | 17.6 | 20,798 |

### 3. Average Number of Traces per FFL Controlling on Prior Business Activity

| Prior Business Activity | Percent | Number of Dealers |
|---|---|---|
| Not in Prior Business | .44 | 237,826 |
| In Business Previously | .81 | 20,798 |

### 4. Average Number of Traces per FFL Among Dealers with Firearms Trace Controlling on Prior Business Activity

| Prior Business Activity | Percent | Number of Dealers |
|---|---|---|
| Not in Prior Business | 5.8 | 18,086 |
| In Business Previously | 4.6 | 3,655 |

TABLE 5

**The Distribution of In-Business FFLs and the Distribution of Firearms Traces Controlling for the Number of Traces to a Dealer**

| Number of Traces to a Dealer | Percentage of Total Dealers | Number of Dealers | Total Percentage of Traces | Number of Traces |
|---|---|---|---|---|
| 0 | 91.6 | 236,883 | 0.0 | 0.0 |
| 1 | 4.3 | 11,100 | 5.8 | 11,100 |
| 2 | 1.4 | 3,508 | 5.8 | 7,016 |
| 3 | 0.7 | 1,729 | 4.3 | 5,187 |
| 4 | 0.4 | 1,135 | 3.7 | 5,540 |
| 5 - 9 | 0.8 | 2,136 | 11.4 | 13,750 |
| 10 - 25 | 0.5 | 1,340 | 16.3 | 19,711 |
| 25 - 99 | 0.3 | 648 | 23.9 | 28,946 |
| 100+ | 0.1 | 145 | 25.5 | 30,850 |
| **Total** | **100.0** | **258,624** | **100.0** | **121,110** |

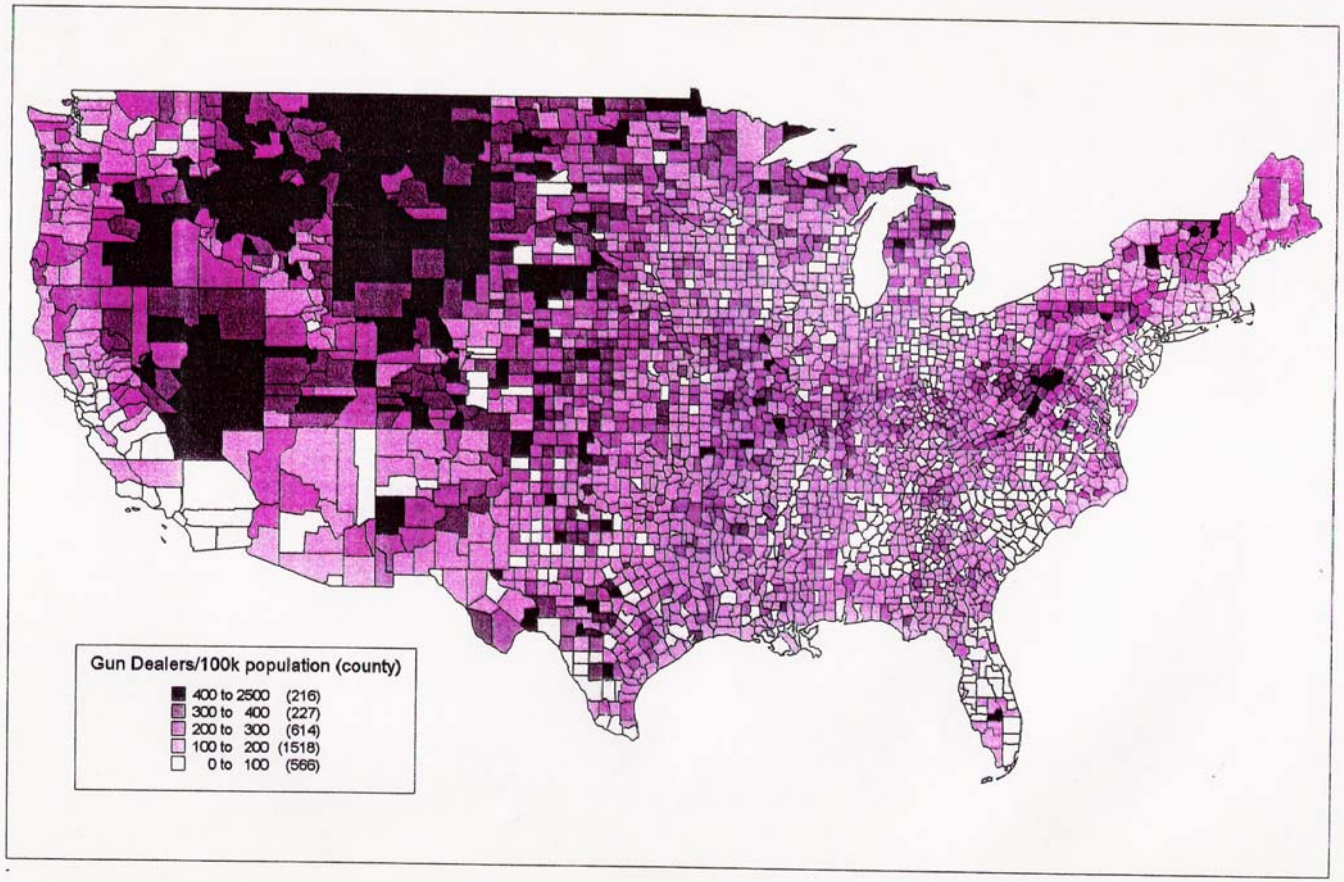
TABLE 6

**The Distribution of In-Business FFLs and the Distribution of Firearms Traces Controlling for the Average Time to Crime for Traces to a Given FFL**

