U.S. Department of Justice
Office of Justice Programs
National Institute of Justice

National Institute of Justice

Research in Brief

Jeremy Travis, Director

January 1995

Issues and Findings

Discussed in this Brief: An evaluation of a police patrol project to reduce gun violence, driveby shootings, and homicides in a patrol beat where the homicide rate was 20 times higher than the national average.

Key issues: Gun crime is rising rapidly nationwide, while other types of crime are falling. The need for strategies to control gun crime is critical. If police could get more guns off the street, would there be fewer gun crimes? This was the question posed by the Kansas City program.

Key findings: The results of the evaluation indicate that directed police patrols in gun crime "hot spots" can reduce gun crimes by increasing the seizures of illegally carried guns. Specific findings include:

- Gun seizures by police in the target area increased by more than 65 percent, while gun crimes declined in the target area by 49 percent (see exhibit 1).
- Neither gun crimes nor guns seized changed significantly in a similar beat several miles away, where the directed patrol was not used.
- There was no measurable displacement of gun crimes to patrol beats surrounding the target area.

continued p. 2

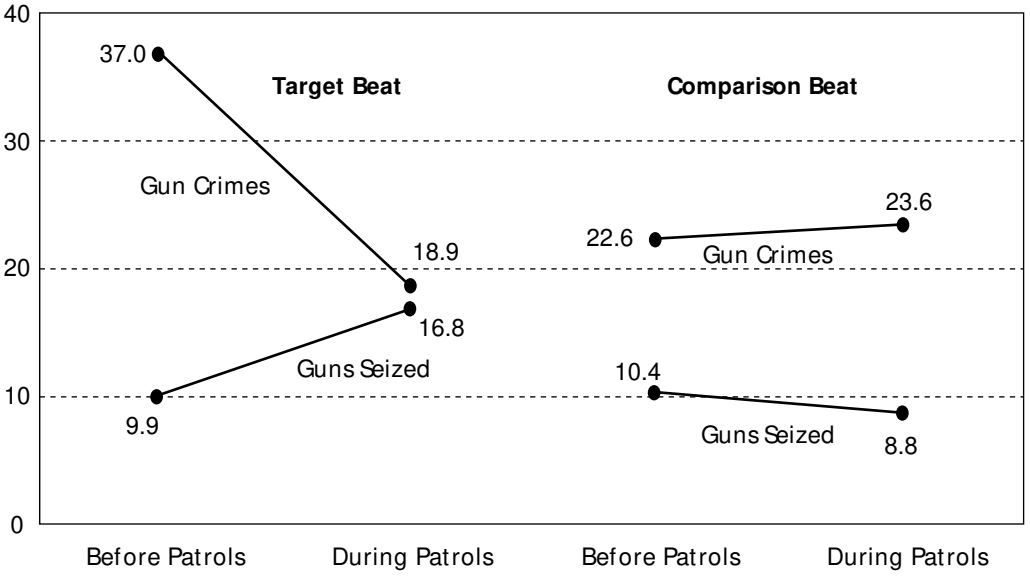
The Kansas City Gun Experiment

by Lawrence W. Sherman, James W. Shaw, and Dennis P. Rogan

Handgun crime is increasing rapidly throughout the Nation,[1] especially in inner-city areas where youth homicide rates have skyrocketed.[2] While some scholars argue that more gun carrying by law-abiding citizens may be the best deterrent to gun violence,[3] others find little evidence to support that view[4] but much more evidence that increases in gun availability produce increases in gun homicides.[5] Still others argue that it is not the total number of guns in circulation that increases gun violence, but the carrying of guns in high-risk places at high-risk times.[6] This argument suggests the hypothesis that greater enforcement of existing laws against carrying concealed weapons could reduce gun crime. But this hypothesis had never been tested until the Kansas City gun experiment.

The experiment developed out of the first Federal grant awarded under the Bureau of Justice Assistance (BJA) "Weed and Seed" program in 1991. The Kansas City (Missouri) Police Department (KCPD) was given wide latitude in planning its Weed and Seed strategy. Shortly after the BJA

Exhibit 1: ***Firearm Offenses/Guns Seized Per 1,000 Persons***



Issues and Findings

continued . . .

- Driveby shootings dropped from 7 to 1 in the target area, doubled from 6 to 12 in the comparison area, and showed no displacement to adjoining beats.
- Homicides showed a statistically significant reduction in the target area but not in the comparison area.
- Before and after surveys of citizens showed that respondents in the target area became less fearful of crime and more positive about their neighborhood than respondents in the comparison area.
- An investment of 4,512 police officer-hours was associated with 29 more guns seized and 83 fewer gun crimes, or 54 patrol hours per gun crime and more than 2 gun crimes prevented per gun seized.
- Traffic stops were the most productive method of finding guns, with an average of 1 gun found in every 28 traffic stops.
- Two-thirds of the persons arrested for gun carrying in the target area resided outside the area.
- Only gun crimes were affected by the directed patrols, with no changes in the number of calls for service or in the total number of violent or nonviolent crimes reported.

Target audience: Mayors, law enforcement officials, public health officials, policymakers, community leaders, and researchers.

award to the KCPD, the National Institute of Justice (NIJ) awarded the University of Maryland a grant to evaluate the Kansas City effort. This timing allowed the police and researchers to collaborate in planning a focused program with a strong research design.

