Reducing Firearms Violence Through Directed Police Patrol: Final Report on the Evaluation of the Indianapolis Police Department's Directed Patrol Project

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EXECUTIVE SUMMARY

In the early 1990s, the Kansas City Police Department conducted a quasi-experiment in which they tested the effect of directed police patrols in a high violent crime neighborhood. The directed patrol strategy utilized officers in patrol cars who were freed from the responsibility of responding to calls for police service. The officers were instructed to proactively patrol the neighborhood with a special emphasis on locating and seizing illegally possessed firearms. The results of the project were striking. The increased traffic enforcement led to a 70 percent increase in seizures of illegal firearms. This, in turn, was associated with a 49 percent decrease in gun-related crime in this area (Sherman, Shaw and Rogan, 1995; Sherman and Rogan, 1995). Building on the findings from Kansas City, the Indianapolis Police Department (IPD) implemented a similar project in July 1997 with the intent of reducing violent crime.

In contrast with Kansas City, IPD's project was implemented in two target areas for a 90-day period as opposed to the six-month, single site intervention in Kansas City. Although the overall level of police activity in terms of officer hours, vehicle stops, and arrests was quite similar in the two projects, the Indianapolis project involved a lower level of dosage given the 90-day period and the two target areas. On the other hand, the Indianapolis project allowed for a test of two somewhat different strategies.

Key Findings

- The Kansas City results were largely replicated in one of the two target areas. Specifically, the north target area experienced a 29 percent reduction in firearms-related crime and forty percent reductions in aggravated assault with a firearm and armed robbery. Homicides were reduced from seven to one comparing the same 90-day period of the prior year with the project period.

- Homicides declined in the east target area (four to zero) but there was no decline for other firearms-related crimes. Indeed, the east area experienced increases very similar to those observed in a comparison area.

- The absolute number of illegal firearms seizures was quite similar in the two target areas (42 in north, 45 in east). For the east target area, however, this represented a greater increase in firearms seizures (50 percent increase) than was the case in the north target area (8 percent increase).

- We argue that the most likely explanation for the different effect on violent crime related to the strategy employed in each district. In the east district, a general deterrence strategy was employed that relied heavily on maximizing the number of vehicle stops. The idea was to create an enhanced police

presence through a large number of vehicle stops. The vehicle stops became a mechanism for uncovering illegal weapons, drugs, and other illegal activities. The north district, in contrast, employed a specific deterrence or targeted offender strategy. This approach sought to maximize stops of particularly suspicious activities and to conduct more thorough investigations upon a vehicle or pedestrian stop. It too sought to identify illegal firearms, drugs, and illegal activities.

- The two strategies were evident in the activity data. The east district officers made twice as many vehicle stops and issued more traffic tickets than did north district officers. The north district officers made more felony arrests per officer hour and uncovered more firearms per officer hour. North target vehicle stops yielded higher rates of citations (versus warnings), arrests, and gun seizures per vehicle stop. It appears that the activity levels in the north target area were more similar to the levels in the Kansas City experiment than were the activity levels in the east district.

- Thus, one potential explanation for the differential effects is that the targeted offender approach was a more effective mechanism for reducing firearms-related violence. It may be that the targeted offender approach sends a message of increased surveillance and removes firearms from those individuals most likely to engage in violent crime. This is in contrast to the wider net approach observed in the east target area. This finding is consistent with prior research that suggests that crackdowns that focus on specific types of crime in specific locations have the most effect on crime (Sherman, 1990).

- This is not to imply that the removal of illegally possessed weapons is unimportant. The total number of firearms seized in both districts was nearly equal. Indeed, it may be that the focus on illegal firearms helps to direct officers toward the appropriate suspicious targets for investigation and that the subsequent removal of illegal firearms provides the type of incapacitation effect that Sherman and colleagues hypothesized.

- A rival explanation is that the east target area may have suffered from a decay effect. Since an initial Kansas City-type directed patrol project in November-December 1995, IPD has employed some type of directed patrol effort in the east target area. Although the east district directed patrol project represented a significant increase in the level of police patrol, it was a strategy that had been operational at a lower level of intensity for approximately 18 months. Consequently, this may be generating what Sherman (1992) has called a "decay effect." That is, a police crackdown can have very positive deterrent effects for a time period but eventually the impact declines as offenders begin to take into account the routine of the police effort.

- There was no evidence of directed patrol having an effect on other types of crime.

- There was some, though weak, evidence of a residual deterrence effect in the north district. Homicide, armed robbery, and aggravated assault with a gun continued to decline in the 90-day post intervention period. The difficulty in drawing conclusions from these results, however, is that these offenses also declined citywide.

- There were no discernable patterns of changes in crime in the areas surrounding the target beats. Thus, there was no pattern of either displacement or a diffusion of benefits.

- The level of change in citizen attitudes from the period before directed patrol to that following directed patrol was quite modest. The findings did reveal that there was a high level of citizen awareness and support for IPD's directed patrol effort. The results were consistent for both target areas and for whites and African-Americans. Two-thirds of the sample expressed favorable opinions and high levels of support for IPD.

- Despite the large number of contacts between police and citizens, and the large number of citations and arrests, IPD officials reported that there were no reported citizen complaints tied to the directed patrol initiative.

- In terms of the assessment of impact on perceptions of crime, there was some modest evidence of positive effect for directed patrol. Specifically, the number of respondents stating that drugs and guns were major problems in their neighborhoods declined by the end of the directed patrol initiative. Further, residents of the target areas were more likely to report positive changes in their neighborhood than were residents of the comparison area. On the other hand, there was little evidence that the project had an effect on fear of crime or significantly affected perceptions of the quality of life in the neighborhood.

Implications and Issues

1) **These results indicate that directed patrol in high violent crime locations can have a significant effect on violent crime.**

This is indicated by the overall effect on homicide, the effect on firearms-related crime in the north target area, and the consistency with earlier findings in the Kansas City project. The east target area results on crime, however, suggests that the positive results are not automatic.

2) **Consequently, we need to learn much more about the effects of directed patrol strategies on crime.**

The Kansas City results suggested that removing illegal weapons from a high crime neighborhood may be a key strategy to reduce firearms-related crime. The contrast between the north and east districts suggests that merely removing illegal firearms may not have been the sole causal agent. Rather, it may be that the focus on removing illegal firearms may generate a targeted offender approach that increases surveillance on high-risk individuals in high-risk neighborhoods.

3) **We need to design studies to help isolate the causal mechanisms of directed patrol initiatives.**

Related to the previous point, the causal mechanisms generating the reduced firearms crime in both Kansas City and the north target area remain unclear. The results could be due to a deterrent effect whereby high risk individuals are either less likely to carry illegal firearms or where they are less likely to engage in the underlying behaviors that lead to homicides, gun assaults, and armed robbery. The results could also be due to a related incapacitation effect due to fewer illegal weapons being on the street. An alternative incapacitation effect could be due to the arrest, prosecution, and incarceration of individuals likely to engage in violent crime. Contrasting the Kansas City, north and east target area results begins to demonstrate the analytic advantages of a multiple site, multiple strategy, test of the effects of directed patrol (see Sherman et al., 1997; Sherman, 1998). Our present state of knowledge, however, does not allow us to answer the theoretical questions of what produced the effects observed in Kansas City and the north target area.

4) **What do the east target area findings mean?**

The east target area findings are intriguing. At first glance it appears that the general deterrence strategy was less effective than the targeted offender strategy. Yet, the same strategy produced crime reductions for burglary and motor vehicle theft during the 30-day Safe Streets Project (Weiss and McGarrell, 1997). Did the east district experience a decay effect by running some form of directed patrol for approximately 18 months? Does the general deterrence strategy have a short-term impact on property crime but not on violent crime? If the east target area did experience a decay effect what is the optimal time period for a directed patrol effort in a targeted area? The answers to these questions will have significant policy implications for police departments considering directed patrol strategies.

5) **We need to learn more about how to implement directed patrol projects in a manner consistent with maintaining positive relationships with the community.**

Consistent findings emerge from Kansas City and the present project in terms of the impact these projects had on citizen perceptions of the police. Both the Kansas City target area and the north target area occurred in predominantly African-American

neighborhoods, involved aggressive patrol strategies, and received support by neighborhood residents. The effort was also supported in the predominantly white neighborhoods in the east target area. Given the history of police-citizen relationships in the African-American community, it is striking to find high levels of support by African-Americans for an aggressive police strategy that can lead to significantly higher levels of vehicle stops by the police.

IPD district chiefs took the time to meet with neighborhood leaders and community groups and to secure their support before implementation. Directed patrol supervisors emphasized the need to treat citizens with respect and explained to citizens why they were being stopped. Our observations suggested that officers did act consistent with these instructions. Beyond these points, however, we need to know more about the training and tactics that can be used to make this type of strategy positively received by the community.

Contents

CHAPTER ONE

INTRODUCTION

In response to high levels of violence in certain Indianapolis neighborhoods, and in response to requests from residents of these neighborhoods for increased police presence, the Indianapolis Police Department (IPD) implemented a directed patrol project in two areas of the city that had experienced high levels of violent and drug-related crime. The effort was modeled on a project that was implemented in Kansas City (Sherman, Shaw and Rogan, 1995; Sherman and Rogan, 1995) in the early 1990s and that was first attempted in Indianapolis in the late fall of 1995.

Directed patrol involves assigning officers to a particular area and freeing them from responding to calls for service so they can engage in proactive investigation and enforcement of suspicious activities (Cordner, 1981). Directed patrol is thought to be most promising as a crime control tool when it is targeted at high crime geographic locations and to hot spots of crime within high crime locales (Sherman et al., 1997). The most common technology in a directed patrol effort is the use of traffic stops. Traffic stops are hypothesized to provide a deterrent effect through visible increased police presence and the increased number of contacts between police and citizens in a particular area. Some suggest that they also may have an incapacitation effect through the detection of illegal activities and subsequent arrest and/or seizure of firearms and drugs.

In Kansas City, discussed in more detail in subsequent sections, increased traffic enforcement in a high violent crime police beat led to increased seizures of illegal

firearms. This, in turn, was associated with a significant decrease in gun-related crime in this area (Sherman, Shaw and Rogan, 1995; Sherman and Rogan, 1995). Building on the findings from Kansas City, IPD implemented a similar project in two high violent crime areas in July 1997 with the intent of reducing violent crime in these areas. This report presents the results of an evaluation of the IPD directed patrol project. The goals of the evaluation were to address the following issues:

- Can the promising results in terms of reducing firearms crime of the Kansas City gun experiment be replicated in Indianapolis?
- Are there differential effects of two related but different directed patrol strategies?
- Does directed patrol have an effect on other types of crime?
- Will the community support this type of aggressive traffic enforcement?
- Does this type of directed patrol effort displace crime to surrounding areas or does it lead to a diffusion of benefits to surrounding areas?

PRIOR RESEARCH

The theoretical and empirical bases for the Kansas City and subsequent Indianapolis directed patrol projects draw on several related bodies of research. These range from a general increase in the numbers of police on patrol, to increased traffic enforcement, to police crackdowns, to targeted enforcement activities aimed at high-risk individuals in high crime locations.

Increased Police Presence

A common sense notion is that increasing the number of police in a particular area (city, district, neighborhood) will lead to reduced crime due to the increased likelihood of detection and arrest (specific deterrence) and the perceived increase in risk of offending due to greater police presence (general deterrence). Sherman et al.'s (1997) recent review of the evidence from natural experiments in the form of sudden decreases in the number of police due to police strikes, found that such reductions are related to increases in crime. He noted, however, that such natural experiments are weak in research design. Further, the finding that no police, as when police strike, results in an increase in crime does not necessarily mean that increasing numbers of officers will lead to crime reductions. This point gains some support from correlational studies that do not find strong relationships between the number of police and the level of crime (see Sherman et al., 1997). The correlational studies suffer, however, from the simultaneity problem whereby the variables of interest affect one another. For example, crime may affect levels of police and levels of police may affect crime. The failure to control for simultaneous effects can result in biased regression models (see Marvell and Moody, 1996).

A recent study employing an analytic technique that better controls for simultaneity finds support for the hypothesis that increased numbers of police reduce crime (Marvel and Moody, 1996). They analyzed the relationship between police force size and crime over a twenty-year period in 56 large cities and the states. These authors found that increases

in the number of police were associated with crime reductions in the subsequent year. Indeed, they estimated that an additional officer hired in a city results in an average reduction of 24 Part I offenses annually.

Aggressive Traffic Enforcement

In his classic study of varying police styles across different departments, James Q. Wilson (1968) distinguished between professional/legalistic, order-maintenance, and service styles. In a subsequent study, Wilson and Boland (1978) hypothesized that more aggressive policing in legalistic police departments would result in less crime. They argued that policing styles would influence traffic enforcement and that legalistic departments would make more traffic stops and issue more citations than would be the case in other departments. This more aggressive style of traffic enforcement would in turn increase the risks for potential offenders and consequently be associated with lower levels of crime. Wilson and Boland provided support for the hypothesis by examining the number of traffic citations issued per officer in 35 large U.S. cities. They found that more aggressive traffic enforcement was negatively related to rates of robbery.

Sampson and Cohen (1988) extended this research by examining rates of robbery in 171 U.S. cities. Sampson and Cohen measured aggressive traffic enforcement by recording the number of disorderly conduct and driving under the influence arrests on a per officer basis. They found that cities with more aggressive traffic enforcement had lower rates of

robbery. The effects appeared to be both indirect, through higher certainty of arrest for robbery, and direct, through a general deterrent effect on potential robbers.

The Wilson and Boland and Sampson and Cohen studies were not supported in research reported by Jacob and Rich (1981). They examined the relationship between traffic citation rates and robbery in eight cities for the period 1948 to 1978. In only two of the eight cities was the pattern between higher rates of traffic enforcement and lower rates of robbery observed.

More recently, Weiss and Freels (1996) conducted a field experiment in Dayton, Ohio, designed to assess whether an increase in traffic enforcement would lead to reduced levels of crime. Having identified several potential target areas, experimental and control sites were randomly chosen. A six-month project was then initiated in which officers were instructed to aggressively enforce traffic laws in the experimental zone. The increased traffic enforcement was not related to either increased arrests or a reduction in crime. The authors caution, however, that the lack of effect may have been due to dosage levels. Although the officers working the experimental area did triple the number of vehicle stops compared to those working the control area, the absolute level of traffic enforcement was not very high, averaging 34 vehicle stops per week.

Police Crackdowns

Directed patrol projects can be thought of as one approach of a broader group of strategies known as police crackdowns. Crackdowns have been defined as "increases in either the certainty or severity of official police reaction to a specific type of crime or all crime in a specific area.... Police crackdowns constitute a sudden, usually proactive change in activity (Sherman, 1990:2)." Crackdowns have been used to address both general crime problems in a particular location and specific crime problems including drug sales, prostitution, robbery, and drunk driving (see Sherman, 1992).

One of the early studies focused on a New York City precinct with very high levels of robbery. The precinct received a 40 percent increase in police presence and witnessed reductions in crimes occurring outdoors (Press, 1971). Similar results were reported by Chaiken, Lawless, and Stevenson (1974) following increased levels of directed patrol to the New York City subway system in response to high levels of robbery. Consistent with these findings were the results of a study of saturation patrol in Nashville, Tennessee that targeted four high crime zones. In this study, the level of increased enforcement associated with the crime reduction was quite significant. Four additional patrol cars were assigned to a zone normally patrolled by one (Schnelle et al., 1977). The crime reduction was restricted to the nighttime patrols. The fact that the patrol cars were marked and that the patrols occurred at night contrasted this study with an earlier daytime burglary patrol studied by Schnelle and colleagues (1975). In this earlier Nashville study involving unmarked cars on daytime patrol there was no significant reduction in burglary.

One of the first studies of a directed patrol strategy was Cordner's (1981) evaluation in Pontiac, Michigan. Using crime data to identify target areas and target crimes, a special unit of officers were freed from responding to calls for service and directed toward patrol and investigation of target areas. The strongest finding was that the number of directed patrol arrests was associated with a decline in crime in the target area. Indeed, "every four directed patrol arrests were associated with three less target crimes in target areas" (1981: 49). The author concluded that it appeared to be the aggressive level of patrol, in terms of arrests, vehicle stops, and field interrogations, rather than the increased level of patrol that led to the crime reductions.

More recent evidence comes from several analyses of experimentation with directed patrol at crime hot spots in Minneapolis. Using an experimental design, Minneapolis police provided extra patrol at 55 randomly selected high crime street corners whereas normal levels of patrol were provided at 55 control locations. Sherman and Weisburd (1995) found that the experimental hot spots experienced modest reductions in crime and larger reductions in disorder when compared to the control sites. Koper (1995) analyzed data from the same project and found a positive relationship between the amount of time the police were present at a hot spot and the amount of time the location remained crime-free.

Targeting Firearms Violence by Considering High Risk Locations and People

The logic of directed patrol efforts is that if a general increase in the number of police has a negative impact on crime, as suggested in Marvell and Moody (1996), then increasing the level of police in high crime areas should produce even stronger crime control results. This is particularly the case if the officers are freed from responding to calls for service and can thereby increase their contacts in the area. The San Diego field interrogation study first suggested that such proactive approaches could produce crime reduction results (Boydstun, 1975). Whitaker et al. (1985) found similar results examining policing in 60 neighborhoods in three metropolitan areas. Additionally, two recent studies report on strategies that draw on these principles and specifically focus on reducing firearms violence.

In San Diego, a study was conducted to assess the effect of field interrogations, stopping and questioning suspicious individuals, on suppressible crime (Boydstun, 1975).[1] Three study conditions were implemented. In one area, traditional field interrogation was continued. In a second, officers received special training on field interrogations with the goal of minimizing police-citizen conflict. In the third area, field interrogations were discontinued. The most interesting findings emerged from the area where field interrogations were suspended. This area witnessed a significant increase in crime. Once field interrogations were resumed, there was a significant reduction in crime.