| Average Time to Crime for Traces to a Given Dealer | % of Total FFLs | # of FFLs | Total % of Traces | # of Traces |
|---|---|---|---|---|
| No traces to Dealer | 91.7 | 236,883 | 0.0 | 0 |
| 5+ years | 2.9 | 7,391 | 31.5 | 37,920 |
| 4 to 5 years | 0.7 | 1,822 | 10.9 | 13,086 |
| 3 to 4 years | 0.9 | 2,203 | 13.7 | 16,468 |
| 2 to 3 years | 1.1 | 2,776 | 16.3 | 19,629 |
| 1 to 2 years | 1.5 | 3,962 | 19.0 | 22,914 |
| ½ to 1 year | 0.7 | 1,916 | 5.7 | 6,820 |
| Under ½ year | 0.6 | 1,487 | 2.9 | 3,533 |
| **Total** | **100.0** | **258,440** | **100.0** | **120,370** |

1. The total number of dealers and traces is slightly less than the totals shown In Table 5 due to missing "time to crime" information.

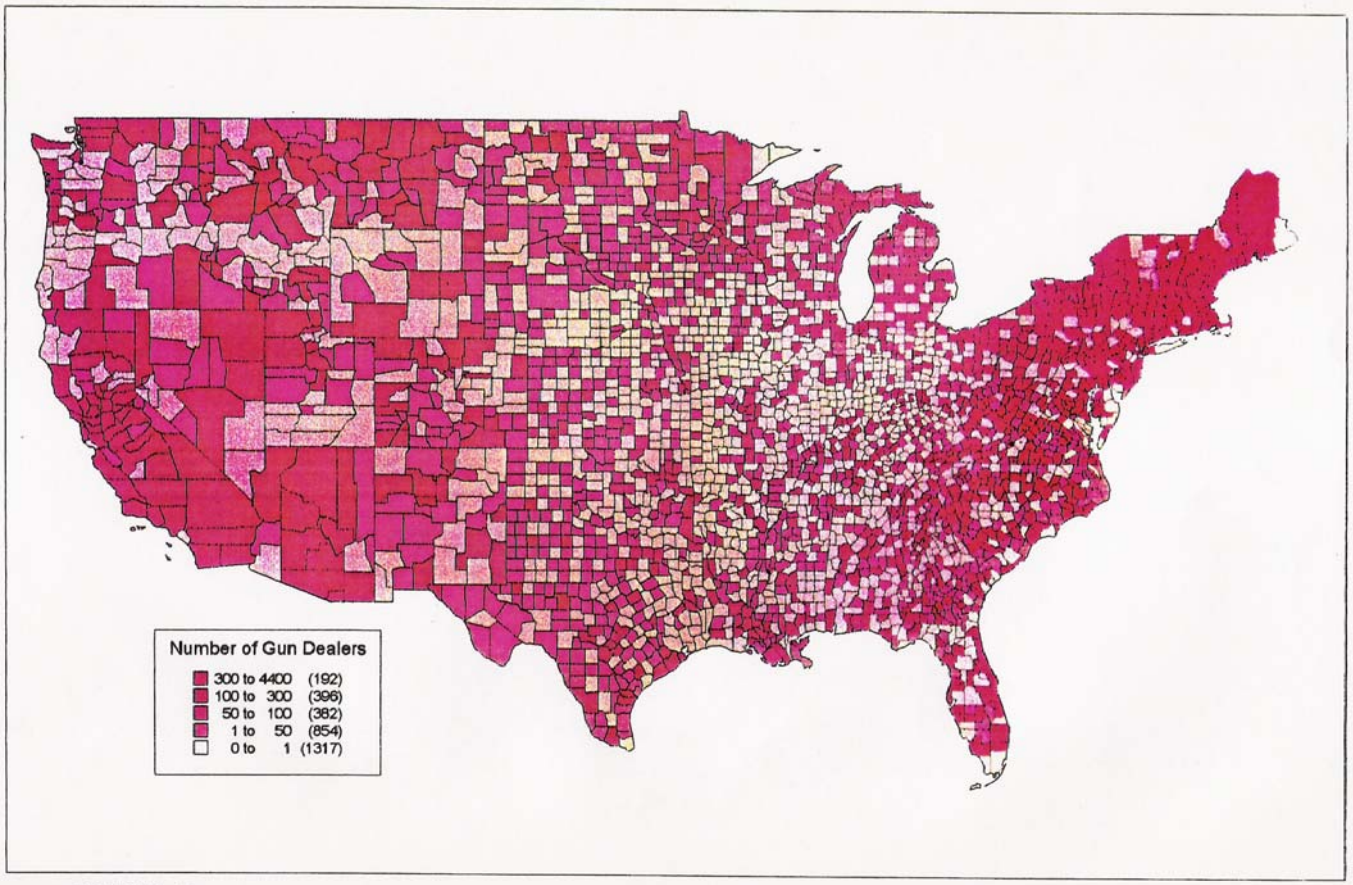
# FFL Concentration by County per 100,000 U.S. Residents




**MAP No.1**

**Center for Criminal Justice Policy Research**
**College of Criminal Justice**
**Northeastern University**

# Distribution of FFLs by County




MAP No.2