This Research in Brief explains the study's methodology and key findings, analyzes the reasons for the findings, and concludes with a discussion of policy implications.

Study design

The program was based on the theory that additional patrols would increase gun seizures, which, in turn, would reduce gun crime. Two possible mechanisms were suggested: deterrence and incapacitation. The deterrence theory assumed that if police took guns away, illegal gun carriers would become less likely to carry them in the area. The incapacitation theory assumed that if enough potential gun criminals in the area had their guns seized, they would be unable to commit gun crimes—at least for as long as it took them to acquire a new gun.

Neither of these theories could be directly examined within the limits of the study. Rather, the evaluation study focused on the basic hypothesis that gun seizures and gun crime would be inversely related. From the outset, the project team recognized that confirmation of the hypothesis would not *prove* that more gun seizures result in reduced gun crime. The design could not eliminate all competing explanations that could be suggested for the results. But if an inverse correlation between gun seizures and gun crime were found, it could suggest the value of further research and development. It could also support a policy of extending the patrols, regardless of the exact reason for their effectiveness.

Exhibit 2: ***1991 Characteristics of Target and Comparison Beats***

Characteristic	Target Beat (144)	Comparison Beat (242)
Population	**4,528**	**8,142**
% Female	53%	56%
% Under 25	38%	41%
Median Age	**32**	**31**
% Nonwhite	92%	85%
% Age 25+ High School Graduates	53%	73%
Residential Square Blocks	**80**	**150**
Population Density Per Mile	**7,075**	**4,308**
% Single Family Housing	84%	93%
% Land Parcels Vacant	34%	14%
% Houses Owner-Occupied	63%	71%
Median Years Owned	**12**	**10**
Median Parcel Value	**$14,181**	**$23,953**
1991 Firearms-Related Crimes	**183**	**252**
(Rate Per 1,000)	40	31
1991 Shots Fired Incidents	**86**	**120**
(Rate Per 1,000)	19	15
1991 Driveby Shootings	**24**	**25**
(Rate Per 1,000)	5	3
1991 Homicides	**8**	**11**
(Rate Per 1,000)	1.77	1.35

Since the target area, patrol beat 144, already selected for the "Weed and Seed" grant had the second highest number of driveby shootings of any patrol beat in 1991, the police and academic team designing the experiment chose the reduction of gun crime as the principal objective of the program. The program budget for police overtime and extra patrol cars was then dedicated to getting guns off the street as cost-effectively as possible.

While the evaluation concentrated primarily on this first phase of the Weed and Seed grant, additional findings from the evaluation show what happened when the initial funding of patrols stopped (first half of 1993) and continuation funding allowed resumption of the patrols (second half of 1993).[7]

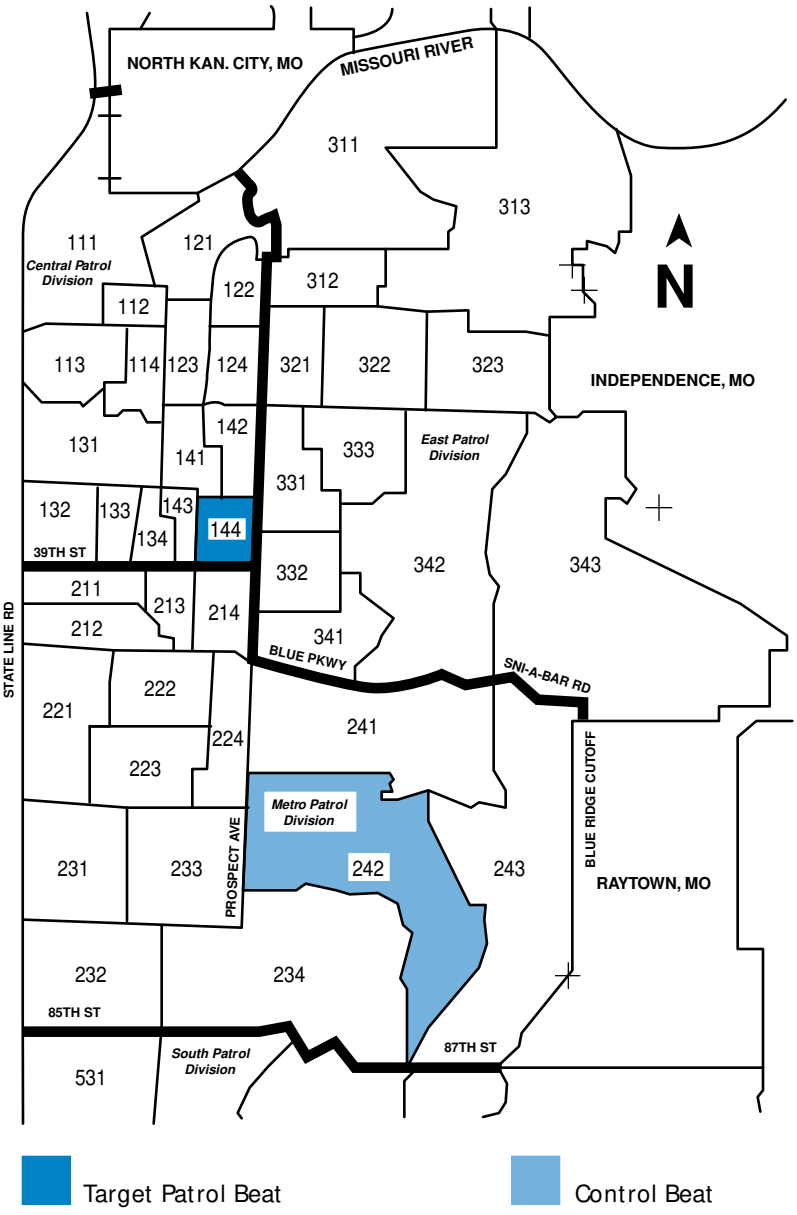
Target area. The target beat is an 80-by-10 block area with a 1991 homicide rate of 177 per 100,000 persons, or about 20 times the national average.[8] In addition to its 8 homicides in 1991, there were 14 rapes, 72 armed robberies, 222 aggravated assaults (142 with firearms), and a total of 349 violent felonies—close to one a day. Exhibit 2 shows that the beat's population is almost entirely nonwhite, with very low property values for the predominantly single-family detached homes. Home ownership rates are very high; more than two-thirds of all occupants own their homes.