[1] Suppressible crimes were defined as: robbery, burglary, grand theft, petty theft, auto theft, assault/battery, sex crimes and malicious mischief/disturbances (Boydstun, 1975:4)

Whitaker et al.'s analysis (1985) contrasted the effects of four types of aggressive patrol on both violent and property crime. The four strategies included suspicion stops; officer initiated investigations such as warrantless searches and questioning of potential witnesses, residential security checks, and order maintenance interventions with drunks, juveniles, and loiterers. The strongest effects, consistent with Boydstun (1975), were for suspicion stops.

Taking a related but somewhat different approach is the Kansas City Gun Experiment that forms the basis for the Indianapolis project (Sherman, Shaw, and Rogan, 1995; Sherman and Rogan, 1995). In the Kansas City experiment, directed police patrols worked a police beat with the highest levels of firearms violence in the city. For a six-month period, over 4,500 police hours were invested in the area. The most frequent form of investigation was through traffic stops and officers were trained to search for illegally possessed firearms. The target beat witnessed a 65 percent increase in firearms seizures and nearly a 50 percent decrease in gun crime. In contrast, a control beat experienced a slight decline in gun seizures and a small increase in gun crime.

Although focused on drug-related crime and utilizing a multi-dimensional problem solving approach, Green's (1996) research supports the thesis that focused enforcement in crime hot spots can have a positive effect on crime. Green found that combining traditional enforcement tactics with other problem solving techniques (e.g., fire and housing code violations, no trespassing orders, problem tenant eviction, etc.) resulted in declines in reported drug crime activity.

The final study does not involve a directed patrol strategy but it does involve targeting high violence neighborhoods and individuals most at risk for becoming involved in firearms violence as either victims or perpetrators (Kennedy, 1998; Kennedy, Piehl, and Braga, 1996).[2] The Boston gun project analyzed the youth homicide problem and found that homicides were largely concentrated in a small group of neighborhoods and involved youths with extensive criminal involvement, gang affiliations, and who frequently carried guns. A multi-agency team of law enforcement officials, street gang workers, and clergy, then engaged in a series of direct meetings with youths residing in these high violence neighborhoods. Youths were told that the violence was no longer going to be tolerated and that continued shootings would be met with an unprecedented law enforcement response. A major enforcement effort targeted at one particular gang known for its involvement in violence provided credibility to the threat. The results of this effort have been a dramatic decline in youth violence. Indeed, the city experienced a two and one-half year period with no juvenile homicides and a 67 percent reduction in youth homicide victimizations from 1990-95 averages (Kennedy, 1997).

Theoretical Implications

The theoretical arguments that provide the foundation for directed patrol strategies are based on notions of general deterrence, specific deterrence, and incapacitation.

[2] Finding high levels of gun possession and carrying among juvenile arrestees in St. Louis, the police department instituted a consent to search policy whereby a special police unit would seek parental consent to search for a firearm where there was a evidence a youth was in possession of a weapon. The department found high levels of parental support for the searches. Although the results of the evaluation are not available, the strategy is consistent with a targeted deterrence approach (Rosenfeld and Decker, 1996).

Increasing the numbers of police (e.g., Marvell and Moody, 1996) and increasing the number of contacts through directed patrol and increased traffic stops and citations (e.g., Wilson and Boland, 1978; Sampson and Cohen, 1988) and crackdowns (e.g., Press, 1971; Schnelle et al., 1977), is thought to have a general deterrent effect through the increased likelihood of detection and punishment of criminal activity. To the extent that directed patrol and crackdowns are focused on high crime areas, the strategy gains efficiency by increasing the certainty of detection and punishment in the areas with the highest concentrations of the undesirable behavior.

The focus on high crime areas, particularly when coupled with attention to high-risk individuals, moves the strategy from the level of general deterrence to that of specific deterrence. That is, to the extent that the Kansas City gun experiment (Sherman, Shaw and Rogan, 1995; Sherman and Rogan, 1995) focused police attention and increased the number of contacts with individuals likely to be carrying illegal firearms, the deterrent effect moved from changing the perception of likelihood of arrest of the general population to changing the perception of those individuals most likely to resort to firearms violence. Similarly, the San Diego field interrogation (Boydstun, 1975) intended to send a deterrence message to high-risk individuals in high-risk locations. The specific deterrence message is most apparent in the Boston ceasefire meetings in which the threat of punishment is directly communicated to individuals believed to be most at risk for involvement in firearms violence (Kennedy, 1998).

Incapacitation effects are typically thought of as the removal of individual offenders from the community through incarceration. This may indeed be the outcome of directed patrol and crackdown projects, yet it has been unmeasured in the available studies. A second type of incapacitation effect, however, may also be operating. If either through the threat of punishment (e.g., Boston ceasefire) or through the actual removal of illegal firearms from the community (e.g., Kansas City), there are simply fewer high risk firearms in the hands of high risk individuals at high risk locations, then the opportunities for firearms violence may have been reduced.

Summary

The studies reviewed above suggest that directed police attention to high crime areas or to specific crime types can lead to crime reductions. There are enough studies of contrary findings (e.g., Jacob and Rich, 1981; Weiss and Freels, 1996), however, to suggest that crime reductions are not the automatic outcome of increased enforcement activity. Additionally, there are many related questions that remain unanswered. For example, are the crime reductions due simply to the increased police presence made visible through increased traffic enforcement or do greater crime control benefits accrue to more focused interventions with high risk individuals at high risk locations? Are the Kansas City results the product of removing illegal firearms from the streets or from the increased attention given to high-risk individuals when the police are directed to look for illegal weapons? If three times the level of traffic citations did not produce crime reduction effects in Dayton, what level of dosage is needed to produce effects?

Beyond these crime control issues, as a form of police crackdown, directed patrol raises the possibility of increasing friction between the police and the citizens who become ensnared in the increased enforcement net. Nearly three decades ago Bordua and Tifft (1971) found that aggressive patrol investigation, particularly involving person or vehicle searches, left citizens angry with the police. This was particularly true for minority individuals. They also found, however, that the manner in which the police conducted the stop influenced the attitude of the civilians involved (see also Boydstun, 1975; Reiss, 1985; Paternoster et al., 1997).

Shaw (1995) conducted a survey of citizens in the target and control beats in the Kansas City Gun Experiment. He found high levels of support for proactive police patrol both before and after the implementation of the directed patrol effort. Further, he found that citizens in the target neighborhood perceived declines in social disorder, drug problems and shootings, and reduced fear of crime.

The Indianapolis directed patrol project offered an opportunity to address many of these issues. Most importantly, we ask whether the positive results on firearms violence observed in Kansas City can be replicated in another setting? Does the nature of the directed patrol strategy make a difference on firearms violence? Can this type of aggressive policing strategy be implemented without harming police-citizen relations? Does the racial makeup of the targeted community make a difference in community support? It is to these and related questions that we turn.

CHAPTER TWO

BACKGROUND AND METHODOLOGY

In order to place the present directed patrol project into context, we will compare the project to the Kansas City gun experiment and to IPD's Safe Street initiative that occurred in the fall of 1995. As Exhibit 2-1 indicates, the Kansas City Experiment was a 29-week project begun in the summer of 1992. The project targeted one relatively small police beat comprised of a population of 4,528 residents and 0.64 square miles (Shaw, 1994). The emphasis in the Kansas City Project was to identify and seize illegally possessed firearms pursuant to arrests, traffic stops, and investigations of suspicious persons.

(Exhibit 2-1 about here)

The Safe Streets Project was a 30-day project in November and December 1995. The project occurred in two contiguous beats in each of IPD's four districts.[3] The emphasis of the project was to increase police presence in high crime neighborhoods, principally through traffic stops. Seizures of illegal weapons were considered one of several objectives along with increased police presence and drug seizures.

[3] Subsequently, IPD established a fifth police district, the downtown district.

The directed patrol experiment was a ninety-day project initiated on July 15, 1997 in beats A51 and A52 (north district) and B61 and B62 (east district). The beats were chosen through the Indianapolis Management Accountability Program (IMAP). The IMAP program, an adaptation of New York Police Department's COMPSTAT program, consists of periodic and systematic review of crime patterns throughout the city. The IMAP review indicated that these four beats were consistently among the highest in the city for violent crime, drug distribution, and property crime.

Beats A51 and A52, referred to as the north target beats, cover a territory of just less than 3 square miles with over 16,000 residents (see Table 2-1). The neighborhoods within these beats are predominately African-American and low income. Beats B61 and B62, referred to as the east target beats, cover a territory of 1.7 square miles with over 14,000 residents. The neighborhoods are comprised principally of white residents with 14 percent African-American and a small but growing Latino population. This area is also comprised of primarily low-income households (see Table 2-1).

[Table 2-1 about here]

Compared to the target beat in the Kansas City project, the target beats in the directed patrol experiment are quite a bit more populous. As will be discussed in subsequent sections, the Kansas City target beat received nearly as much police patrol as did all four Indianapolis target beats, though it was spread over six rather than three months.

In the analysis that follows, we also make comparisons to a two-beat comparison area. This comparison area consists of east district beats (B41 and B42). Selecting comparison beats in a study like this is very problematic. Simply put, no two areas are alike and they are likely to be influenced by a myriad of demographic, economic, neighborhood, and police processes. Further, in an ideal situation we would select the beats most like our beats in terms of crime patterns. This was impossible, however, because the beats most like our target beats tend to be those that are contiguous to the target beats. We did not want to utilize contiguous beats as comparisons, however, because we intend to examine crime effects in these surrounding beats.

Consequently, beats B41 and B42 appeared to be the most similar available choices. As indicated in Table 2-1, these beats are more populous than the target beats and cover a significantly larger land area. These two beats house primarily African-American residents thus being more comparable to the north target beats.

Table 2-2 presents data on the level of crime (1996) in the City of Indianapolis, the north and east target beats, and the comparison beats.[4] The table indicates that the north target area had a homicide rate three times that of the city. Its robbery and aggravated assault rates were almost twice that of the city. On property crime, however, the north target beats' property crime rate was actually slightly lower than the city's rate. The east target area's homicide rate fell between that of the north area and the city's rate. The east target

[4] The City of Indianapolis is part of a consolidated city-county governmental structure. The police department's jurisdiction consists of the center city with a 1990 population of 377,723. The crime data and the population base refer to the police department's jurisdiction. The figures differ from those reported in the Uniform Crime Reporting program that includes the consolidated city-county jurisdiction (approximately 760,000 population).

area had a particularly high rate of robbery and the rate of aggravated assault was nearly twice that of the city. The rate of property crimes was higher in the east target area than either the city or the north target areas. The north and east target beats are quite dense areas thus reducing their population-based rate of crime. Both north and east areas, however, have very high rates of violent crime for the area size of the beats (see Table 2-2). This was why the areas were chosen for the projects based on violent crime maps. Finally, as indicated in Table 2-2, although the comparison beats had a higher violent crime rate than the city, it was considerably lower than the target beats.

[Table 2-2 about here]

In addition to comparisons with the two comparison beats, when we examine impact on crime we will also compare the target beats' crime trend to the trend for the city as a whole (minus crime in the target beats). This element of the analysis works on the assumption that the city crime trend provides the best estimate of what was likely to occur in the target beats absent the directed patrol project. We believe that this is a reasonable assumption given that the four target beats have historically been among the highest crime beats in the city.

The East and North District Strategies

Once the target beats were selected, planning for actual implementation was left to the command staff of each district (east and north). During the Safe Streets Project, each district had developed slightly different approaches to their directed patrol initiatives. The east district sought to increase the number of traffic stops to maximum levels. The north district sought to use traffic stops in a more targeted fashion to increase investigations of suspicious persons and to focus on seizures of illegal weapons and drugs. Consequently, each district implemented a slightly different directed patrol strategy.

The east target strategy followed what the research team described as the general deterrence strategy. This involves maximizing police vehicle stops and thereby creating a sense of significantly increased police presence. The theory is that offenders will be deterred by this increased police presence. Additionally, the police anticipate that the large number of vehicles will yield seizures of illegal weapons and drugs.

The north district followed a targeted offender approach. This involves a more selective approach to vehicle and pedestrian stops with a more thorough investigation upon the stop. The idea is to target resources toward individuals suspected to be involved in illegal behavior. It also seeks to maximize seizures of illegal weapons and drugs through the more thorough investigation.

METHODOLOGY

Multiple data collection and analysis methods were employed in this study. These included activity data recorded by the officers working directed patrol, UCR offense data, police incident reports, and ride-along observations of directed patrol officers. Additionally, surveys of citizens living in the target and comparison beats, of citizens stopped by a directed patrol officer, and of officers working directed patrol were conducted. The basic analytical strategy involved a pre-post, quasi-experimental design. For most of the analysis, we compared changes in our dependent variables for the 90-day directed patrol period with the same 90-day period of the previous year. This comparison controls for seasonal effects that would be observed if we were to use the preceding 90-day period. In addition to employing a two-beat comparison area, for the crime analyses we also compared changes in the target beats to changes in citywide crime once the target beats were subtracted from city totals. For the survey of citizens, the comparison was of citizen opinions just prior to implementation of the directed patrol project and just after termination of the effort.

Activity Data

The research team designed a log sheet for officers working directed patrol that allowed for a daily tally of activities such as vehicle stops, citizen contacts, arrests, tickets issued, and firearms and drugs seized. The officers turned in the activity sheets to their sergeants who attached computerized incident reports to the sheets. The log sheets and the incident reports were collected by a captain who maintained a record of all directed patrol

activities. These sources of data were then turned over to the research team. Comparison of the research team files with those of the IPD captains allowed for verification of activity data.

Crime Data

IPD's data processing unit provided citywide beat level data for the following UCR offenses: homicide, robbery, aggravated assault, burglary, and motor vehicle theft. Also provided were data for the subcategories of aggravated assault with a gun and armed robbery.

Formal UCR categories do not provide a mechanism to clearly count all firearms crime. Some categories, for example armed robbery, include firearms but also include robberies committed with other types of weapons. Other categories, for example criminal mischief, may include a firearm but most such offenses do not include a firearm. IPD, like many police departments, includes a check-off box on its incident reports for an officer to indicate that a firearm was involved. IPD officials, however, warned us that the check-off was not a reliable indicator because many officers fail to check the box in all relevant incidents.[5] Consequently, the research team read every incident report from the four target beats and the two comparison beats for the 90-day period of 1996 (pre-intervention period) and 1997 (intervention period). A total of 19,335 incident reports were read.[6] All those reports involving a firearm were then coded. Many, though not all (e.g., weapon

[5] Indeed, of the 1997 incidents involving a firearm, 35 percent of the reports did not indicate a firearm was involved according to the check-off box.

found), of these incidents involved a firearms crime. The firearms crimes uncovered by reading incident reports became an additional outcome measure.

The incident reports also provided a measure of the total number of firearms seized in the target and comparison areas. Although the activity sheets included illegal weapons seized and legal weapons discovered, the incident reports were needed to count the total number of seizures (including those seized by non-directed patrol officers) in these areas during the project period.

Observations

To further document the way in which the treatment was delivered, researchers rode with participating officers. This allowed direct observation of the nature of the police-citizen contacts and the opportunity to examine whether the contacts differed according to treatment area.

In order to gather observation data researchers conducted 100 hours of observation. In order to arrange the observation researchers first contacted supervisors to secure their authorization. When researchers appeared at police district stations for their observation rides, they were assigned an officer. In every case the observed officers were volunteers. It is important to note that while the group of officers that was observed was representative, it was not a random sample.

[6] There were 9,937 in 1996 and 9,998 in 1997.

Observers utilized a codebook to gather data about each contact. In this case "contact" refers to encounters between officers and citizens, either in vehicles or on foot. Our data contains records of 104 such events.

Surveys

Residents of Target and Comparison Areas

The main purpose of the survey was to measure citizens' perceptions of crime in their neighborhoods, as well as to evaluate their opinions of the Indianapolis Police Department. About 3 weeks before the experiment began, the Center of Survey Research of Indiana University surveyed citizens by telephone in the experimental and the comparison areas. We refer to these pre-intervention results as Phase One throughout the report. Citizens were called back immediately at the end of the experiment. We call these results the Phase Two findings.

The survey instrument included several questions about the police, crime, quality of life, media use, and evaluation of aggressive police practices. In addition, we collected standard demographic data (see Appendix B for questionnaire). After the survey was developed, it was pre-tested and a few modifications were made. The revised survey was administered beginning on June 27 and the calls ended on July 13, 1997. The directed patrol program was initiated on July 15.

The addresses and telephone numbers of the citizens were purchased from the Genesys Sampling System, and data were collected using the University of California Computer

Assisted Survey Methods software (CASES). Interviews were conducted from 9 A.M. to 10 P.M on Monday-Friday, 9 A.M. to 1 P.M on Saturday, and 1 to 9:30 P.M on Sunday. Most households were sent pre-survey letters addressed to the household member listed in the white pages of the telephone book. Prior to the experiment, we completed 138 interviews in the North Target Area, 151 interviews in the East Target Area, and 131 interviews in the Comparison Area.

The initial sampling frame consisted of 450 households in each target area and the comparison area. Of these, a total of 772 eligible households were contacted (eliminating businesses, phone numbers outside of the target areas, non-working phone numbers, non-English speaking languages, and persistently unavailable households). A total of 420 interviews were completed. There were 302 refusals for a response rate of 58.2 percent. The response rates were higher in the two target areas (north = 59.7%; east = 66.5%) than in the comparison area (49.6%).

When possible, we reinterviewed the same person in Phase Two (post-experiment). However, if the Phase One respondent refused to talk to us a second time or was otherwise unavailable after numerous attempts, we interviewed another adult household member. The inclusion of another household member occurred only twelve times. There was some panel attrition from Phase One to Phase Two, the majority of citizens either refused to participate or had non-working numbers. We were able to reinterview about 70 percent of the original sample from the North Target Area, about 66 percent from the East Target Area, and 67 percent from the Comparison Area.