Because the program was restricted to one target patrol beat—see exhibit 3—the planning team selected a before-after comparison design. The primary basis for selecting patrol beat 242 in the Metro Patrol District was its almost identical number of driveby shootings[9] in 1991; 25 driveby shootings in the control beat compared to 24 in beat 144.

Exhibit 2 also shows that the comparison beat, beat 242, is similar to the target beat in many ways. The major difference is that beat 242 has almost twice the population and three times the land area, including a park. The comparison beat also has slightly higher housing prices. Both beats have substantial volumes of violent crime, which provided reliable statistics for assessing trends over time.

Patrol operations. For 29 weeks, from July 7, 1992, to January 27, 1993, the Kansas City Police Department focused extra patrol attention on gun crime "hot

Exhibit 3: ***Kansas City, Missouri, Police Reporting Areas***



spots"[10] in the target area. The hot spot locations were identified by a University of Maryland computer analysis of all gun crimes in the area. The extra patrol was provided in rotation by officers from Central Patrol in a pair of two-officer cars working on overtime under the BJA-funded Weed and Seed program. Four officers thus worked 6 hours of overtime each night from 7 p.m. to 1 a.m., 7 days a week, for a total of 176 nights, with two officers working an additional 24 nights, for a total of 200 nights, 4,512 officer-hours, and 2,256 patrol car-hours. They focused exclusively on gun detection through proactive patrol and did not respond to calls for service.

While no special efforts were made to limit police activities in the comparison area, beat 242, there were no funds available for extra patrol time in that area. Several different

Trial and Error in Gun Detection

In early 1992, the success of directed patrols in Kansas City gun crime hot spots was preceded by two apparently unsuccessful attempts to detect guns. These programs are described below:

Door-to-door gun patrol. The first attempt was a comprehensive program of door-to-door visits to all 1,259 residences in the 80-block target beat 144, informing residents about a new crackdown on gun carrying and asking them to call an anonymous gun tips "hotline" if they knew of anyone carrying a gun illegally. The officers knocked on 1,410 doors in 173 hours of regular patrol time from March to May 1992, speaking with an adult at 72 percent of the occupied residences[11]—one of the highest success rates in any door-to-door policing program.[12] Of the 786 adult residents to whom the police explained the "gun tips" program, 96 percent (756) said they would be willing to call the hotline, and many were extremely enthusiastic. Unfortunately, only two calls were received. The door-to-door gun tip results reveal an important limitation on the police-citizen "partnership" concept of community-based policing. The fact that the officers were white and the area was predominantly black may have made a difference. But the fact that two-thirds of the persons later found carrying guns in the beat resided outside the area may have been more important.[13] Residents of high crime areas may simply not have all the information police need to deal with many crime problems.

However, the door-to-door program may have produced beneficial results. Exhibit 5 (see page 7) shows that the number of gun crimes in the target beat began to fall sharply in June 1992, the month after the 10-week program of door-to-door visits was completed. Gun crimes continued to decrease up to and after the start of the hot spots patrols. The fact that the number of guns seized in beat 144 declined in the second quarter of 1992[14] eliminates the high-risk gun seizure theory as an explanation of the June decrease in gun crime. The principal remaining explanations are either the deterrent effect of making all the door-to-door visits (with word of mouth spreading about a police crackdown on gun carrying), or simply random fluctuation that is evident elsewhere in the time series for the target beat—such as in the August to October 1991 period (see exhibit 5). Moreover, the second author found a drop in total serious crimes in the target beat that also began in June 1992, a finding consistent with other door-to-door patrol experiments.[15] Thus, even if door-to-door visits failed to increase gun seizures, they may still have been useful for preventing gun crime and other serious crime.