Citizens Stopped

There were several dispositions that would occur to a citizen stopped by the directed patrol officers. They might be arrested, given a ticket, given a warning ticket, or released with a verbal warning. During the experiment, 1,208 tickets and warning tickets were written in the North Target Area and 3,267 tickets and warning tickets were written in the East Target Area. About a month after the directed patrol program began, we collected a sample of names and addresses from the pool of citizens given tickets or warning tickets. We mailed surveys to 515 of these citizens (215 from the North Target Area and 300 from the East Target Area). One hundred of the surveys came back as address unknown. Of the 415 surveys that reached the citizens stopped, only 49 surveys were returned. This is a response rate of 12 percent. Because of the low response rate, the usefulness of these data is extremely limited.

Officer Surveys

During the course of the project 149 officers participated in the directed patrol project. Participating officers were asked to complete a survey about their perceptions of the directed patrol initiative. Of these officers, 72 completed the survey for a response rate of 48 percent.

Exhibit 2-1
Description of Projects

Kansas City Gun Experiment*

- 29 week project beginning 7/7/92
- One police beat
- Special emphasis on seizing illegal firearms

Indianapolis Safe Streets Project

- 30 day project in Nov. – Dec. 1995
- Two contiguous beats in four districts (8 total beats)
- Emphasis on increasing police presence through traffic stops; illegal gun seizures one of several objectives

Indianapolis Directed Patrol Project

- 90 day project beginning 7/15/97
- Two contiguous beats in two districts (4 total beats)
- East district emphasis on traffic stops; illegal gun seizures one of several objectives
- North district emphasis on more thorough investigation of vehicles and pedestrians; illegal gun seizures one of several objectives

* Sherman, L.W., J.W. Shaw, and D.P. Rogan (1995). "The Kansas City Gun Experiment," *National Institute of Justice Research in Brief.* Washington, DC: U.S. Department of Justice.

Table 2-1

Characteristics of Target and Comparison Beats

	North	East	Comparison
Population	16612	14645	19305
Land - Sq. Miles	2.79	1.69	4.74
% < 25 years of age	39.2	41.8	41.6
% African-American	87.7	13.9	86.5
% Households Income < 10,000	38.0	29.8	24.8

Table 2-2

UCR Index Offenses, 1996

	Citywide		North		East		Comparison	
	#	Rate per 1000 residents	#	Rate per 1000 residents	#	Rate per 1000 residents	#	Rate per 1000 residents
Murder	114	0.3	15	0.9	7	0.5	9	0.5
Robbery	2600	6.8	194	11.7	229	15.6	122	6.3
Aggravated assault	4280	11.3	330	19.9	301	20.6	281	14.5
Rape	424	1.1	23	1.4	25	1.7	23	1.2
Total violent	7418	19.6	562	33.8	562	38.4	435	22.5
Burglary	7797	20.6	303	18.2	564	38.5	337	17.5
Larceny	16842	44.6	633	38.1	796	54.4	469	24.3
Motor vehicle theft	5860	15.5	295	17.8	269	18.4	350	18.1
Total property	30499	80.7	1231	74.1	1629	111.2	1156	59.9
Total index	37917	100.4	1793	107.9	2191	149.6	1591	82.4

	Citywide	North	East	Comparison
	Rate per square mile	Rate per square mile	Rate per square mile	Rate per square mile
Murder	1.2	5.4	4.1	1.9
Robbery	27.6	69.5	135.5	25.7
Aggravated assault	45.4	118.3	178.1	59.3
Rape	4.5	8.2	14.8	4.8
Total violent	78.6	201.4	332.5	91.8
Burglary	82.6	108.6	333.7	71.1
Larceny	178.5	226.9	471.0	98.9
Motor vehicle theft	62.1	105.7	159.2	73.8
Total property	323.2	441.2	963.9	243.9
Total index	401.9	642.6	1296.4	335.6

CHAPTER THREE

PROCESS FINDINGS AND EFFECTS ON CRIME

There are two key components of the evaluation. The first, the process analysis, is an assessment of the level of activity under the program. This consists of a review of the level of activity and outputs by the officers working directed patrol. The second level of the analysis consists of an outcome analysis. Here we focus on the impact on crime and on citizen's perception of crime, fear, and of the police.

Process Findings

Outputs

Table 3-1 presents some of the basic findings on activities. As the Table indicates, officers working directed patrol spent just under 4,900 hours assigned to the project. This compared to 4,512 hours in the Kansas City project and just under 4,000 hours in the Safe Streets project. Officers issued 1,638 traffic citations and 2,837 warning tickets. This appears to be considerably higher than in Kansas City where 1,090 traffic citations were issued (the Kansas City report does not discuss warning tickets). Discussions with officers suggest that warning tickets are often used for minor infractions. Officers explained that they believe that issuing expensive tickets to low income residents mitigates their efforts to build positive community relations. Citations were issued for more serious infractions and for repeat violations.

(Table 3-1 about here)

The total number of vehicle stops also appears to be considerably higher in the directed patrol experiment than in the Kansas City experiment. Although the Kansas City report does not provide a clear number of stops, extrapolation of their data suggests the number is significantly lower than in Indianapolis.[7] Thus, it appears that the Kansas City project led to fewer traffic stops, though perhaps more intensive investigations of the stops.

The directed patrol experiment resulted in 84 felony arrests, 654 misdemeanor arrests, and 254 warrant arrests, for a total of 992 arrests (see Table 3-2). The total arrest figures compare to 616 arrests in Kansas City and 760 in Safe Streets. On a per hour basis the figures for directed patrol and safe streets were quite comparable (20.4 and 19.1 per hour, respectively) and quite a bit higher than in the Kansas City experiment (13.6 per hour).

(Table 3-2 about here)

As Table 3-3 indicates the number of illegal gun seizures was quite similar in all three projects. There were 25 in directed patrol (0.5 per 100 patrol hours), 29 in Kansas City (0.6 per 100 patrol hours), and 21 in Safe Streets (0.5 per 100 patrol hours). The Kansas City report indicates that four of the 29 weapons seized were legally possessed but retained by the police for safe keeping. It is unclear if this is the total number of legal

[7] The Kansas City report indicates there were 948 car checks, though presumably this is a subset of car stops. The report also indicates that one gun was found for every 28 traffic stops. Given that 29 guns were found, this would imply 812 vehicle stops.

weapons discovered. Interestingly, in the directed patrol experiment an additional 81 legally possessed weapons were discovered. Thus, officers uncovered more than three legally possessed weapons for every one illegally possessed weapon in these high crime neighborhoods. Unfortunately, comparable figures are not available for the Safe Streets project.

(Table 3-3 about here)

The directed patrol officers made 61 drug seizures. This was down from the Safe Streets figure of 106.

Dosage Levels

The presentation of activity and output data from the Kansas City gun experiment and the directed patrol study are helpful in providing a picture of the overall projects and assessing the level of police resources devoted to the projects. They obscure some important differences, however, given the variation in target areas and in the length of the projects. To address these concerns, we convert the data into standardized measures. Thus, we consider the number of arrests and gun seizures per area and time and per residents and time. In effect, this generates "dosage level" measures that indicate the level of activities and outputs normed by the geographic area of the target, by the number

of residents of the target area, and by the length of duration of the experiment.[8] The results are displayed in Table 3-4.

(Table 3-4 about here)

Table 3-4 demonstrates that dosage levels were significantly higher in Kansas City than they were in either Indianapolis target area. This is the product of the 29-week duration and of the smaller area and population of the target area in Kansas City. The east target area generated about one-half of the Kansas City levels in terms of officer hours whereas the north target area received considerably fewer officer hours. As was suggested in the earlier tables, the east area's dosage level for vehicle stops was considerably higher than was the case in the north area. The east target's arrest dosage level was higher than in the north target area and both were lower than that observed in Kansas City. Arrest dosage tended to be somewhat closer to the levels in Kansas City than were the other indicators.

Table 3-4 also indicates that gun seizures, though relatively similar in all three areas in absolute terms, were considerably higher in Kansas City when expressed in dosage terms. The largest increases in gun seizure dosages occurred in Kansas City followed by the east target area. The north target area experienced a very modest increase in gun seizure dosage and both control areas (Kansas City and Indianapolis) experienced declines.

[8] Person-weeks is calculated by population X weeks; square mile-weeks is calculated by square miles X weeks.

Comparison of the Two Target Areas

Table 3-5 provides a comparison of activities in the two target areas. The east target beats received nearly one thousand more officer hours. East target officers wrote considerably more tickets and stopped 132 vehicles per 100 hours of patrol compared to 72 per 100 hours of patrol in the north district. East target officers made more arrests though north target officers made slightly more per hour. East target officers made more drug seizures. North target officers discovered more weapons and at a higher rate per hour.

(Table 3-5 about here)

The differences between the two districts become more apparent when viewed on a per-vehicle stop basis (see Table 3-6). East district officers wrote many more warning tickets whereas north district officers were more likely to issue a citation. The north district officers made 2.9 felony arrests per vehicle stop compared to 1.1 for east district officers and twice as many total arrests per vehicle stop. The north district officers were more than twice as likely to uncover an illegal firearm in a traffic stop and they discovered three times as many total guns per stop. The north district officers also made 126 probation checks. These were not the result of a vehicle stop but rather were proactive checks of probationers at their residences. This was part of the targeted offender strategy.

(Table 3-6 about here)

The total number of illegal firearms seized in the two target areas was quite similar. The total number includes those seized by the directed patrol officers as well as those seized through regular police activities in the target areas. As Table 3-7 indicates, there were 42 firearms seized in the north target area during the 90-day project period and 45 seized in the east target area. This represented a modest increase over 1996 levels for the north target area and a sizeable 50 percent increase for the east district. This significant increase in gun seizures in the east target area and a very modest increase was also evident when converted to dosage levels (see earlier Table 3-4). The number of seizures in the comparison area declined 40 percent. For sake of comparison, there were a total of 76 firearms seized in the Kansas City experiment during the directed patrol experiment. Thus, the absolute number of firearms seized in the directed patrol project was actually greater than in the Kansas City project. Further, the number of weapons seized in both the east and north districts projected to a six-month period were greater than was the case in Kansas City. The Kansas City seizures, however, occurred in a more concentrated geographic area.

(Table 3-7 about here)

Observational Findings

As noted earlier, trained observers rode with participating officers. One hundred hours of observation resulted in 104 contacts between officers and citizens. Recall that the officers

participating in ride-alongs were volunteers. Thus, although the ride-alongs appeared to be representative they were not based on a random sample.

To begin we examined the reason cited for the contact. Sixty-eight percent of the contacts were based on a violation of the traffic law.[9] Twelve percent of the contacts were based on the officer's belief that the offender's conduct was suspicious.

Contacts were relatively short. The average contact was fifteen minutes long; sixty percent were less than ten minutes long. Offenders were predominantly male (82%) and half of the offenders were African American.[10] Fifty-three percent of the offenders lived in the neighborhood where the police contacted them. One-third of the offenders were under twenty four years of age.

Observers collected data about the nature of the police-citizen encounter. On only four contacts did the police frisk the offender. Thirteen times the offender was handcuffed. Twenty percent of the contacts included the search of a motor vehicle. Of the 104 contacts, four resulted in the seizure of a firearm; three resulted in the seizure of drugs.

Finally, we examined the outcome of the encounter. Forty-four percent of encounters resulted in a warning citation, fifteen percent in a regular traffic citation. Three offenders were arrested for non-traffic charges.

[9] All percentages are based on the number of cases with observations (missing excluded).

In addition to our examination of the aggregate observation data, we also sought to determine whether there were differences between the treatment groups. Recall that officers in the east district were instructed to emphasize frequent stopping of vehicles, whereas, officers in the north district were instructed to target violent offenders. Observation data generally supports the integrity of this treatment regimen.

When asked to identify the reason why the contact was initiated, fifty-five percent of north officers identified a traffic law violation, whereas seventy-one percent of east district contacts were based on traffic law violations. Nineteen percent of contacts in the north district were directed towards a suspicious person or situation. Only three percent of east district contacts were based on suspicious activity (beyond the traffic violation itself). Interestingly, while only nine percent of east district contacts resulted in a traffic citation, twenty-six percent of the north district contacts resulted in a citation. Contacts in both areas tended to last about fifteen minutes.

Distribution of offender race was generally consistent with district demographics. Eight-two percent of offenders in the north district were African American. In contrast, thirty-one percent of east district offenders were African American.

Summary of Outputs and Strategies

The findings suggest that the directed patrol effort was implemented in a meaningful fashion in both the north and east district target areas. Over 4,800 officer hours were

[10] Many contacts involved more than one individual. All demographics are based on the first offender

devoted to this 90-day project, over 5,000 vehicle checks, and nearly 1,000 arrests were made. The 87 total firearms seizures was more than the number seized in the Kansas City project, though distributed over a wider geographic area.

When the data were normed by population and area of target area, and by duration of project, significant differences between the Kansas City gun experiment and the Indianapolis directed patrol project. The levels of officer hours, arrests, and gun seizures were significantly higher than in Indianapolis. Dosage levels in the east target were closer to the Kansas City levels than was the case in the north target, but the two Indianapolis targets were more similar to one another in level than they were to Kansas City.

Although the findings from the two target areas were not dramatically different, they do suggest that each target received a somewhat different directed patrol strategy. The east target general deterrence strategy involved maximizing police vehicle stops and thereby creating a sense of significantly increased police presence.

The north district, in contrast, followed a targeted offender approach. This involves a more selective approach to vehicle and pedestrian stops with a more thorough investigation upon the stop. The idea is to target resources towards individuals suspected to be involved in illegal behavior. It also seeks to maximize seizures of illegal weapons and drugs through the more thorough investigation.

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described in the data.

The output and the observational data indicate that the two districts did implement these two related but distinct strategies. The larger number of vehicle stops and the larger number of tickets issued in the east district are indicative of this "casting of a wide net" strategy. The north district targeted offender approach appears to come closer to the strategy employed in Kansas City. The number of vehicle stops, the higher rate of arrests and gun seizures per vehicle stop, and the observational finding of more stops for suspicious behavior, are indicative of this targeted offender strategy.

Impact on Crime

Firearm-Related Crime

The basic findings in terms of the impact on firearms-related violent crime are presented in Table 3-8. These include homicides, aggravated assault with a gun, armed robbery, and total gun crimes. The homicide and armed robbery categories include some incidents that involved a non-firearm weapon.

Table 3-8 presents the findings for the four target beats (combining north and east), the north and east target areas, the comparison beats, and the citywide total (excluding the four target beats). The data are presented for the time period when the directed patrol project was running (July 15, 1997 to October 15, 1997) and the same period for the prior year (July 15, 1996 to October 15, 1996). The tables report the results of statistical significance tests that were conducted using the General Linear Model analysis of variance approach. With this approach we can partition the variance into period effects, area effects, and the effects due to the interaction of area and period. It is the interaction

effect that is of interest as it allows us to contrast the trend in the target area with the trend in the comparison area and in the city as a whole. Where the target area experiences a decline in crime, the method tests whether the decline is greater than what would be expected by chance given the trend in the comparison area. Similarly, where the target area experiences no change or an increase, the method allows us to test whether this is significantly different from the trend in the comparison area (see Appendix A).

(Table 3-8 about here)

When looking at the total target beats, the most significant finding is for homicide. Homicides in the target beats were reduced from 11 in the 1996 period to 1 in 1997. The comparison beats remained constant with 3 homicides, though the small number of incidents makes it difficult to assess meaning. At the same time, homicides increased for the remainder of the city from 17 in 1996 to 26 in 1997, a 53 percent increase. Had the target beats experienced the same increase that the city did, we estimate there would have been 17 homicides in the target beats rather than one and 43 homicides in the city as opposed to 27.

We examined the 11 homicides that occurred in 1996 in the target beats. Three were domestic situations and one was unknown in terms of motive or relationship between offender and victim. The remaining seven involved the type of street-level violence that the directed patrol strategy seeks to deter. Thus, it appears plausible that the directed patrol strategy played a role in the reduction in homicide for the target beats in 1997 compared to 1996.

Aggravated assaults with a gun declined eight percent in the target beats. During the same period, these offenses increased 73 percent and 21 percent in the comparison beats and citywide. Armed robberies declined 11 percent in the target beats whereas they increased 61 percent in the comparison area. Citywide, armed robberies declined five percent in this time period.

In terms of total gun crimes, there was a six- percent decrease in the target beats. In contrast, there was an eight- percent increase in the comparison beats. The number of total gun crimes is not available for the city because there were not sufficient resources available to read all the incident reports for the entire city.

The firearm-related crime data for the total target beats, however, mask the stark contrast between the north and east districts. Although homicide declined in both areas, and the declines were significant when contrasted with the citywide trend, for the other offenses significant declines were observed in the north target area whereas increases were observed in the east target area. For example, aggravated assaults with a gun and armed robbery declined 40 percent in the north target beats. These were statistically significant declines compared to both the comparison beats and the citywide trend. Similarly, total gun crimes declined 29 percent in the north targets. In contrast, aggravated assaults with a gun increased 58 percent and armed robbery 16 percent in the east target area. Although these increases were smaller than the increases observed in the comparison beats, they

were larger than the increases citywide. Thus, other than homicide, it appears that the positive effects on firearms-related crimes were confined to the north target beats.

We can also examine the data on gun seizures and gun crimes with the data standardized by person-weeks and square mile-weeks. These findings are presented in Table 3-9. The standardized data indicate that the dosage level of seizures was considerably higher in Kansas City than in either Indianapolis target area. In terms of changes in gun crime, it is clear that reductions were isolated to two of the five areas: Kansas City target and Indianapolis north target. The east target and the two control areas all witnessed increases in gun crimes. Thus, in the area most similar to the Kansas City target area (east; but at lower dosage levels) in terms of gun seizures, there was an increase in firearms crime. The north target, however, witnessed declines similar to Kansas City, though of less magnitude.

(Table 3-9 about here)

Additional Analyses

In the design of our study we decided that the most appropriate comparison period for the study was the same 90-day period of the previous year. This controls for any seasonal effects that may influence the crime rate. When our draft report was provided to the National Institute of Justice, one of the anonymous peer reviewers made the suggestion that we compare the results to the crime trend of the previous 90 days. Another

suggested conducting an interrupted time series analysis. Although we did not have the resources to read all the incident reports to count all firearms crimes, we were able to conduct both types of trend analyses for aggravated assault with a gun, armed robbery, and homicide.

Prior 90-Days

Combining these three major violent crime categories, the results confirmed the findings for the north target area. Gun assaults, armed robberies, and homicides decreased 49 percent compared to the 90 days prior to the project. This is very consistent with the earlier findings.

For the east district, the results were somewhat more promising than were those derived from comparing the east target area to the previous year. Gun assaults, armed robberies, and homicides declined 25 percent compared to the previous 90 days. By contrast, the control area experienced a 22 percent increase and the city experienced a 1 percent increase over the previous 90 days (see Figure 3-1).

(Figure 3-1 about here)

Thus, the comparison with the prior 90 days provides strong support for the conclusion that the north district experienced a significant decrease in violent crime and some evidence that there may have been a modest decrease in the east district.

Time Series Analysis

To further examine impact on violent crime, we estimated a number of ARIMA models for each target site, the control site, and the city (minus the target areas). Given the likelihood that directed patrol should have an immediate effect that lasts the duration of the intervention period, an abrupt, permanent transfer function was modeled to capture any intervention effects (a .05 alpha level was used to determine significance). The outcome data include the violent crimes of homicide, aggravated assault with a gun, and armed robbery. The data were compiled in weekly totals from the first week in 1995 through January 12, 1998. All ARIMA models were constructed upon these 158 weeks.

The series were broken into three time periods: a 132 week pre-intervention period, a thirteen week intervention period, and a thirteen week post-intervention (removed treatment) period. This permitted three sets of ARIMA models to be estimated. In a modified Cook and Campbell (1979) notation, the first set of models can be represented by the following design:

$O_1 \ldots O_{132} X_{133} \ldots X_{145} \overline{X}_{146} \ldots \overline{X}_{158}$	Series 1
$O_1 \ldots O_{132} X_{133} \ldots X_{145} \overline{X}_{146} \ldots \overline{X}_{158}$	Series 2
$O_1 \ldots O_{132} O_{133} \ldots O_{145} O_{146} \ldots O_{158}$	Series 3
$O_1 \ldots O_{132} O_{133} \ldots O_{145} O_{146} \ldots O_{158}$	Series 4

where each O_t indicates a non-intervention observation at week "$_t$", X_t an observation during the intervention period at week "$_t$", and $\overline{X}_t$ a post-intervention (or removed treatment) observation at week "$_t$". A multiple interrupted time series with removed treatment and multiple nonequivalent no-treatment control groups, this design can be considered a global test of the intervention as it compares the pre-intervention and the

post-intervention periods to the intervention period to ascertain an overall effect. Series 1 and 2 represent each of the target series (east and north), while Series 3 and 4 indicate the two control series (control site and city net the target sites). For these models, the intervention for the north target area is significant indicating an intervention effect. According to the impact estimate, the north district had almost two *fewer* violent crimes (T-Value=-2.12) on average per week during the intervention (see Table 3-10). Conversely, the control area witnessed an *increase* of slightly more than one violent crime (T-Value=2.19) on average per week during the intervention period. Neither the east nor the city net the target area series revealed significant changes during the intervention period.

Although informative, the first set of models does not indicate the distinct impacts of introducing and removing the intervention. The second and third set of models were constructed to isolate these effects. The second set of models can be represented as follows:

$O_1 \ldots O_{132} X_{133} \ldots X_{145}$ Series 5
$O_1 \ldots O_{132} X_{133} \ldots X_{145}$ Series 6
$O_1 \ldots O_{132} O_{133} \ldots O_{145}$ Series 7
$O_1 \ldots O_{132} O_{133} \ldots O_{145}$ Series 8

This set of models estimates the immediate impact of introducing the intervention (i.e., compares the pre-intervention period to the intervention period) by way of a multiple interrupted time series with multiple nonequivalent no-treatment control groups design. Series 5 and 6 illustrate each of the target series (east and north), and Series 7 and 8 indicate the two control series (control site and city net the target sites). Instead of the

full 158 weeks, these models are estimated from 145 weeks to reflect the exclusion of the post-intervention (removed treatment) period. Like the first set of models, this set indicated significant changes in the north target and control areas. The north district had almost two *fewer* violent crimes (T-Value=-2.33) on average per week during the intervention, while the control area experienced an *increase* of just more than one violent crime (T-Value=2.33) on average per week during the intervention period (see Table 3-10). Again, neither the east nor the city net the target area series indicated significant changes during the intervention period.

The final set of models captures the immediate effect of removing the intervention. These are also based upon a multiple interrupted time series with multiple nonequivalent no-treatment control groups design except that the intervention and post-intervention (removed treatment) periods are compared. These can be viewed as:

$X_{133}...X_{145}\overline{X}_{146}...\overline{X}_{158}$ Series 9
$X_{133}...X_{145}\overline{X}_{146}...\overline{X}_{158}$ Series 10
$O_{133}...O_{145}O_{146}...O_{158}$ Series 11
$O_{133}...O_{145}O_{146}...O_{158}$ Series 12

Like the above models, Series 9 and 10 represent the target series (east and north), while Series 11 and 12 correspond to the control series (control site and city net the target sites). None of these models indicated significant changes from removing the intervention. This suggests that the intervention effect remained in the north target area even after removing the treatment, as did the rise in violent crime in the control area. However, these effects must be interpreted with caution given these models were estimated from only twenty-six observations (thirteen weeks of intervention and thirteen weeks of removed treatment).

Although the best data available, this small sample may not have had enough statistical power to detect significant changes as a result of removing the intervention.

(Table 3-10 about here)

Other UCR Offenses

Table 3-11 presents the results for four additional UCR offense categories. Two of these categories, aggravated assault and robbery, are broader categories that include the subset of aggravated assault with a firearm and armed robbery examined in the previous section. The other two categories are the property offenses of burglary and motor vehicle theft.

The findings for aggravated assault and robbery are similar to those observed for aggravated assault with a gun and armed robbery. These offenses declined in the north target area and increased in the east target area. For example, the north targets witnessed a 17 percent decrease in aggravated assaults and a 27 percent decline in robbery. These declines are statistically significant when compared to the trend in the remainder of the city. At the same time, aggravated assaults increased in the east target beats, though less so than in the city or the comparison beats. Robberies increased significantly in the east target beats.

(Table 3-11 about here)

One interesting point that emerges is that the declines for the total target area and for the north target area were of a smaller magnitude than was the case for aggravated assault with a gun and armed robbery. This suggests the directed patrol had the most impact in the north target area for firearms-related offenses.

There was no evidence that directed patrol had an effect on the property crimes of burglary and motor vehicle theft. Burglaries actually increased in both target beats. Although motor vehicle theft declined in the north target, it also witnessed a decline in the comparison beats and citywide.

Residual Deterrence

Sherman (1990) has urged researchers to distinguish between the initial deterrent effect that may occur while a directed patrol crackdown is being implemented and the long-term deterrent effect that may continue after the crackdown has terminated. He labels the long-term impact "residual deterrence." To examine whether there was evidence of a residual deterrence effect, we examined the trend in crime for the 90-day period following the termination of directed patrol (October 16, 1997 to January 15, 1998) compared to the same period of the previous year.

Table 3-12 presents the results for the post-intervention period. The picture is mixed. Although homicides continued to decline in the north target beats, they actually increased in the east target area. Aggravated assault with a gun declined 30 and 49 percent in the

north and east target beats, respectively. There were also declines in the comparison beats and citywide, though they were of a smaller magnitude than in the target beats. The differences between the targets and the comparisons did not attain statistical significance.

(Table 3-12 about here)

Armed robberies were down 15 percent in the north target beats. This was similar to the citywide trend. Both the east target area and the comparison beats witnessed increases in armed robbery.

The changes for the other offense types were not dramatic. Motor vehicle thefts declined in the north district though the change was similar to that of the comparison beats and citywide. In contrast, they increased in the east target areas.

The times series analysis of homicide, gun assault, and armed robbery reported in an earlier section provided some evidence of residual deterrence in the north target. Recall that the comparison of the 13-week project period with the 13-week post-project period was not significant. This indicated that the trend of a decrease in violent crime in the north target was sustained during the post-project period.

Thus, there was some evidence of a possible for homicides, gun assaults and armed robberies in the north target. There were also promising results in terms of aggravated assault with a gun in both the north and east target areas. Both witnessed fairly large

decreases though the lack of statistical significance when contrasted with the comparisons means that these results may just reflect the citywide trend rather than the residual deterrent effect of directed patrol.

Crime Displacement or Diffusion of Benefits

One concern with a geographic based effort like this is that crime will simply be displaced to other areas. Some researchers (Clarke and Weisburd, 1994; see also Eck, 1993), however, have found that more likely than displacement, projects like these can have positive effects on surrounding areas (diffusion of benefits). To examine these possibilities, we initially examined the total number of homicides, gun assaults, and armed robberies in the five beats surrounding the north target. There was a 10 percent increase in the total firearms crimes in these five surrounding beats. In absolute numbers the increase was from 125 in 1996 to 137 in 1997. The daily mean increased from 1.34 to 1.47, but this was spread over the five beat area and was not a statistically significant increase. Even if the increase was attributable to displacement, the net increase in the surrounding beats (+12) compares to a reduction of 34 in the target beats.

We then examined the trend for five crime types (homicide, aggravated assault, robbery, burglary, vehicle theft) in the five surrounding beats. Overall, there was a slight reduction from 656 offenses in 1996 to 650 in 1997. Examining each offense type in each beat created 25 comparisons. Only two of the beats surrounding the north target area

(where directed patrol appeared to have an impact) witnessed a change in crime. One experienced an increase, the other a decrease.[11]

These results demonstrate there was no pattern of a diffusion of benefits and little indication of displacement. The fact that there was a numerical, though statistically insignificant, increase seems to indicate the need for continued attention to the issue of displacement.

Summary of Impact on Crime

The most encouraging finding from the experiment was a reduction from 11 homicides to 1 homicide when comparing the experimental period to the same period in 1996. This was at the same time that the city as a whole experienced a 53 percent increase in homicide. Assuming that these areas would have experienced the same type of increase as the rest of the city, we would have anticipated approximately 17 homicides in the target areas.

Beyond this effect, there was a differential impact on crime in the north district in contrast to the east. In the north district, homicides dropped from 7 to 1, aggravated

[11] We also examined the four beats surround the east target area. Examining the five crime types produced 20 comparisons. Of these 20 comparisons there were four significant changes. There were three increases in crime and one decrease. Given that the east target area also experienced an increase in crime, it seems difficult to argue that the increases in three crime types in the surrounding beats were due to displacement. It seems more likely that the same factors producing an increase in the east target areas were also affecting the surrounding area.

assaults declined 17 percent, and robberies by 27 percent. When we focused on aggravated assaults with a gun and armed robberies, the declines were 40 percent for both offense types. Total gun crimes dropped 29 percent in the north target beats. In contrast these offenses increased in two comparison beats and, with the exception of armed robbery, they increased citywide.

In comparison, there were increases in both violent and property crime in the east district target beats. Homicides, however, declined from four to zero in the east target area.

The results for the north district held quite consistently across several tests. We compared the project period to the same time period of the prior year, to the previous 90-day period, and through the use of an interrupted time series model. In contrast, there was little evidence of a significant effect in the east target area. The only suggestive finding was the decrease when compared to the previous 90-day period and the time series model did not indicate an intervention effect.

The positive trend in terms of homicide, aggravated assault with a gun, and armed robbery continued in the north target areas during the 90-day post intervention period. There were also declines (though smaller) in these offenses citywide, however, thus making it difficult to determine if this was the result of residual deterrence or some other factor influencing the citywide trend. The time series analysis did indicate that only in the north district was the post-intervention impact consistent with a residual deterrence

effect. Finally, there was little evidence of an effect on areas surrounding the target beats, either in terms of displacement or diffusion of benefits.

In conclusion, the directed patrol project appeared to have positive effects on firearms-related violent crime in the north target area but not the east. We will return to an examination of some of the potential reasons for this differential effect in the final chapter of this report.

Table 3-1

Activity Data, Directed Patrol Compared to Kansas City Gun and Safe Streets Projects

	Directed Patrol		Kansas City		Safe Streets	
	Total	Per 100 officer hours	Total	Per 100 officer hours	Total	Per 100 officer hours
Officer hours	4879.75	NA	4512	NA	3988	NA
Traffic citations	1638	33.6	1090	24.2	NA*	NA
Warning tickets	2837	58.1	NA	NA	NA*	NA
Combined tickets*	4475	91.7	NA	NA	4302	107.9
Vehicle stops	5253	107.6	NA**	NA	5268	132.1

* The Safe Streets data did not distinguish citations from warning tickets. The Kansas City Study did not report warning tickets. See Sherman, L.W., J.W. Shaw, and D.P. Rogan (1995). "The Kansas City Gun Experiment," *National Institute of Justice Research in Brief.* Washington, DC: U.S. Department of Justice.

** The Kansas City study reports 948 car checks but not a total number of vehicle stops.

Table 3-2

Arrest Data, Directed Patrol Compared to Kansas City Gun and Safe Streets Projects

	Directed Patrol		Kansas City		Safe Streets	
	Total	Per 100 officer hours	Total	Per 100 officer hours	Total	Per 100 officer hours
Felony arrests	84	1.7	NA*	NA	98	2.4
Misde-meanor arrests	654	13.4	NA*	NA	662	16.6
Warrant arrests	254	5.2	NA*	NA	NA**	NA
Total arrests	992	20.4	616	13.6	760	19.1

*** The Kansas City study reports State and Federal arrests (N=170) and city arrests (N=446). See Sherman, L.W., J.W. Shaw, and D.P. Rogan (1995). "The Kansas City Gun Experiment," *National Institute of Justice Research in Brief.* Washington, DC: U.S. Department of Justice.**

**** The Safe Streets data did not distinguish a separate count of warrant arrests.**

Table 3-3

Gun and Drug Seizures, Directed Patrol Compared to Kansas City Gun and Safe Streets Projects

	Directed Patrol		Kansas City		Safe Streets	
	Total	Per 100 officer hours	Total	Per 100 officer hours	Total	Per 100 officer hours
Illegal gun seizures	25	0.5	29*	0.6	21	0.5
Legal gun discovered	81	1.6	NA*	NA	NA	NA
Drug seizures	61	1.2	NA	NA	106	2.6

* The Kansas City study notes that 4 of the guns seized were legal but confiscated temporarily for safekeeping. The report does not clarify if these were the total number of legally possessed guns that were discovered. See Sherman, L.W., J.W. Shaw, and D.P. Rogan (1995). "The Kansas City Gun Experiment," *National Institute of Justice Research in Brief.* Washington, DC: U.S. Department of Justice.

Table 3-4
Area Characteristics and Dosage Levels

Area		Kansas City		Indianapolis		
		Target	Control	North	East	Control
Weeks	Before/During	29	29	13	13	13
Population	Before/During	4528	8142	16612	14645	19305
Square miles	Before/During	0.64	1.89	2.79	1.69	4.74
Person-weeks	Before/During	131312	236118	215956	190385	250965
Square mile-weeks	Before/During	18.56	54.81	36.27	21.97	61.62
Gun crimes	Before[1]	169	184	75	42	49
Dosage levels:						
Officer hours per 10000 person-weeks		0.03	NA	0.009	0.015	NA
Officer hours per square mile-weeks		243.10	NA	54.45	132.21	NA
Vehicle stops per 10000 person-weeks		NA	NA	0.01	0.02	NA
Vehicle stops per square mile-weeks		NA	NA	39.07	174.60	NA
Arrests per 10000 person-weeks		0.005	NA	0.002	0.003	NA
Arrests per square mile-weeks		33.19	NA	11.96	25.40	NA
Gun seizures per 10000 person-weeks[2]						
	Before	3.91	4.02	1.80	1.58	1.79
	During	6.46	3.40	1.94	2.36	1.08
Gun seizures per square mile-weeks[3]						
	Before	2.76	1.73	1.08	1.36	0.73
	During	4.57	1.46	1.16	2.05	0.44

[1] Kansas City is based on 29 weeks, Indianapolis on 13 weeks.
[2] Sherman and Rogan (1995: 683) report that gun seizure data are based on 26 weeks rather than 29 weeks.
[3] See note 2.

Table 3-5

Outputs by Target Area

	North target		East target	
	Total	Per 100 officer hours	Total	Per 100 officer hours
Officer hours	1975	NA	2904.75	NA
Total tickets	1208	61.2	3267	112.5
Vehicles stopped	1417	71.7	3836	132.1
Felony arrests	41	2.1	43	1.5
Total arrests	434	22.0	558	19.2
Drug seizures	18	0.9	43	1.5
Illegal gun seizures	12	0.6	13	0.4
Legal guns discovered	43	2.2	38	1.3
Total guns	55	2.8	51	1.8

* Includes citations and warning tickets

Table 3-6

Outputs per 100 vehicle stops

	North per 100 stops	East per 100 stops
Warning tickets	36.0	60.7
Citations	49.2	24.5
Probation contacts[a]	8.9	0
Felony arrests	2.9	1.1
Total arrests	30.6	14.5
Illegal gun seizures	0.85	0.34
Total guns	3.9	1.3
Total Vehicle Stops	1417	3836

[a] The probation stops were based on addresses of probationers residing in the target beats rather than through a routine vehicle stop.