Body language training. A second unsuccessful attempt to detect guns in Kansas City was a method that had worked well in New York City. Detective Robert Gallagher (retired) of the New York City Police Department trained a group of Central Patrol Division police officers in the body language "cues" he used to recognize when someone was carrying a concealed weapon. These indicators, such as frequent touching of the waist to ensure that a gun stuffed in a belt will not fall down a pants leg, helped Gallagher make more than 1,000 arrests for carrying concealed weapons. But using the same methods, Gallagher was unable to spot any gun carriers during several nights on patrol in the most violent areas of Kansas City in June 1992.

This difference may reflect the enormous difference in density between the two cities: New York has 30 times as many people in about the same amount of land. Therefore, in New York most people walk and use public transit; in Kansas City, most people travel by car. The Kansas City officers trained to use these methods did report a few cases in which the techniques led to detection of a concealed weapon, but only 9 percent of guns were found in pedestrian checks.[16]

Despite these results in Kansas City, both gun tips hotlines and body language cues may still work well in other cities. The social and physical characteristics of cities vary widely, and these methods may work better in different kinds of communities. Most important, the Kansas City experience demonstrates the importance of trial and error in any city's efforts to get guns off the streets. Given the complexity of the problem, it is unrealistic to expect the first method tried to be an automatic success.

strategies for increasing gun seizures were attempted in beat 144 (see "Trial and Error in Gun Detection"), but Federal funds for extra police patrol were expended entirely upon the overtime patrols.

Measures used. Because the extra patrol hours were federally funded, separate bookkeeping was required to document the time. In addition, an onsite University of Maryland evaluator accompanied the officers on 300 hours of hot spots patrol and coded every shift activity narrative for patrol time and enforcement in and out of the area. Property room data on guns seized, computerized crime reports, calls for service data, and arrest records were analyzed for both areas under the study. No attempt was made to conduct victimization surveys, although a before and after survey of the target and comparison beats was conducted to measure citizen perceptions of the program.[17]

Data analyses. The data were examined several different ways. The primary analyses compared all 29 weeks of the phase 1 patrol program (July 7, 1992, through January 25, 1993, when the phase 1 funding for the special patrols expired) to the 29 weeks preceding phase 1, using difference of means tests. Other analyses added all of 1991 and 1993. The 1993 data included 6 months with no overtime patrols and phase 2 overtime patrols for 6 months in the second half of 1993. These analyses thus covered six 6-month periods, two of which had the program and four of which did not. The citizen survey analysis compared the amount and direction of before-after differences in attitudes within beats.

Both shorter and longer periods around the program were also exam-

Traffic Stops and Reasonable Suspicion

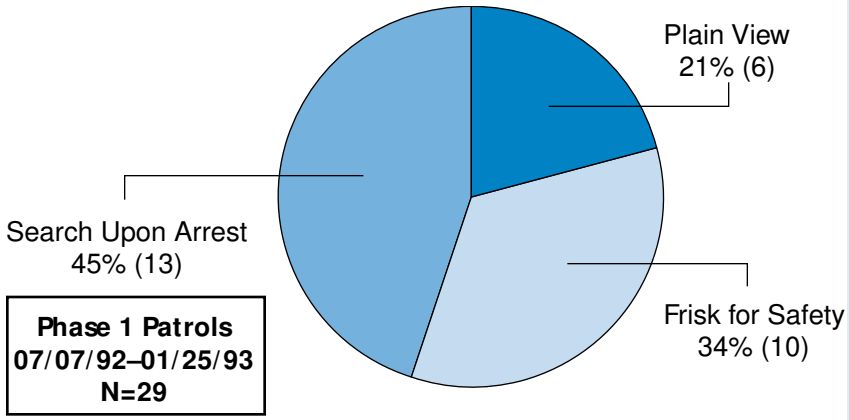
Many lay people—and even some police—underestimate police powers to search for guns. When a police officer can articulate a reason for believing that a gun crime may be about to occur, the U.S. Supreme Court has ruled that the officer may pat down the outside of the suspect's clothing to check for guns (Terry v. Ohio, 392 U.S. 1, 1968). This ruling does not give police the right to stop cars or persons in an arbitrary manner. But it does imply that when police stop people for other legally sound reasons, they may find further evidence that justifies proceeding to frisk a suspect and to search the passenger compartment of the car.[18] When one considers that traffic stops are the leading cause of police murders in the line of duty, the logic of this policy may be clearer, as the following true case study from Indianapolis implies:

An officer stopped a car in a high crime neighborhood for running a stop sign. As the officer approached the driver, he saw the driver reaching into a belt pack. He then directed the driver to get out of the car so he could pat down the belt pack. Feeling hard metal inside, the officer opened the pack and found a small revolver.

The evidentiary standard of reasonable suspicion is necessarily lower than the standard of probable cause, which is the level of evidence required to justify an arrest. In the case study, the driver could not have been arrested for reaching into his belt pack. But the behavior did provide a basis for articulating why the officer thought the driver might have had a gun. Only after the gun was actually found was there sufficient evidence to make an arrest for carrying a concealed weapon without a permit. But the articulable suspicion allowed the officer to detect the hidden evidence in a lawful and constitutional manner.

Other methods used in Kansas City included looking into the car for guns in plain view on the seat or the floor and looking for body language of pedestrians for telltale signs of a gun stuffed inside a suspect's clothing. Consent searches of glove compartments or car trunks are also legal, as long as the consent is truly voluntary.

How Hot Spot Patrols Seized Guns



ined for overall impact. Autoregressive moving averages (ARIMA) models were used to compare gun crime in the 52 weeks before and after the patrols in both the target and comparison beats. Standard chi-square tests were used to compare 1991 versus 1992 differences in gun crimes for all four quarters, as well as both half-years, in both target and comparison beats. No matter how the data were examined, the results were similar.

The program in action

Patrol activity. Officers reported spending 3.27 car-hours of the 12 car-hours per night actually patrolling the target area (27 percent), for a total of 1,218 officer-hours of potential gun detection and visible patrol presence in the area. The officers thus spent 70 percent of their time processing arrests and performing other patrol-related duties, as well as some patrol work outside the target area.

Despite their limited time in the area, the officers generated a lot of activity. Both in and out of target beat 144, the directed patrols issued 1,090 traffic citations, conducted 948 car checks and 532 pedestrian checks, and made 170 State or Federal arrests and 446 city arrests, for an average of 1 police intervention for every 40 minutes per patrol car. There is some evidence that activity levels declined during October through January, just as street activity usually does at the onset of colder weather.[19] The average number of car checks made per day, for example, began at a high of 6.5 in July, and dropped to a low of 3.2 in November, but time in the target area, miles driven, and traffic citations issued did not change substantially during the first 6-month period.

The actual techniques the officers used to find guns varied, from frisks and searches incident to arrest on other charges to safety frisks associated with car stops for traffic violations (see exhibit 3).[20] Every arrest for carrying concealed weapons had to be approved for adequate articulable suspicion with a supervisory detective's signature.

Results of increased patrol

Gun seizures. The federally funded hot spots patrol officers found 29 guns in addition to the 47 guns seized in the target beat by other police units during phase 1 (second half of 1992), increasing total guns found in the beat by 65 percent over the previous 6-month period and almost tripling the number of guns found during car checks. The ratio of guns seized to directed patrol time in the target area was 1 gun per 156 hours, but the ratio to time actually spent in the area (and not processing arrests) was 1 gun per 84 hours and 1 gun per 28 traffic stops. Overall, there was an increase from 46 guns seized in beat 144 in the first half of 1992 to 76 seized in the last half.

Once the guns were seized, most of them were then permanently removed from the streets. Not all of the guns were carried illegally; about one-fifth (14) of the total 76 guns seized in the target area during phase 1, and 4 of the 29 guns seized by the extra hot spots patrols were confiscated by police for "safekeeping," a practice followed by many police agencies when officers have reason to believe gun violence may otherwise occur. While guns taken for this reason are usually returned to their registered owners upon application at the property room, the process can take several days to several weeks to complete. Illegally carried guns, on the other hand, are destroyed by Kansas City police and not returned to circulation.

Gun crime. There were 169 gun crimes in the target area in the 29 weeks prior to the hot spots patrols, but only 86 gun crimes in the 29 weeks during the phase 1 patrols—a 49 percent decrease, with 83 fewer gun crimes (see exhibit 4). This change was statistically significant in both a test of differences of means

Exhibit 4: ***Gun Crimes Before and During Phase 1 by Beat***

Beat	Before 12/17/91–7/6/92	During 7/7/92–1/25/93	% Change
Target (144)	169	86	-49% *
Comparison (242)	184	192	+4%
Adjoining Target			
141	76	57	-25%
142	106	84	-21%
143	39	44	+13%
213	143	158	+10%
214	104	138	+33%
331	143	175	+22%
332	153	160	+5%
All Kansas City	4,359	4,287	-2%

* Statistically significant t value, $P < .05$. Before and during weekly gun crime means were tested for significant differences in all areas displayed. Only the target area showed enough change for it to be unlikely a result of chance or random fluctuation.

(t-test) for that period, and in an ARIMA model covering an even longer before and after period.[21]

The comparison beat 242 showed a slight drop in guns seized, from 85 in the first half to 72 in the second half of 1992. It also showed a slight increase in gun crimes, from 184 in the 29 weeks before the program to 192 gun crimes in the 29 weeks during the program (see exhibit 5). Neither change was statistically significant.[22]