Table 3-7

Firearms Seized, Target and Comparison Areas

	Guns Seized*		
Area	1996**	1997**	% change
North Target	39	42	+7.7
East Target	30	45	+50.0
Comparison Area	45	27	-40.0

* Includes guns seized by directed patrol officers and regular duty officers
** Firearm data are for the 7/15 to 10/15 period of 1996 and 1997, respectively

Table 3-8
Change in Firearm-Related Crime, 1996-1997*

		Total target beats	% chg	North target	% chg	East target	% chg	Compar-ison beats	% chg	City-wide	% chg
Homicide	96	11		7		4		3		17	
	97	1	** [a]	1	** [a]	0	** [b]	3	**	26	+52.9
Aggravated assault – gun	96	59		40		19		22		333	
	97	54	-8.5[c]	24	-40.0[d]	30	+57.9	48	+72.7	402	+20.7
Armed robbery	96	62		31		31		13		356	
	97	55	-11.3	19	-39.7[e]	36	+16.1	21	+61.5	338	-5.0
Gun crimes	96	117		75		42		49		NA	
	97	110	-6.4	53	-29.3	57	+27.0	53	+8.2	NA	

*** Crime data are for the 7/15 to 10/15 period of 1996 and 1997, respectively**
**** Percent change not calculated due to small N**

[a] Comparison to citywide trend significant ≤ .05
[b] Comparison to citywide trend significant ≤ .10
[c] Comparison to citywide trend significant ≤ .05; to comparison beats significant ≤ .10
[d] Comparison to both citywide trend and comparison beats significant ≤ .05
[e] Comparison to comparison beats significant ≤ .10

Table 3-9

Illegal Gun Seizures and Gun Crime with Standardized Denominators

		Kansas City		Indianapolis		
Area		Target	Control	North	East	Control
Guns seized						
	Before	46	85	39	30	45
	During	76	72	42	45	27
Gun seizures per 10000 person-weeks						
	Before	3.91	4.02	1.80	1.58	1.79
	During	6.46	3.40	1.94	2.36	1.08
Gun seizures per square mile-weeks						
	Before	2.76	1.73	1.08	1.36	0.73
	During	4.57	1.46	1.16	2.05	0.44
Gun crimes						
	Before	169	184	75	42	49
	During	86	192	53	57	53
Gun crimes per 10000 person-weeks						
	Before	3.67	2.16	3.47	2.21	1.95
	During	1.13	2.67	2.45	2.99	2.11
Gun crimes per square mile-weeks						
	Before	12.87	7.79	2.97	1.91	0.80
	During	6.54	8.13	1.46	2.59	0.86

Figure 3-1
Gun Assaults, Armed Robberies, and Homicides

(project period compared to previous 90 days)

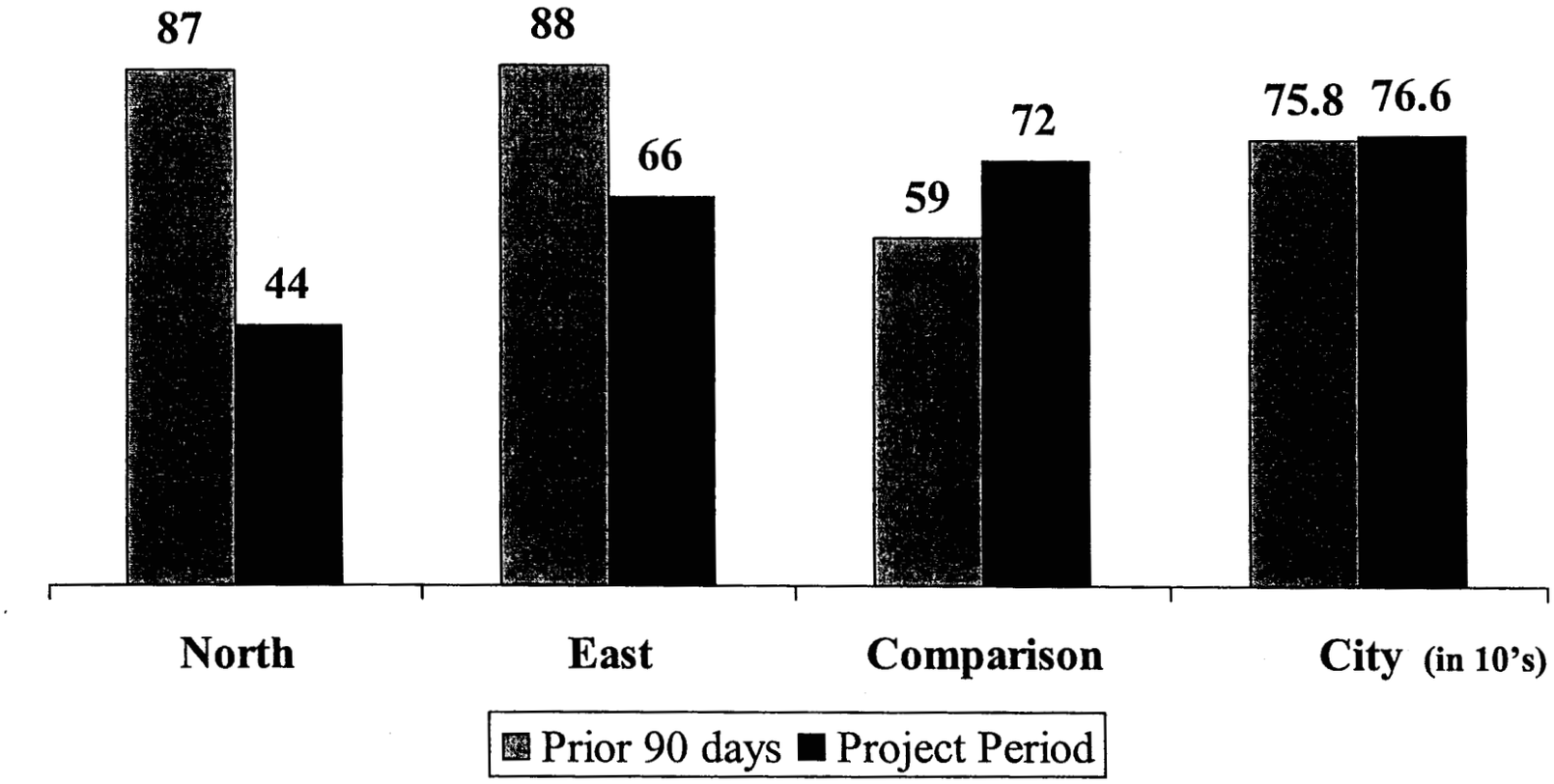

Table 3-10
Time Series ARIMA Models

Time Span	Intervention	Interval	# Intervals	Variable	ARIMA	Impact/SE	T-Value	Noise/SE	T-Value	Q-Statistic[a]
1/3/95-1/12/98	OOXXOO	week	132+13+13=158	citynet	(0,1,1)	.6733/4.2225	0.16	.7597/.0489	15.55	14.4<33.924
1/3/95-1/12/98	OOXXOO	week	132+13+13=158	control	(0,0,0)	1.4557/.6661	**2.19**	--	--	21.2<35.172
1/3/95-1/12/98	OOXXOO	week	132+13+13=158	east	(0,0,1)	.4055/.7761	.52	-.2047/.0783	-2.61	25.1<33.924
1/3/95-1/12/98	OOXXOO	week	132+13+13=158	north	(0,0,2)[b]	-1.7284/.8170	**-2.12**	-.2692/.0770	-3.50	27.0<33.924
1/3/95-10/13/97	OOXX--	week	132+13=145	citynet	(0,1,1)	-4.1543/6.0276	-.69	.7484/.0523	14.31	13.3<33.924
1/3/95-10/13/97	OOXX--	week	132+13=145	control	(0,0,0)	1.5384/.6616	**2.33**	--	--	23.0<35.172
1/3/95-10/13/97	OOXX--	week	132+13=145	east	(0,0,1)	.5541/.7818	.71	-.2077/.0823	-2.52	21.8<33.924
1/3/95-10/13/97	OOXX--	week	132+13=145	north	(0,0,2)[b]	-1.9323/.8300	**-2.33**	-.3106/.0794	-3.91	27.9<33.924
10/14/97-1/12/98	--OOXX	week	13+13=26	citynet	(0,1,1)	-1.0942/7.4822	-.15	1.1757/.2091[c]	5.62	7.2<9.488
10/14/97-1/12/98	--OOXX	week	13+13=26	control	(0,0,0)	-.6153/1.0439	-.59	--	--	5.6<11.070
10/14/97-1/12/98	--OOXX	week	13+13=26	east	(0,0,1)	.4781/.8072	.59	-.1507/.1967	-.77	5.2<9.488
10/14/97-1/12/98	--OOXX	week	13+13=26	north	(0,0,2)[b]	1.1357/.5990	1.90	.2246/.2038	1.10	9.1<9.488

[a]This format compares the calculated Q-Statistic to the critical Q-Statistic at the .05 alpha level.

[b]The iterative ARIMA process indicated this series need only be modeled with a second-order moving average parameter. Therefore, a first-order moving average parameter was not included in the model.

[c]The estimate for the moving average parameter is not within the bounds of invertibility. This is likely a result of applying the ARIMA model constructed from the entire series (158 weeks) to the smaller series (only 26 weeks), which cannot be modeled independently due to having too few observations.

Table 3-11

Change in UCR Crime, 1996-1997*

		Total target Beats	% chg	North target	% chg	East target	% chg	Compar -ison beats	% chg	City- wide	% chg
Aggravated assault	96	165		83		82		75		993	
	97	162	-1.8	69	-16.9[a]	93	+13.4	98	+30.7	1151	+15.9
Robbery	96	109		52		57		29		608	
	97	109	0.0	38	-26.9	71	+24.6	35	+20.7	603	-0.8
Burglary	96	227		79		148		138		1854	
	97	273	+20.3	95	+20.2[b]	178	+20.3[b]	135	-2.2	2002	+8.0
Vehicle theft	96	118		69		49		82		1239	
	97	143	+21.2	60	-13.0	83	+69.4[c]	66	-19.5	1214	-2.0

Crime data are for the 7/15 to 10/15 period of 1996 and 1997, respectively

[a] Comparison to citywide trend $\leq .01$; to comparison beats $\leq .10$
[b] Comparison to citywide trend $\leq .10$

Comparison to citywide trend $\leq .01$

Table 3-12
Evidence of Residual Deterrence,
Change in Firearms Crime Post-Intervention Period, 1996-1997*

		Total target beats	% chg	North target	% chg	East target	% chg	Compar-ison beats	% chg	City-wide	% chg
Homicide	96	3		3		0		3		28	
	97	6	**	0	**	6[4]	**	2	**	22	-21.4
Aggravated assault–gun	96	79		40		39		35		364	
	97	48	-39.2[5]	28	-30.0	20	-48.7	33	-5.7	326	-10.4
Armed robbery	96	66		34		32		22		462	
	97	74	+12.1[6]	29	-14.7	45	+40.6[3]	33	+50.0	397	-14.1
Aggravated assault (total)	96	178		86		92		59		900	
	97	145	-18.5	69	-19.8[2]	76	-17.4[2]	75	+27.1	931	+3.4
Robbery (total)	96	103		41		62		29		660	
	97	111	+7.8	46	+12.2[3]	65	+4.8[3]	41	+41.4	575	-12.9
Burglary	96	221		72		149		78		1865	
	97	220	-0.4	76	+5.6	144	-3.4	92	+17.9	1900	+1.9
Vehicle theft	96	154		84		70		88		1351	
	97	144	-6.5	60	-28.6[3]	84	+20.0[4]	70	-20.4	1215	-10.1

*** Crime data are for the 10/16 to 1/15 period of 1996-97 and 1997-98, respectively**
**** Percent change not calculated due to small N**

[4] Comparison to comparison beats significant ≤ .05
[5] Comparison to comparison beats significant ≤ .10
[6] Comparison to citywide trend ≤ .05

[3] Comparison to citywide trend significant ≤ .01; comparison to comparison areas ≤ .10

CHAPTER FOUR

SURVEY RESULTS

Public Opinion Results

Increasing the number of police officers on patrol, especially in a city's most disenfranchised neighborhoods, may increase feelings of safety for citizens. Such an increase may also have significant public relations benefits for the police. However, an important issue that police managers have to consider is the possible adverse consequences of implementing aggressive patrol strategies. If citizens criticize the police, and view the frequent stops as harassment, then any reduction in crime coincides with significant costs. Citizen support for the police may decrease, public criticism may increase, and racial tensions may intensify. These consequences, if they were to occur, would certainly deal a considerable blow to any department's community policing program.

Indianapolis attempted to implement targeted enforcement practices within the context of an overall community policing strategy. In 1997, Indianapolis experienced a record setting year for homicides, and the message that the Department has consistently heard from its efforts to develop partnerships with various neighborhood groups and associations is the desire to aggressively respond to the violent crime problem, particularly in high crime neighborhoods. Yet the department has also received some criticism for what is perceived by some in the community as selective enforcement. This concern was fueled by a number of high profile media events, including an incident

where several off-duty officers were involved in what would become known as the "Downtown Police Brawl." Although this event occurred in 1996, it was in the news throughout 1997 and four of the officers involved went on trial in the middle of the directed patrol experiment.

In this context, we wanted to address how citizens perceive aggressive patrol strategies, and investigate how an intense presence affected citizen opinions about the police. In addition, we wanted to examine whether citizen perceptions of crime, fear, and disorder changed after the implementation of this patrol program. Our research design included citizen surveys in both the experimental and comparison beats to address these issues.

Many findings are discussed in the pages that follow, but we wanted to highlight a few. In sum, the findings indicate that a large percentage of citizens were aware of the program, and voiced strong support for the use of aggressive patrol strategies to address crime in their neighborhoods. The level of support for the Indianapolis Police Department was high in all beats. In general, citizens had a favorable opinion of IPD, and thought that IPD officers are courteous and professional. There were slight and somewhat contradictory changes before and after the directed patrol effort. Whereas there was a slight increase in support for aggressive patrol, there was also a slight decrease in several of the items on support for IPD. When examining citizen perceptions of crime and specific types of crime, there was little change when comparing the pre- to post-experiment results. However, there was a considerable change for the types of offense most likely to be affected by an increased police presence. Specifically, the

number of citizens claiming that drugs and guns were a major problem decreased significantly in the experimental areas, and remained the same in the comparison area. Finally, there was not a change in citizen evaluation of the quality of life items examined. Citizen approval ratings of neighborhoods improved only slightly in the experimental areas.

The analyses that follow compare the Phase One (pre-intervention) to Phase Two (post-intervention) results by area. We were interested in whether the citizens were aware of the program and also supported these types of police program. In addition, we were interested in comparing the change in perceptions about the police, crime, and quality of life. This allows us to estimate whether this program had any positive impacts on the neighborhoods where initiated. Potential positive impacts include a reduction in citizen fear of crime, a decrease in concern about crime being a major problem, and an increase in support of the police department.

Demographic Characteristics

Table 4-1 presents the demographic characteristics of the citizens surveyed. We include gender, race, age, marital status, income, and education by area (North Target Area; East Target Area; Comparison Area) and by Phase (Phase One; Phase Two). We also include the demographic characteristics for the three areas combined. The demographic make-up of the Phase One and Phase Two samples are similar. Approximately 67 percent of the citizens surveyed were female. A similar number of whites (43.2%) and African

Americans (50.7%) were interviewed, and the other race category includes Hispanics, Asians, and Native Americans (6.0%). The average age of the respondents was 51 years old. About 32 percent of the respondents were married, 21.3 percent were divorced, 21.0 percent never married, and the remaining respondents were either living with a partner, widowed, or separated. The income categories were fairly evenly represented in the sample, although a smaller percentage of respondents had income over $50,000 compared to the other four income brackets. Most citizens surveyed owned rather than rented a home or an apartment. Approximately 20 percent of the sample did not complete high school, 32 percent had a high school degree, 23 percent had some college, 11 percent had a college degree, 4.1 percent had a vocational degree, and 8 percent either had an advanced degree or had done work towards an advanced degree.

(Table 4-1 about here)

Table 4-1 also indicates that most demographic characteristics of the sample in the two Experimental Areas and the Comparison Area were similar. The racial composition of the citizens surveyed was the only variable that was different. Approximately 78 percent of the respondents were African American in The North Target Area and 73 percent of the respondents in the Comparison Area were African American, but only 7.3 percent of the respondents in The East Target Area were African American. Although different, these percentages reflect the actual demographic composition of these neighborhoods.

Awareness and Support for Directed Patrol

Awareness

There was only a minimum effort by the Indianapolis Police Department to publicize the directed patrol program in the news media. The primary reason for this was that the IPD had already manufactured considerable publicity for several crime initiatives earlier in the summer. One program was a federal-local program to respond to homicides. Another one of the programs, called "Saturation Patrol," had a similar philosophy to "Directed Patrol." Although this program was implemented in another part of the city, the news media had difficulty distinguishing between "Saturation Patrol" and "Directed Patrol" and we suspect that citizens did as well.

To test citizen awareness, we asked:

> **"Recently, as part of a federally-sponsored program to combat illegal drugs and violent crime, the IPD completed a patrol program to gets drugs and guns off the streets. Are you aware of this program?"**

Figure 4-1 presents the results for the percentage of citizens who said they were aware of this patrol program. The results are presented by area (North, East, Comparison, Total) and by Phase (Ph1, Ph2). In parentheses, we present the significance level for a comparison of means test.

(Figure 4-1 about here)

Citizens in all beats had a high recognition of the directed patrol program. Surprisingly, a high percentage of citizens in all beats claimed that they were aware of the program before it even had started. Approximately 70 percent of the citizens in the North Target Area and the Comparison Area, and over 60 percent from the East Target Area said that they were aware of the program in Phase One. There are probably two reasons for this high level of awareness. One reason could be the high publicity that the "Saturation Patrol" project received. There is some support for this rationale when examining how the awareness of the program varied by media usage. Citizens who said that they never read the local newspaper were significantly less aware of directed patrol when compared to citizens who read the newspaper. For example, only 55 percent of the citizens who never read a newspaper in the comparison area were aware of the program. On the other hand, 84 percent of citizens who read the newspaper everyday were aware of it. The second reason that may have contributed to high recognition prior to the experiment is because of citizens wanting to please the interviewer, overestimating the extent of their knowledge about this program (see Skogan and Hartnett 1997).

A more troublesome result is that the awareness of the program did not increase significantly after implementation in the experimental areas. In the North Target Area and the Comparison Area, the number of citizens who were aware of the program decreased slightly. There was only a slight awareness increase in Phase Two for the East Target Area.