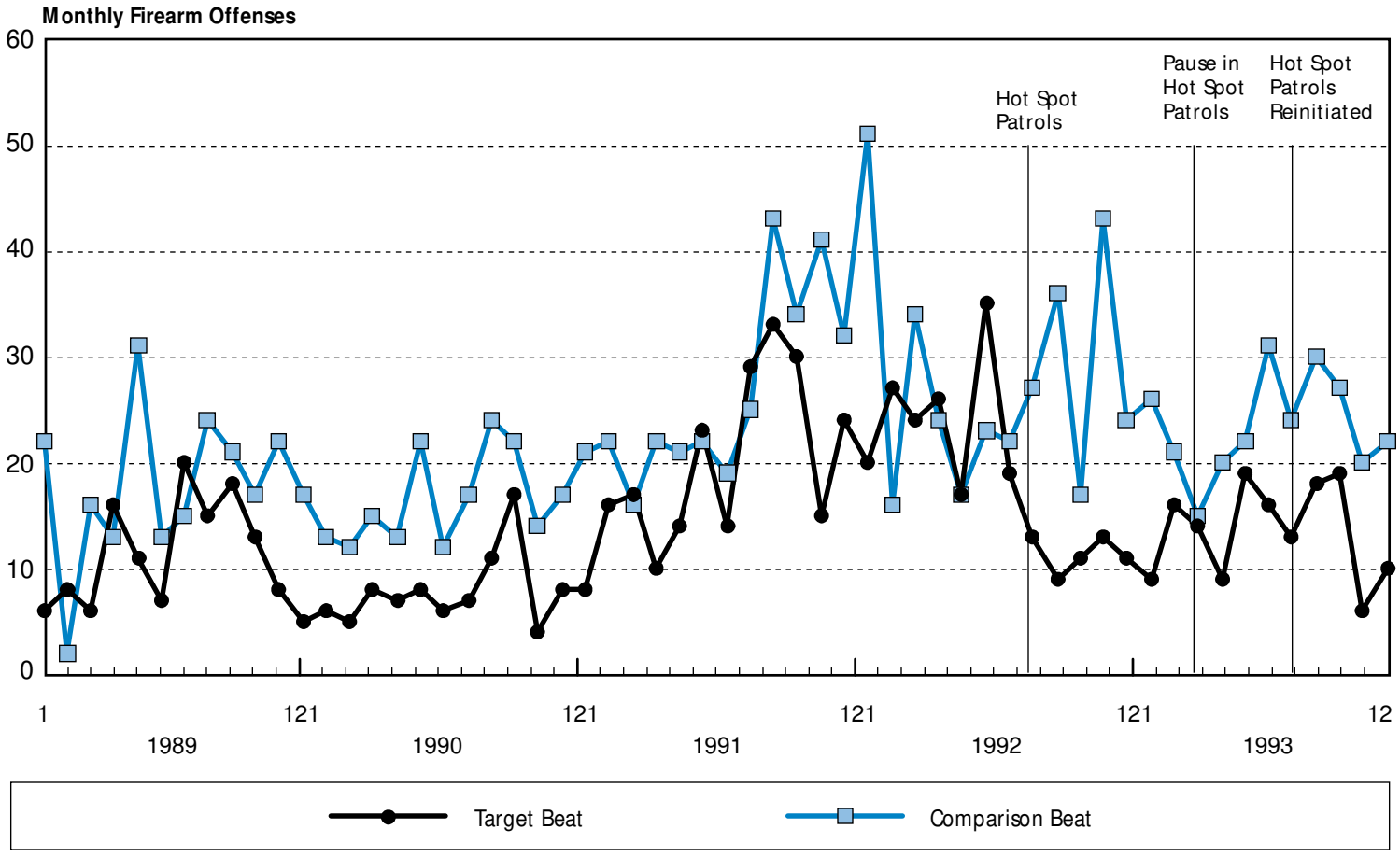
In addition, while gun crime dropped in beat 144, none of the seven contiguous beats showed any significant change in gun crime, as exhibit 5 shows for the 29 weeks before and after tests. Both the increases and decreases in gun crime found across the contiguous beats were small enough to have occurred by chance. The 52 weeks before and after special tests (ARIMA models) showed significant reductions in gun crimes in beats 141 and 143.

Driveby shootings. Driveby shootings in beat 144 dropped significantly during both 6-month periods of hot spots patrols (second halves of 1992 and 1993) compared to the 6-month periods without them. The same analysis showed no differences in the beats surrounding 144 and an increase in the comparison beat 242.[23]

Homicides. Homicides were also significantly lower in beat 144 during the two 6-month program periods than in other 6-month periods, from 1991 through 1993, while there were no significant differences in homicides across those periods in comparison beat 242.

Other crimes. Neither total calls for police service, calls about violence, property or disorder crimes, total offense reports, nor property or violent offenses showed any effect of the increased patrol. There were no changes in these measures in either the target or comparison area. The target area hot spots patrols focused specifically on guns, and their effects were limited to gun crimes.

Exhibit 5: ***Total Offenses With Firearms by Month in Target and Comparison Beats***



Community perceptions. Community surveys before and after the intensive patrols showed that respondents in the target area, beat 144, became less fearful of crime and more satisfied with their neighborhood than respondents in the comparison beat 242. Target area respondents also perceived less physical and social disorder after phase 1. While target beat respondents were only marginally more likely to say that the shooting problem had gotten better and no more likely to say that overall crime problems had improved, they were significantly more likely than comparison area respondents to say that neighborhood drug problems had gotten better.

When the experimental period was over, crimes involving firearms gradually increased again for 5 months in the first half of 1993, consistent with the typical police crackdowns pattern.[24] When the phase 2 patrols began in the second half of 1993, gun crimes dropped again, although not as consistently as in phase 1.

Analysis of the gun crime reduction

Assuming that there are 100,000 handguns in Kansas City,[25] the seizure of 29 handguns may be considered a drop in the bucket, an implausible reason for any significant reduction in gun crime (Exhibit 6 indicates how gun crime was defined and recorded). But there are at least three plausible theories for how the patrols may have caused a reduction in gun crime: high-risk places, high-risk offenders, and deterrence.