We also examined whether awareness about the program varied by race, gender, income status, and home ownership. A larger percentage of white respondents were aware of the directed patrol program in the East Target Area and the Comparison Area, but a larger percentage of African Americans were more likely to be aware of the program in the North Target Area. Males in all three areas were more likely than females to claim that they knew about the directed patrol program. As income level increased, so did awareness of the program. For example, 58 percent of the citizens in the lowest income bracket were aware of the program compared to 70 percent in the highest. Citizens who owned their home were more likely to be aware of the program in all beats.

Support

We also tested whether citizens would generally support aggressive patrol strategies, asking the question:

> **"...Directed patrol involved providing intense patrol or increasing the visibility of the police in areas with high rates of gun and drug crimes. Please tell me how much you support continuing a program like directed patrol on a 1 to 5 scale...."**

As Figure 4-2 indicates, citizens in all beats were supportive of aggressive patrol programs. Approximately 71 percent of the total sample strongly supported directed patrol in Phase One and 76 percent supported it in Phase Two. There was no change in the percentage of respondents who strongly supported directed patrol in the North Target Area (from 74.1 to 73.9 percent) and the Comparison Area (from 65.9 to 65.5 percent).

However, the percentage of respondents who strongly supported directed patrol in the East Target Area increased from 73.3 to 86.9 percent when comparing the Phase One and Phase Two results.

(Figure 4-2 about here)

The mean score for the entire sample pre-intervention was 4.44 and post-intervention was 4.51. The level of support was similar by area, and there was a slight increase of support for directed patrol from Phase One to Phase Two in the East Target Area (.20 increase), but no change in support in the North Target Area (.03 increase) and in the Comparison Area (.03 decrease).

We also tested whether the level of support for directed patrol varied by race and gender. These results are presented in Table 4-2. These results are not very different compared to the entire sample, with whites, African Americans, males, and females voicing strong support. The mean score for all demographic categories was above 4. For example, the mean score for the level of support by African Americans in the North Target Area was 4.58 in Phase One and 4.62 in Phase Two. Whites in this area were slightly less supportive, but their support increased more from Phase One to Phase Two than it did in the African American sample. Support among whites went from 4.09 to 4.25. For the East Target Area, the level of support for directed patrol decreased slightly among African Americans from Phase One to Phase Two (from 4.27 to 4.13), but increased significantly among whites (from 4.57 to 4.77). Males and females strongly supported

the program. The mean score for all females in the sample was 4.52 and the males mean score was 4.50.

(Table 4-2 about here)

Impact of Effort on Public Opinion about the Police

This section examines three different areas of citizen perceptions of the IPD. First, we discuss their overall evaluation of the IPD, providing results on citizen support for the police and whether they have a favorable opinion of the police. Second, we examine citizen opinion about IPD officers, discussing whether citizens think they are professional and courteous, or if they harass citizens. Third, we discuss citizen reactions to the levels of patrol in their neighborhood and number of police officers on patrol. As with the previous analyses, we present both Phase One and Phase Two results. The Phase One results provide a good evaluation of public opinion about the police prior to the experiment, and the Phase Two results allow us to investigate whether there was any change in opinion because of the patrol strategy.

Overall Support

Both variables measuring general support indicate that the police department was strongly supported, and the implementation of the directed patrol program did not

increase or decrease citizen opinion about the police in any of the areas. The two questions we asked to evaluate overall support for IPD were:

> **"In your opinion, most citizens in your neighborhood have a favorable opinion of the IPD (strongly agree-strongly disagree)"**
>
> **"Overall, how much do you support the IPD on a 1 to 5 scale where 1 indicates no support and 5 indicates strong support?"**

The first question asks for an estimate of their neighbor's view of the police, and the second question asks citizens to estimate their own opinion. As might be expected, these measures are significantly correlated. As an individual's level of support for IPD increased, so did their positive evaluations of how their neighbor's view the police.

Table 4-3 provides the frequency distributions of the responses to these two questions, the mean scores, and the results of a comparison of mean tests from Phase One to Phase Two for the level of support question. The individuals participating in the survey had a high level of support for the IPD. The mean score, on a scale of 5, for the total sample was 3.85 in Phase One and 3.84 in Phase Two. Citizens living in the two experimental areas had a somewhat higher level of support when compared to citizens from the comparison area. Support for IPD declined in the North Target Area and the Comparison Area, but support increased in the East Target Area (though none of the changes attained statistical significance).

(Table 4-3 about here)

We also examined whether support for the police was different by race or by gender. There were not any statistically significant racial or gender differences. The mean score for African Americans was 3.87 in Phase One and 3.82 in Phase Two. Similarly, the mean score for whites in the East Target Area was 3.96 in Phase One and 4.15 in Phase Two. For African Americans, the mean score decreased from 3.45 to 3.38. Males and females had similar levels of support for IPD. Male and female support for IPD increased in Phase Two for the East Target Area, but support decreased for the North Target Area.

The citizens also indicated that the people living in their neighborhood had a favorable opinion of the IPD. For example, nearly 72 percent of the entire sample of citizens strongly agreed or somewhat agreed when asked whether the neighborhood had a favorable opinion of IPD. When comparing the results by area to the total results, the percentage of citizens that strongly agreed or somewhat agreed with this statement was somewhat less in the experimental areas, and somewhat more in the comparison area.

Officer Evaluations

We also asked citizens to evaluate the officers working for the IPD. We asked three likert items (strongly agree-strongly disagree):

"In your opinion, IPD officers are professional."

"In your opinion, IPD officers are courteous."

"In your opinion, IPD officers harass citizens."

The results for these questions are presented in Table 4-4. Similar to what was found when we asked citizens to provide their overall impressions of IPD, responses to these questions indicate support for the officers. For example, approximately 80 percent of the total sample of citizens strongly agreed or somewhat agreed that IPD officers are professional and courteous, and over half of the sample somewhat or strongly disagreed with the statement that IPD officers harass citizens.

(Table 4-4 about here)

Table 4-4 also presents the results by experimental area and by phase, and the significance level when comparing the means. There were significant changes in citizen evaluations of the "professional" and the "courteous" question in the North Target Area. The mean scores for these questions increased in Phase Two, which means that citizen opinion was less favorable. Fewer citizens strongly agreed with these statements, and more somewhat agreed. There was no significant change for the third question, and no significant change from Phase One to Phase Two in the East Target Area or for the "Professional" and "Harass" question in the comparison area. However, citizens in the comparison area were less likely to strongly agree and more likely to somewhat agree with the statement that IPD officers are courteous.

We also compared the responses to these questions by race. Whites were more likely to agree that IPD officers were professional and courteous, and more likely to disagree that IPD officers harass citizens compared to African Americans. The opinions of citizens of

both races changed similarly from Phase One to Phase Two. Fewer whites and fewer African Americans strongly agreed that IPD officers are professional and courteous, and less strongly disagreed that IPD officers harassed citizens. It should be noted, however, that similar changes occurred in the Comparison Area. The similar changes that occurred in all areas may have been influenced by a high profile trial of police officers that began during the experimental period. News coverage of these officers was quite negative.

The Visibility of the Police

The last area of evaluation that we will examine in this section is the visibility of the police in the experimental and comparison areas. We use two sets of questions to examine whether citizens recognized the increased presence of the police in their neighborhoods. First, we asked citizens to estimate the frequency in which they saw the police or saw the police making drug busts. Second, we asked citizens about their level of satisfaction with the levels of patrol in their neighborhood.

Citizen Evaluation of Police Activity

In the first area of visibility, we asked three questions that allow us to evaluate whether citizens noticed increased activities in their neighborhood:

> **"When was the last time you saw a police officer in your neighborhood?"**
> **"In the past three months, have you heard about the police making drug busts in your neighborhood?"**

"In the past three months, have you actually seen the police making drug busts in your neighborhood?"

Over half of the citizens in the North and East Target Areas said that they saw a police officer within the past 24 hours. In comparison, about 37 percent of the citizens in the Comparison Area said that they saw a police officer in the past 24 hours. There was not, however, any significant changes in the response to this question from Phase One to Phase Two. Moreover, the percentage of citizens claiming that they saw a police officer in the last 24 hours decreased in all three areas: In the North Target Area, it went from 52.6 percent to 42.7 percent; In the East Target Area, there was no change (from 53 percent to 52.5), and in the Comparison Area, the decrease went from 38.2 to 36.5 percent.

We also asked the citizens whether they heard or whether they had actually seen the police making drug busts in their neighborhood. Approximately 30 percent of the total sample had heard and 14 percent had actually seen a drug bust occur in the past three months. Citizens in the experimental areas were much more likely to have heard, and slightly more likely to have seen a drug bust than citizens in the comparison area. For example, more than thirty percent had heard and approximately 15 percent had seen a drug bust in the experimental areas. Less than 20 percent had heard, and 13 percent had seen a drug bust in the comparison area in Phase Two. The results also indicate that the percentage of citizens seeing and hearing about drug busts decreased in the North Target Area, and stayed the same in the East Target Area. In the North Target Area, citizens

were significantly less likely to have heard about a drug bust, and slightly less likely to have seen a drug bust (16 percent to 12.5 percent said yes they had seen).

Citizen Evaluation of Police Patrol

Another way to examine citizen satisfaction with the police is to ask them to evaluate the police presence in their neighborhoods. We asked three questions in this area:

> **"The level of police patrol in your neighborhood makes you less fearful of crime?" [police presence]**
>
> **"Thinking about the number of police you see in your neighborhood, would you say there are: Too many, too few, or about the right number?" [satisfaction with patrol]**
>
> **"How satisfied are you with the level of police patrol in your neighborhood?" [number of police]**

Table 4-5 provides the results to these three questions. As might be expected, a small number of citizens felt that there were too many police in their neighborhood, and most felt that there were too few. However, most of the citizens in the total sample were generally satisfied with the number of police on patrol and they felt that a police presence made them less fearful of crime. Over 60 percent of the total sample were satisfied or very satisfied with the number of police officers on patrol.

(Table 4-5 about here)

There were some interesting differences when comparing the experimental areas to the comparison areas. In the Comparison Area, for example, citizens were significantly less likely to be satisfied with the level of patrol in their neighborhood when comparing the Phase One to the Phase Two results. In addition, citizens in the comparison area were less likely to strongly agree that the level of police patrol made them less fearful of crime. However, citizens in the East Target Area were significantly more likely to be satisfied with the number of police on patrol and more likely to think that the number of police they see is about right when comparing Phase One and Phase Two. There was not much change in the North Target Area, although the number of citizens who were very satisfied with patrol increased from 12 percent in Phase One to almost 19 percent in Phase Two.

Impact of Effort on Perceptions of Crime

We were also interested in whether citizens in the experimental areas had a more positive outlook on crime. This section examines whether there were changes in citizen perceptions of crime and the amount of effort the police use to respond to specific types of crime. First, we look at their perceptions of crime generally by area and by phase. Second, we examine changes in perceptions of theft, drugs, gangs, shootings, and traffic problems. Third, we present the results on the amount of effort the police have used to respond to the various types of crime examined in section two.

Perceptions of Crime in General

Figure 4-3 presents the results for the following question:

> **"Overall, would you say that crime in your neighborhood has increased, remained about the same, or decreased in the past three months?"**

The frequency distributions for these questions indicate that percentage of citizens in the comparison area that thought the amount of crime had increased went from 13.6 percent in Phase One to 15.3 percent in Phase Two. In the experimental areas, however, the percentage of citizens that thought that the amount of crime had increased declined. For example, in Phase One, 25.5 percent of the citizens in the East Target Area thought that crime had increased. After the conclusion of the experiment, 20.2 percent thought that crime had increased. In addition, there was a significant decrease in the North Target Area. Approximately 20 percent of the citizens surveyed from this area in Phase One thought that crime had increased. In Phase Two, only 11 percent of the citizens thought that it increased. In both experimental areas, the percentage of citizens that thought crime decreased went up, but in the comparison area this percentage went down. Thus, we can cautiously conclude that citizens thought that crime was less of a problem at the conclusion of the experiment in the areas where directed patrol occurred.

(Figure 4-3 about here)

Perceptions of Specific Types of Crime

Table 4-6 presents the results for specific types of crime. We asked citizens to evaluate whether they thought that theft, drugs, gangs, guns/shootings, and traffic was a major problem, a minor problem, or not a problem as five separate questions.

Prior to the implementation of the experiment, 20.2 percent of citizens in the North Target Area, 25.2 percent of citizens in the East Target Area, and 10.3 percent of citizens in the Comparison Area thought that theft was a major problem. There were no significant changes from Phase One to Phase Two, although the percentage of citizens stating theft was a major problem decreased modestly in the North Target Area, decreased slightly in the Comparison Area, and increased slightly in the East Target Area.

(Table 4-6 about here)

When examining the changes in the drug offense and gun questions, the results are somewhat more encouraging. If there were going to be any shift in perceptions, one would expect that an aggressive patrol strategy would have the most impact on these two types of offense. These offenses were of considerable concern in all areas. That is, when comparing the percentage of citizens claiming a specific type of offense is a major problem, the highest percentage of citizens in all areas stated drugs and shootings. Prior to the experiment, for example, 54 percent of the citizens in the North Target Area, 58 percent in the East Target Area, and 31 percent of the citizens in the Comparison Area

thought drugs were a major problem. Similarly, 42 percent in the North Target Area, 32 percent in the East Target Area, and 20 percent of the Comparison Area thought shootings were a major problem in Phase One.

Although citizens in all beats still considered these crimes to be significant problems at the conclusion of the experiment, there was a change in the expected direction in the experimental areas. At the completion of the experiment, the percentage of citizens claiming that drugs and shootings were a major problem decreased in both experimental areas. For example, approximately 46 percent of the citizens in the North Target Area and 44 percent of the citizens in the East Target Area stated that drugs were a major problem after the conclusion of the experiment. The change in means is significant if using a .10 significance level. The percentage of citizens claiming shootings was a major problem decreased slightly in the experimental areas, and increased modestly in the comparison area.

Gangs were not thought to be a major problem in any of the areas, and there was not much change when comparing the Phase One and Phase Two results. Approximately 14 percent of the sample thought that gangs were a major problem. The percentage of citizens in the North Target Area and the Comparison Area stating it was a major problem was lower, and the percentage of citizens in the East Target Area was somewhat higher.

About thirty percent of the citizens in each area thought that traffic was a major problem. These results did not change significantly in the experimental areas. However, the citizens in the Comparison Area were less likely to state that traffic was not a problem in Phase Two.

Perceptions of Police Effort

One final area that we can examine is citizen perceptions of the amount of effort police exercise to respond to the specific types of crime mentioned in the above section. For those citizens that said a specific type of crime was a major problem, we followed with the question:

> **"How much effort do you think the police have made in dealing with type of crime in your neighborhood in the past three months?"**

Since only those citizens that answered that a type of crime was a major problem are included in these analyses, we only present the totals for the two experimental areas combined. Our interest is in whether citizens perceived an improvement in effort from Phase One to Phase Two in the experimental areas. In general, citizens thought that police do not ignore these five offenses, but expend some or a lot of effort on these crimes. For example, citizens thought the police expended a lot of effort in responding to shootings and drugs. In addition, the percentage of citizens that thought that police expended a lot or some effort on these two crimes increased after implementation of the experiment. For example, 82.1 percent of citizens thought the

police expended a lot or some effort responding to drugs and 83.3 percent thought they expended a lot or some responding to shootings before the experiment. After the experiment, these percentages increased to 85.7 and 89.8 respectively.

Figure 4-4 presents the results for citizens claiming that police expend a lot of effort for each type of crime. The percentage of citizens claiming that police expends a lot of effort increased in Phase Two for all offense types. Although the changes were small and did not attain statistical significance, the pattern is consistent and suggestive of a small programmatic effect.

(Figure 4-4 about here)

Impact of Effort on Perceptions of Quality of Life

In this section we examine whether the increased levels of patrol had any impact on various indicators of citizen perception of quality of life. First, we discuss the impacts on citizen evaluation of the neighborhood and fear of crime. Second, we investigate citizen evaluation of the types of services that police provide in their neighborhood.

Neighborhood Change and Fear of Crime

In Table 4-7 we provide the Phase One and Phase Two results by area for the following four questions:

"In general, in the past three months, would you say your neighborhood has become a better place to live, a worse place to live, or has it stayed about the same?"

"In general, how do you rate your neighborhood as a place to live?"
"How safe would you feel walking alone in your neighborhood during the day?"

"How safe would you feel walking alone in your neighborhood at night?"

The first two questions asked the citizen to evaluate the quality of the neighborhood where they live. Most of the citizens participating in the survey rated their neighborhood as being fair or poor as a place to live, and the citizens responding in each area rated their neighborhood similarly. There was not much change when comparing Phase One to Phase Two except in the North Target Area. Fewer citizens rated their neighborhood as poor and more rated it as good in Phase Two. Similarly, the percent of citizens stating that their neighborhood was a better place to live increased in this area, and the percent of citizens responding it got worse decreased considerably. In Phase One, 26 percent of the citizens stated that their neighborhood had gotten worse in the last three months. In Phase Two, however, only 12 percent of the citizens stated that it had gotten worse. A similar pattern of responses occurred in the East Target Area. Citizens were less likely to state that their neighborhood was a worse place to live, and were less likely to rate their neighborhood as poor in Phase Two of the experiment. They were, however, also less likely to state the neighborhood was a better place.

(Table 4-7 about here)

Also presented in Table 4-7 are the two fear of crime questions. As expected, more citizens felt safe during the day than at night. In the two experimental areas, there were not any significant changes in citizen fear of crime when comparing Phase One to Phase Two results. In the North Target Area, about 75 percent of the citizens felt very safe or somewhat safe walking alone during the day both in Phase One and Phase Two, but only about 30 percent felt safe during the night. A similar percentage of citizens in the East Target Area felt safe during the night, but they were less likely to feel safe at night. Although there was not much change in the two experimental areas after the experiment, citizens in the comparison area were significantly less likely to feel safe at day and at night in Phase Two.