High-risk places. One scholar has argued that most guns are not at immediate risk of being used in crime.[26] Guns seized by police in high gun crime areas at high crime times may be far more at risk of imminent use in crimes than the average handgun. Another researcher estimated that for each new cohort of 100 guns, 33 uses of those guns in crime are reported.[27] Those uses could be heavily concentrated among the small fraction of that cohort that are carried in gun crime hot spots.

Still, criminals may easily replace guns seized by police. Connecting the 29 guns seized to the 83 gun crimes prevented may thus require a further assumption that gun crime is more likely to be a spontaneous incident of opportunity than a planned event and is relatively infrequent in the career of any criminal. The contrary assumption—that criminals with guns commit many gun offenses in a 6-month period in the same small area—may be harder to defend. Even if the suspects who lose their guns to police quickly replace them, the opportune circumstances for the crimes prevented by the guns being seized might not recur as quickly.

High-risk offenders. Some gun carriers, of course, may be far more frequent gun users than others. If 10 percent of the 170 State and Federal arrests by directed patrols captured high frequency gun users and if the arrestees spent the next 6 months in jail on serious charges from outstanding warrants, then the program's incapacitation of those 17 offenders alone may have prevented 83 gun crimes—a not implausible average of 5 gun offenses each or less than 1 per month.

Deterrence. Deterrence of gun carrying may be an even more plausible

Exhibit 6: ***Gun Crimes***

"Gun crimes" are defined as any offense report in which the use of a gun by an offender is reported. The data presented in this report include the following offense types reported as gun crimes on one or more occasions in either the target or comparison area during the year before and after the initiation of the hot spot patrols (July 7, 1991, to July 6, 1993):

Offense Type	Beat 144 (Target Area)	Beat 242 (Comparison Area)
Criminal Homicide	10	30
Rape	6	5
Armed Robbery and Attempts	124	222
Aggravated Assault	293	409
Aggravated Assault on Police	3	1
Burglary	0	1
Simple Assault (gun pointed)	1	0
Destruction of Property	18	38
Kidnapping	0	1
Casualty Injury (firearm)	2	4
Suicide and Attempts	1	1
Totals	468	712

cause of reduced gun crime. The 29 extra gun seizures, 1,434 traffic and pedestrian stops, or the total of 3,186 arrests, traffic citations, and other police encounters, could have specifically deterred potential gun criminals who encountered police. Visibility of police encounters in the hot spots may have also created a general deterrent effect among those who were not checked by police. This argument appears plausible enough to conclude that directed patrols can reduce gun crime, regardless of the theoretical rationale.

Conclusion

The most important conclusion from this evaluation is that police can increase the number of guns seized in high gun crime areas at relatively modest cost. Directed patrol around gun crime hot spots is about three times more cost-effective than normal uniformed police activity citywide, on average, in getting guns off the street.[28] The raw numbers of guns seized in each beat may not be impressively large, but the impact of even small increases in guns seized in decreasing the percentage of gun crimes can be substantial. If a city wants to adopt this policy in a high gun crime area, this experiment proves that it can be successfully implemented.

There is still much more to be learned, however, about the entire process of gun detection and seizure by police. Until recently, it has not been a priority of either police administrators or researchers to understand or encourage the factors leading to gun seizures. Little is known about differences across police agencies or police officers in their respective rates of gun detection, and it is not even known how many more guns could be detected if patrol officers generally were given more direction and training in how to locate guns in the course of their routine activities. What is clear from the Kansas City gun experiment is that a focus on gun detection, with freedom from answering calls for service, can make regular beat officers working on overtime very productive.

Officer safety. A related conclusion is that gun detection does not require large tactical operations. Some police agencies require three to five patrol cars to be present at gun patrol car stops in high gun crime areas, primarily for reasons of officer safety. Yet in the Kansas City experiment, with 20 times the national homicide rate, a pair of two-officer cars working independently was able to increase gun seizures by 65 percent. No gun attacks on officers were reported in the course of these patrols, and no one was injured. Rather than assigning three to five cars to one traffic stop, police agencies could disperse those cars over a wider area to obtain even greater numbers of guns seized from the same investment in police patrols. Whether that will increase the risk of officer injury in the long run is impossible to say. But whatever the level of that risk, the Kansas City officers were willing to assume it without hesitation.

Cautions. Now that police know how to increase gun seizures in target areas, the key question is whether that policy will reduce gun crime without total displacement. The Kansas City evidence suggests that the policy can reduce gun crime without local displacement. Only repeated tests of the hypothesis, however, will show whether the policy can predictably produce that result. Previous NIJ research has also reported unreplicated findings,[29] only to have replications show more mixed results.[30] The need for replications is a major caution for interpreting any research results.

Intensified gun patrols also need other cautions. They could conceivably have negative effects on police-community relations or be a waste of time and money. They could also pose great risks to officer safety. They could even provoke more crime by making youths subjected to traffic stops more defiant of conventional society.[31]

All of these hazards are possible but unknown. The tradeoff is the well-known risk of gun violence, which is extremely high in many inner cities and still rising. Firearm crimes in Indianapolis, for example, have risen by 220 percent since 1988. In October 1994, the Indianapolis Police Department implemented a citywide policy implied by the Kansas City results in gun crime hot spots. Whether a citywide program can succeed in doing what Kansas City did in a small area is an important next question for both research and policy.