Police Response to Problems in the Neighborhood

Table 4-8 provides the results to questions asking citizens to evaluate the amount and types of services that the police provide in their neighborhood. The questions used were:

"How would you rate the job the police are doing in terms of working with people in your neighborhood to solve local problems"

"The police in your neighborhood try to provide the kind of services that the people in your neighborhood want (strongly agree to strongly disagree)"

"Your neighborhood gets its fair share of police services."

Citizens in all beats were generally satisfied with police response to problems in their neighborhood. For example, nearly half of the citizens stated that the police do an excellent or good job working on the problems of the neighborhood, and 75 percent strongly agreed or somewhat agreed that police provide the kind of services needed and that the neighborhood gets its fair share of police services. The responses to these three questions did not vary much by area. In addition, there were not many significant changes when comparing Phase One to Phase Two. In the East Target Area there was an increase in the number of citizens rating the police as excellent or good in terms of working with the neighborhood to solve local problems.

(Table 4-8 about here)

Survey of Citizens Stopped

We also surveyed citizens stopped by the IPD in the experimental areas. There were several objectives for conducting these surveys. First, we wanted to get a sense of what an officer did during a stop. Although the observational data provide the best measurement of officer behavior during these stops, these surveys provide a picture of how citizens viewed the stops. Second, we also wanted to ask citizens who were stopped to evaluate the police department. We recognize that citizens, when stopped by the police, are generally annoyed and unhappy. However, we wanted to gauge whether these citizens were less supportive of the police department than citizens in general. Third, we

wanted to collect data on their perceptions of crime and quality of life in their neighborhoods.

As noted earlier, of the 415 surveys that reached the citizens stopped, only 49 surveys were returned. This is a response rate of 12 percent. **Because of the low response rate, the usefulness of these data is extremely limited. The results that follow should be interpreted very cautiously, and only used for a general picture of the issues discussed.**

Most of the citizens who were stopped responding to the survey were male (about 58 percent). Thirty-four percent were African American, 57 percent were white, and 6 percent were other races. Most were working (62 percent), and the majority were either married or living with a partner (53 percent). About 22 percent of the citizens that responded had a high school degree, 22 percent had vocational training, 15 percent had some college, 8 percent had a college degree, and 6 percent had some post-graduate training. Of those people stopped, 53 percent lived in the neighborhood where they were stopped.

Perceptions of the Activities of Officers

We first asked the citizens who were stopped to describe what the officers did during the stop. Approximately 62 percent of the citizens thought the officers were justified in stopping them, and over 90 percent of the citizens said that the officers explained to them

why they were being stopped. Most of the citizens thought that the stops lasted a relatively short time. About 12 percent said the stop lasted less than 5 minutes, 51 percent said it last 6-10 minutes, and 25 percent said it lasted less than 20 minutes. Sixty percent of the citizens said they were kept informed about what the officer was planning to do during the stop, 98 percent were asked for their driver's license, and 80 percent thought that the officer adequately answered their questions. Most of the citizens were not asked to get out of their car (86 percent), most cars were not searched (90 percent), and most citizens were not handcuffed (93 percent).

We also asked the citizens who were stopped to evaluate the officer's behavior during the stop. Nearly 60 percent of the citizens were either very satisfied or satisfied with the way that they were treated during the stop. In addition, we asked a series of questions about the individual officers, including whether they thought the officer was professional, friendly, honest, and courteous. These citizens had very positive evaluations of the conduct of the officer during the stop. For example, over 80 percent strongly agreed or agreed with the statement that the officer was professional, 70 percent strongly agreed or agreed with the statement that the officer was friendly, 60 percent strongly agreed or agreed with the statement that the officer was honest, and 73 percent strongly agreed or agreed with the statement that the officer was courteous. We also asked them if they were afraid for their safety or felt harassed by the officers. Only 13 percent of the citizens strongly agreed or agreed with the statement that the officer harassed them, and only 17 percent were afraid for their safety.

Evaluations of IPD

Overall, the citizens who were stopped thought the IPD was doing a good job responding to crime in their neighborhood and providing the types of services needed. For example, almost 70 percent were satisfied with the IPD response to crime in the community, over half thought that IPD provides the kind of services that people want, 64 percent thought they get their fair share of police services, and 70 percent said most citizens have a favorable opinion of IPD, and 80 percent of the citizens supported the efforts of IPD. We also asked whether these citizens support aggressive patrol tactics, and 73 percent said they were in favor of them. These results are similar to the findings from the general citizen surveys.

We also asked these citizens to give their impressions of the officers working for IPD. Similar to what was found with the public opinion data and when asked to evaluate the officer doing the stop, most citizens thought that the officers working for IPD are professional and courteous. Over 60 percent thought that IPD officers are professional and 55 percent thought IPD officers are courteous.

Evaluations of Crime and Quality of Life

Similar to the findings from the general citizen survey, the citizens who were stopped were very concerned about the amount and types of crime occurring in their neighborhood. For example, 50 percent of the citizens surveyed thought drugs were a

major problem, 42 percent thought guns were a major problem, and 42 percent thought gangs were a major problem.

Citizens who were stopped were also dissatisfied or very dissatisfied with the quality of life in their neighborhood. About 44 percent were dissatisfied or very dissatisfied, and another 38 percent were only somewhat satisfied with the quality of life in their neighborhood. Most of these citizens felt safe to walk alone during the day. Only 6 percent felt unsafe or very unsafe to walk alone during the day. However, citizens who were stopped were very afraid to walk alone at night. Forty-four percent felt unsafe or very unsafe to walk alone at night.

Survey of Officers Working Directed Patrol

We also conducted a survey of the officers who worked the directed patrol project. The IPD officers working on the directed patrol experiment also voiced favorable opinions of the project. Of the 72 officers who completed the survey, 82 percent believed crime had decreased in the target area and 90 percent believed directed patrol was effective in reducing drug dealing, gang related crime, and firearms crime. All but one officer believed the department should continue these efforts. With the exception of one officer, all believed the effort improved relationships with the citizens of the target neighborhoods.

Table 4-1
Demographic Characteristics, Citizen Survey

	North		East		Comparison Area		Total Sample	
	Phase 1	Phase 2	Phase 1	Phase 2	Phase 1	Phase 2	Phase 1	Phase 2
	(n=138)	(n=97)	(n=151)	(n=99)	(n=131)	(n=86)	(n=420)	(n=282)
Gender								
Female	66.7%	70.1%	64.2%	63.6%	70.2%	70.9%	66.9%	68.1%
Male	33.3	29.9	35.8	36.4	29.8	29.1	33.1	31.9
Race								
White	17.0	13.7	87.3	87.9	19.4	19.8	43.2	41.8
African American	77.8	82.1	7.3	8.1	72.9	69.8	50.7	52.1
Other	5.2	4.3	5.3	4.0	7.8	10.5	6.0	6.0
Age	m=53	m=57	m=48	m=50	m=53	m=55	m=51	m=54
Marital Status								
Married	23.9	22.7	40.1	46.9	29.5	29.1	31.4	33.1
Living with partner	8.0	6.2	10.9	8.2	4.7	4.7	8.0	6.4
Widowed	15.9	21.6	8.2	9.2	17.1	20.9	13.5	17.1
Separated	3.6	5.2	3.4	4.1	7.8	5.8	4.8	5.0
Divorced	22.5	22.7	19.7	17.3	21.7	22.1	21.3	20.6
Never Married	26.1	21.6	17.7	14.3	19.4	17.4	21.0	17.8
Income								
0-14,999	29.0	29.5	22.5	21.6	17.9	21.7	23.1	24.3
15-24,999	21.8	22.7	22.5	23.7	29.3	32.5	24.4	26.1
25-34,999	17.7	19.3	14.8	14.4	26.0	21.7	19.3	18.3
35-49,999	18.5	14.8	26.1	25.8	19.5	14.5	21.6	18.7
50+	12.9	13.6	14.1	14.4	7.3	9.6	11.6	12.7
Own Home	58.4	62.5	65.3	74.7	81.5	82.6	66.5	73.0
Rent	41.6	37.5	34.7	25.3	18.5	17.4	31.9	27.0
Education								
Grade 1-11	17.8	22.3	22.7	21.2	20.9	20.9	20.5	21.5
High School	29.6	29.8	36.7	39.4	31.0	34.9	32.6	34.8
Some College	28.1	25.5	14.0	14.1	29.7	24.4	23.2	21.1
College Degree	11.9	10.6	10.0	8.1	10.9	8.1	10.9	9.0
Post-grad Work	1.5	2.1	2.7	4.0	0.8	1.2	1.7	2.5
Master's Degree	3.7	2.1	8.0	7.1	2.3	2.3	4.8	3.9
Doctorate	3.7	1.1	2.7	4.0	0	0	2.2	1.8
Vocational	3.7	6.4	3.3	2.0	5.4	8.1	4.1	5.4

Figure 4-1: Awareness of Directed Patrol

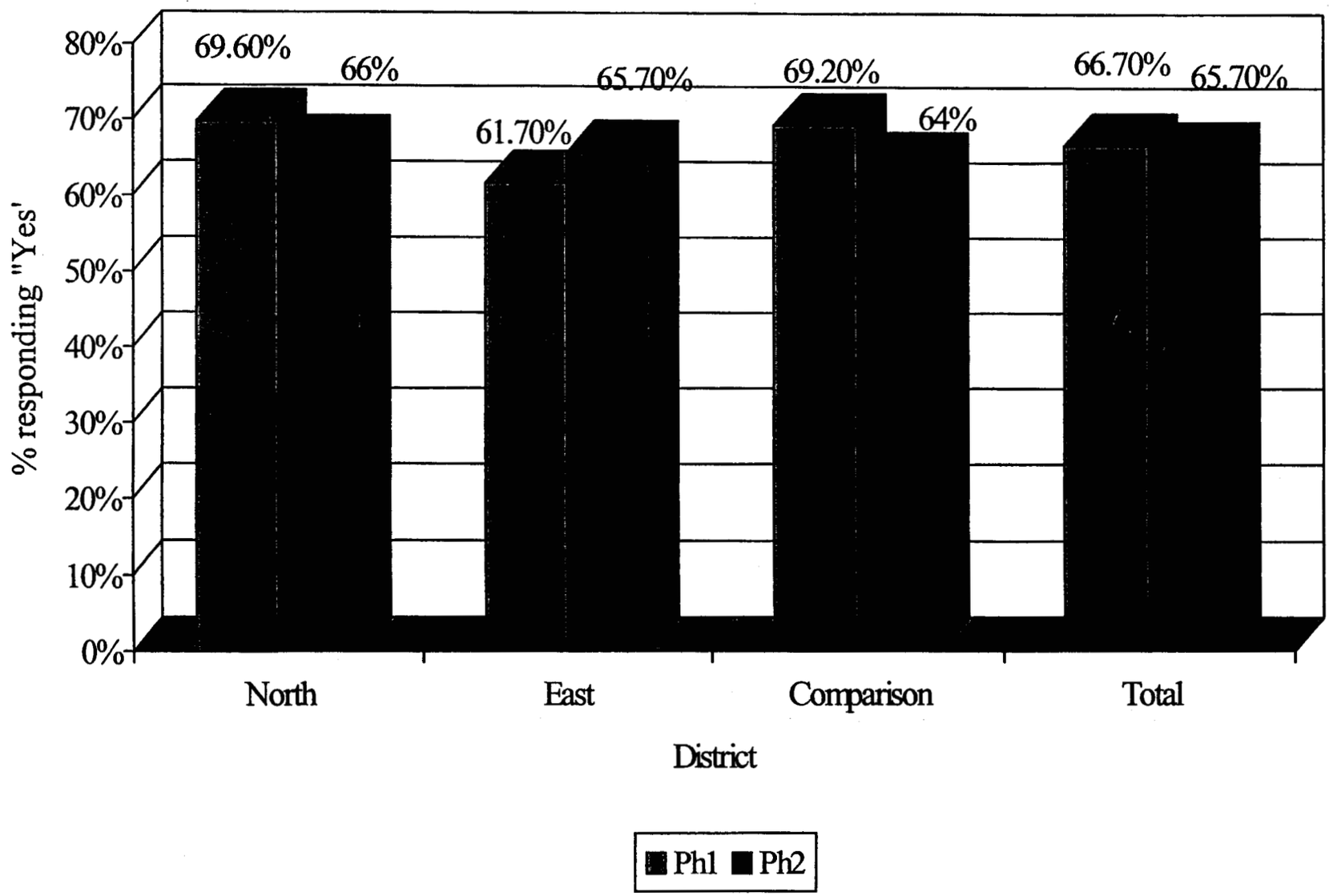

Figure 4-2:Support for Aggressive Patrol

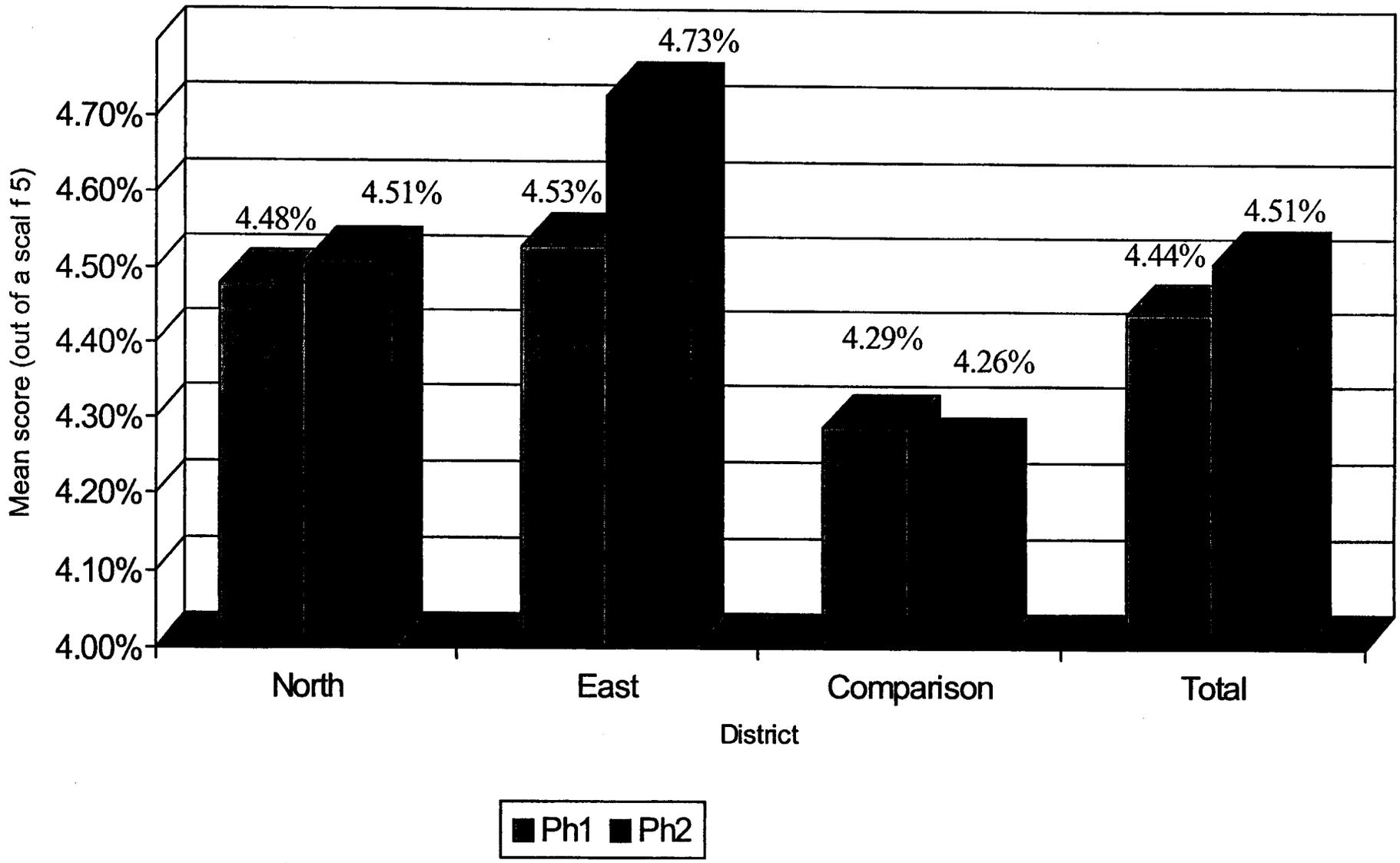

Table 4-2
Support for Directed Patrol by Race and Gender

	North		East		Comparison Area		Total Sample	
	Black	White	Black	White	Black	White	Black	White
Percent who Strongly Support (Phase 1)	77.7%	65.2%	72.7%	73.8%	67.7%	58.3%	72.9%	70.6%
Percent who Strongly Support (Phase 2)	76.7	66.7	75.0	87.4	64.4	56.3	71.4	80.9
Mean (Phase 1)	4.58	4.09	4.27	4.57	4.37	4.08	4.47	4.44
Mean (Phase 2)	4.62	4.25	4.13	4.77	4.19	4.19	4.41	4.63
Significance	**0.90**	**0.44**	**0.20**	**0.10**	**0.94**	**0.76**	**0.72**	**0.21**
	Male	Female	Male	Female	Male	Female	Male	Female
Percent who Strongly Support (Phase 1)	67.4%	77.5%	70.4%	75.0%	55.3%	70.3%	65.2%	74.3%
Percent who Strongly Support (Phase 2)	66.7	77.4	86.5	87.1	65.2	65.6	74.4	76.8
Mean (Phase 1)	4.35	4.55	4.52	4.53	4.18	4.33	4.37	4.47
Mean (Phase 2)	4.27	4.63	4.78	4.69	4.35	4.23	4.5	4.52
Significance	**0.69**	**1.0**	**0.41**	**0.51**	**0.27**	**0.95**	**0.32**	**0.82**