Notes

1. Rand, Michael, *Guns and Crime*, Washington, D.C.: Bureau of Justice Statistics, 1994.

2. Reiss, Albert J., Jr., and Jeffrey A. Roth, eds., *Understanding and Preventing Violence*, Washington, D.C.: National Academy of Sciences, 1993.

3. Kleck, Gary, *Point Blank: Guns and Violence in America*, New York: Aldine de Gruyter, 1991.

4. Cook, Philip, "The Technology of Personal Violence," In M. Tonry, ed., *Crime and Justice: A Review of Research*, Chicago: University Press, 1991.

5. McDowall, David, "Firearm Availability and Homicide Rates in Detroit, 1951–1986," *Social Forces*, (69)(1991):1085–1101.

6. Wilson, James Q., "Just Take Away Their Guns: Forget Gun Control," *New York Times*, March 20, 1994:46–47.

7. Data on guns seized by beat, however, are only available for the first phase.

8. Shaw, James W., "Community Policing Against Crime: Violence and Firearms," Ph.D. dissertation, Department of Criminal Justice and Criminology, University of Maryland at College Park, 1994.

9. As defined by the KCPD Perpetrator Information Center, which classifies driveby shootings from an ongoing review of incident reports and produces monthly statistics by beat that are employed in all analyses of those events discussed in this report.

10. Sherman, Lawrence W., Patrick R. Gartin, and Michael E. Buerger, "Hot Spots of Predatory Crime: Routine Activities and the Criminology of Place," *Criminology*, (27)(1989):27–55.

11. See Shaw, 240.

12. See Shaw, 239.

13. See Shaw, 260.

14. See Shaw, table 9.

15. See Shaw, figure 14.

16. See Shaw, 107 and 263.

17. See Shaw, chapter 7.

18. See Pennsylvania v. Mimms, 434 U.S. 106 (1977); Michigan v. Long, 436 U.S. 1032 (1983).

19. See Shaw, 243.

20. See Terry v. Ohio in 392 U.S. 1 (1968).

21. There were two reasons for extending the ARIMA model to cover 52 weeks before and 52 weeks after the phase 1 startup date of July 7, 1992. One is that ARIMA models generally require more data points than the 29 actual program weeks for more reliable estimates and the elimination of such factors as seasonality. This is true even though there is no specific minimum requirement. The other reason is that under police crackdown theory (see Sherman, 1990), it was predicted that the effects of the hot spots patrols would linger as a form of residual deterrence even after cessation.

22. No difference was found either in a 29-week before/after t-test or a 52-week before/after ARIMA model.

23. KCPD data on driveby shootings in beats contiguous to the target beat are not displayed but are available from the authors upon request.

24. Sherman, Lawrence, "Police Crackdowns: Initial and Residual Deterrence," In M. Tonry and N. Morris, eds., *Crime and Justice: A Review of Research*, Chicago: University of Chicago Press, 1990.

25. See Kleck, 18. There are estimates of at least 65 million handguns in the United States, with a population of more than 250 million people. A rough application of this same ratio to the Kansas City population of some 400,000 people suggests at least 100,000 handguns in Kansas City.

26. See Wilson, 46–47.

27. See Reiss and Roth, 282.

28. See Shaw, 288.

29. Sherman, Lawrence W., and R.A. Berk, "The Specific Deterrent Effects of Arrest for Domestic Assault," *American Sociological Review*, (49)(1984):261–272.

30. Sherman, Lawrence W., *Policing Domestic Violence: Experiments and Dilemmas*, New York: Free Press, 1992.

31. Sherman, Lawrence W., "Defiance, Deterrence and Irrelevance," *Journal of Research in Crime and Delinquency*, (30)(1993):445–473.

Lawrence W. Sherman is Chief Criminologist of the Indianapolis Police Department and Professor of Criminology at the University of Maryland at College Park. James W. Shaw is Assistant Professor of Criminal Justice at the University of Texas—Pan American in McAllen, Texas. Dennis P. Rogan is the East District Criminologist of the Indianapolis Police Department and an Associate Research Scientist in Criminology at the University of Maryland.

The authors present this report in collaboration with the Kansas City, Missouri, Police Department, with special thanks to Police Chief Steven Bishop, Major Dennis Shreve, Deputy Chief James Nunn, Captain John Hamilton, Sergeants Tim Edwards and David Burns, and Judy Robinette.

This report was supported in part by grant 91–DD–CX–KO56 from the National Institute of Justice to the University of Maryland. Findings and conclusions of the research reported here are those of the authors and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

The National Institute of Justice is a component of the Office of Justice Programs, which also includes the Bureau of Justice Assistance, Bureau of Justice Statistics, Office of Juvenile Justice and Delinquency Prevention, and the Office for Victims of Crime.

NCJ 150855

U.S. Department of Justice
Office of Justice Programs
National Institute of Justice

Washington, D.C. 20531

Official Business
Penalty for Private Use $300

BULK RATE
POSTAGE & FEES PAID
DOJ/NIJ
Permit No. G–91