Table 4-3
Opinion and Support of IPD

	North			East			Comparison Area			Total Sample	
	Phase 1	Phase 2		Phase 1	Phase 2		Phase 1	Phase 2		Phase 1	Phase 2
Favorable Opinion											
Strongly Agree	24.3%	21.4%		27.1%	18.5%		34.9%	25.6%		28.6%	21.7%
Somewhat Agree	38.7	47.6		40.6	51.1		43.1	51.3		40.8	50
Somewhat Disagree	21.6	17.9		20.3	19.6		11	17.8		17.8	18.5
Strongly Disagree	15.3	13.1		12	10.9		11	5.1		12.7	9.8
Level of Support for IPD											
No Support	3.1%	5.4%		3.4%	4.0%		7.0%	10.7%		4.4%	6.5%
2	8.5	10.8		4.7	3		6.2	4.8		6.4	6.2
3	27.9	23.7		25.5	15.2		30.2	32.1		27.5	23.2
4	20.2	20.4		28.2	35.4		19.4	17.9		22.9	25
Strong Support	40.3	39.8		38.3	42.4		37.2	34.5		38.6	39.1
Mean Score	3.86	3.78		3.93	4.09		3.74	3.61		3.85	3.84
Significance		**0.12**			**0.29**			**0.3**			**0.42**

Table 4-4
Evaluation of IPD Officers

	North			East			Comparison Area			Total Sample	
	Phase 1	Phase 2		Phase 1	Phase 2		Phase 1	Phase 2		Phase 1	Phase 2
Professional											
Strongly Agree	30.2%	22.0%		42.3%	38.1%		30.7%	24.4%		34.8%	28.5%
Somewhat Agree	43.4	49.5		43.6	46.4		44.9	56.1		44	50.4
Somewhat Disagree	18.6	18.7		6.7	9.3		14.2	17.1		12.8	14.8
Strongly Disagree	7.8	9.9		7.4	6.2		10.2	2.4		8.4	6.3
Significance		**0.007**			**0.48**			**0.71**			**0.12**
Courteous											
Strongly Agree	28.7	22.6		36.2	35.4		29.7	16.9		31.8	25.4
Somewhat Agree	48.1	55.9		49.7	51.0		50.0	63.9		49.3	56.6
Somewhat Disagree	14.0	12.9		8.7	8.3		14.1	14.5		12.1	11.8
Strongly Disagree	9.3	8.6		5.4	5.2		6.3	4.8		6.9	6.3
Significance		**0.02**			**0.35**			**0.007**			**0.001**
Harass Citizens											
Strongly Agree	9.2	11.4		8.3	6.2		12.2	6.2		9.8	7.9
Somewhat Agree	43.3	35.2		20.7	21.6		38.2	35.8		33.2	30.5
Somewhat Disagree	24.2	31.8		26.9	33		30.9	38.3		27.3	34.2
Strongly Disagree	23.3	21.6		44.1	39.2		18.7	19.8		29.6	27.4
Significance		**0.79**			**0.57**			**0.17**			**0.77**

Table 4-5
Satisfaction with Police Patrol

	North			East			Comparison Area			Total Sample	
	Phase 1	Phase 2		Phase 1	Phase 2		Phase 1	Phase 2		Phase 1	Phase 2
Police Presence											
Strongly Agree	30.8%	28.3%		32.7%	29.2%		29.3%	18.6%		31.0%	25.5%
Somewhat Agree	31.6	39.1		32.0	42.7		39.0	41.9		34.0	41.2
Somewhat Disagree	22.6	23.9		19.0	16.7		21.1	23.3		20.8	21.2
Strongly Disagree	15.0	8.7		16.3	11.5		10.6	16.3		14.1	12.0
Significance		**0.92**			**0.84**			**0.03**			**0.16**
Satisfaction with Patrol											
Too Many	5.2	6.3		0.0	0.0		0.8	1.2		1.9	2.5
Too Few	46.7	44.2		59.3	50.0		55.8	56.5		54.1	50.0
About Right	48.1	49.5		40.7	50.0		43.4	42.4		44.0	47.5
Significance		**1.0**			**0.03**			**0.52**			**0.29**
Number of Police											
Very Satisfied	12.0	18.8		13.2	17.3		14.2	14.0		13.1	16.8
Somewhat Satisfied	52.6	45.8		48.3	50.0		50.4	39.5		50.4	45.4
Somewhat Dissatisfied	24.1	26.0		25.2	26.5		26.0	33.7		25.1	28.6
Very Dissatisfied	11.3	9.4		13.2	6.1		9.4	12.8		11.4	9.3
Significance		**0.19**			**0.04**			**0.04**			**0.47**

Figure 4-3: Perceptions of Crime

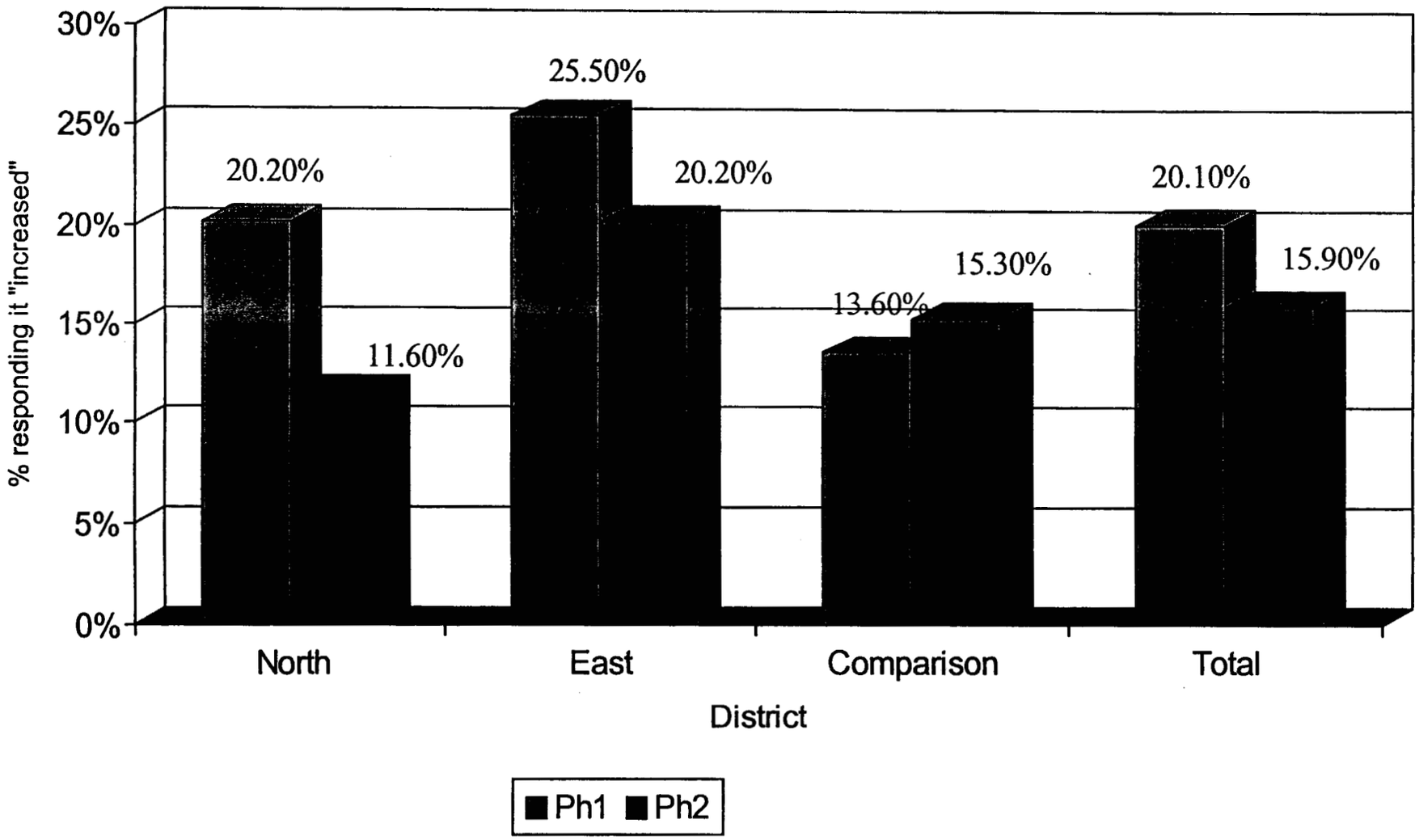

Table 4-6
Perceptions of Specific Types of Offenses

	North			East			Comparison Area			Total Sample	
	Phase 1	Phase 2		Phase 1	Phase 2		Phase 1	Phase 2		Phase 1	Phase 2
Theft											
Major Problelm	20.2%	13.8%		25.2%	28.7%		10.3%	6.1%		18.8%	16.7%
Minor Problem	32.3	50.6		51.7	53.2		35.7	42.7		40.5	49.0
Not a Problem	47.6	35.6		23.1	18.1		54.0	51.2		40.7	34.2
Significance		**0.53**			**0.57**			**0.72**			**0.57**
Drugs											
Major Problem	54.0	46.5		58.0	43.8		31.1	30.0		48.2	40.5
Minor Problem	27.4	33.7		21.0	38.5		35.2	36.3		27.6	36.3
Not a Problem	18.5	19.8		21.0	17.7		33.6	33.8		24.2	23.2
Significance		**0.02**			**0.09**			**0.89**			**0.03**
Gangs											
Major Problem	10.3	12.6		17.6	17.5		7.1	10.8		12.0	13.9
Minor Problem	40.5	39.1		43.9	43.3		35.7	32.5		40.3	38.6
Not a Problem	49.2	48.3		38.5	39.2		57.1	56.6		47.8	47.6
Significance		**0.69**			**0.88**			**0.43**			**0.70**
Shootings/Guns											
Major Problem	41.8	35.5		31.8	27.6		19.8	28.2		31.3	30.4
Minor Problem	31.3	37.6		31.1	39.8		35.9	31.8		32.7	36.6
Not a Problem	26.9	26.9		37.1	32.7		44.3	40.0		36.1	33.0
Significance		**0.17**			**0.48**			**0.13**			**0.65**
Traffic											
Major Problem	26.5	29.5		35.1	30.6		26.9	27.1		29.7	29.1
Minor Problem	35.3	37.9		41.7	41.8		36.9	41.2		38.1	40.3
Not a Problem	38.2	32.6		23.2	27.6		36.2	31.8		32.1	30.6
Significance		**0.53**			**0.37**			**0.90**			**0.75**

Figure 4-4: Police Effort to Respond to Crime

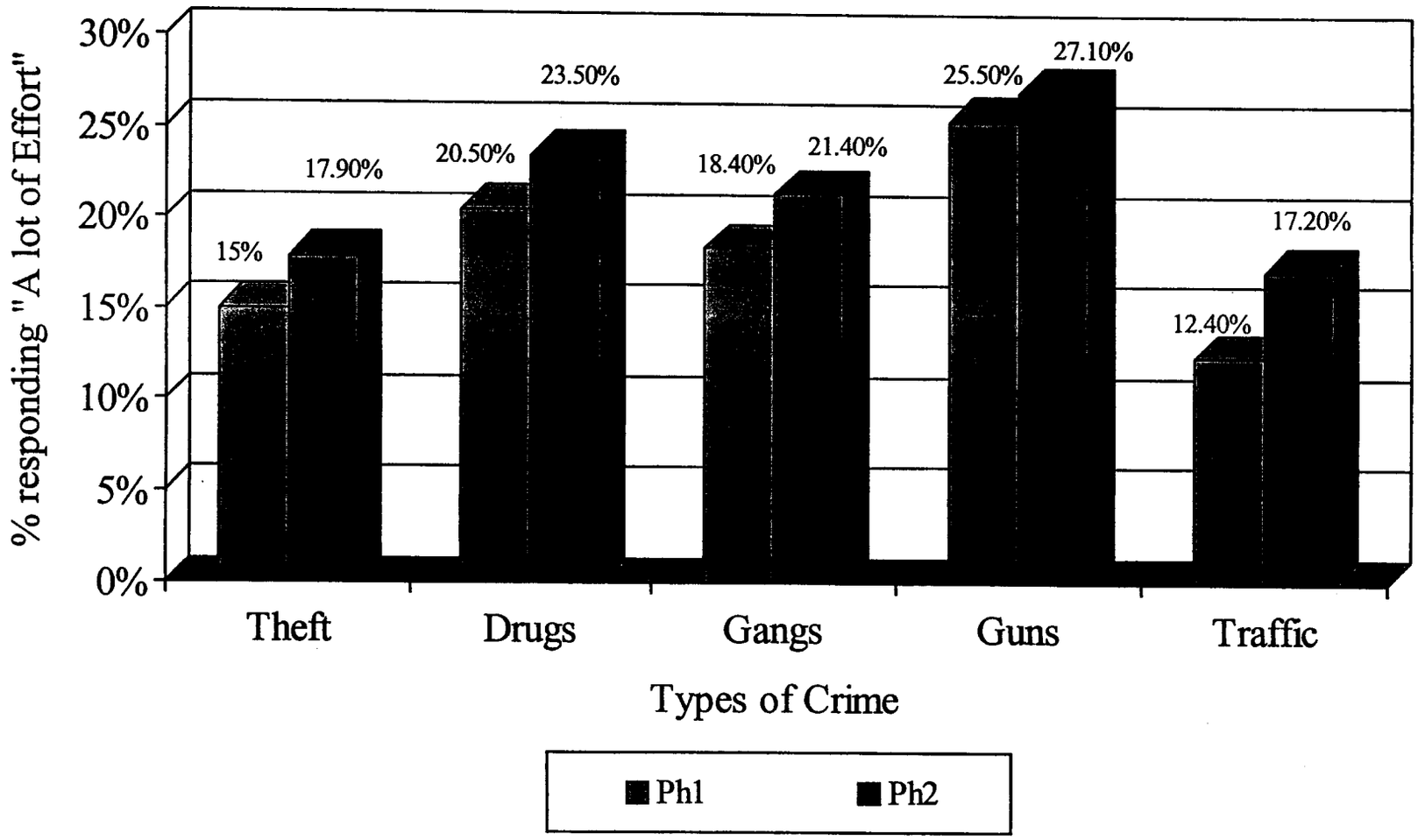

Table 4-7
Quality of Life Items

	North			East			Comparison Area			Total Sample	
	Phase 1	Phase 2		Phase 1	Phase 2		Phase 1	Phase 2		Phase 1	Phase 2
Rate Neighborhood											
Excellent	5.1%	4.1%		9.9%	6.1%		6.9%	3.5%		7.4%	4.6%
Good	21.7	30.9		25.8	27.3		38.9	41.9		28.6	33.0
Fair	52.9	52.6		37.7	51.5		45.0	48.8		45.0	51.1
Poor	20.3	12.4		26.5	15.2		9.2	5.8		19.0	11.3
Significance		**0.04**			**0.21**			**0.75**			**0.07**
Neighboorhood Change											
A Better Place	13.8	18.6		16.7	9.1		10.0	12.9		13.6	13.5
A Worse Place	26.1	12.4		24.0	11.1		16.2	12.9		22.2	12.1
Stayed the Same	60.1	69.1		59.3	79.8		73.8	74.1		64.1	74.4
Significance		**0.63**			**0.001**			**0.91**			**0.03**
Fear of Crime (Day)											
Very Safe	26.8	26.0		28.5	27.3		42.2	36.5		32.1	29.6
Somewhat Safe	49.3	55.2		49.0	44.4		45.3	44.7		48.0	48.2
Somewhat Unsafe	19.6	14.6		19.2	23.2		10.2	12.9		16.5	17.1
Very Unsafe	4.3	4.2		3.3	5.1		2.3	5.9		3.4	5.0
Significance		**0.22**			**0.31**			**0.09**			**0.35**
Fear of Crime (Night)											
Very Safe	5.9	3.1		0.7	5.1		12.3	4.7		6.0	4.3
Somewhat Safe	27.2	23.7		24.5	12.1		27.7	27.9		26.4	20.0
Somewhat Unsafe	34.6	36.1		31.1	39.4		33.8	36.0		33.1	31.2
Very Unsafe	31.6	35.1		42.4	43.4		23.8	31.4		33.1	36.9
Never Go Out	0.7	2.1		1.3	0.0		2.3	0.0		1.4	0.7
Significance		**0.46**			**0.16**			**0.10**			**0.49**

Table 4-8
Evaluation of Police Services

	North			East			Comparison Area			Total Sample	
	Phase 1	Phase 2		Phase 1	Phase 2		Phase 1	Phase 2		Phase 1	Phase 2
Work on Problems											
Excellent	8.3%	10.5%		12.1%	17.3%		7.9%	7.2%		9.6%	12.0%
Good	29.3	34.7		38.3	40.8		30.2	28.9		32.8	35.1
Fair	45.1	40.0		32.9	32.7		40.5	39.8		39.2	37.3
Poor	17.3	14.7		16.8	9.2		18.3	22.9		17.4	15.2
No Problems	0.0	0.0		0.0	0.0		3.2	1.2		1.0	0.4
Significance		**0.69**			**0.09**			**1.0**			**0.23**
Provide Services											
Strongly Agree	22.7	28.0		24.8	33.7		25.0	13.4		24.2	25.6
Somewhat Agree	52.3	51.6		52.3	51.6		50.0	58.5		51.6	53.7
Somewhat Disagree	18.0	16.1		14.8	8.4		17.5	19.5		16.6	14.4
Strongly Disagree	7.0	4.3		8.1	6.3		7.5	8.5		7.6	6.3
Significance		**0.65**			**0.27**			**0.06**			**0.94**
Fair Share of Services											
Strongly Agree	22.5	28.0		30.4	29.4		23.0	14.8		25.6	24.5
Somewhat Agree	48.1	52.7		45.3	49.5		48.4	59.3		47.1	53.5
Somewhat Disagree	23.3	12.9		14.9	15.2		20.6	14.8		19.4	14.3
Strongly Disagree	6.2	6.5		9.5	6.1		7.9	11.1		7.9	7.7
Significance		**0.27**			**0.35**			**0.22**			**0.60**

CHAPTER FIVE

SUMMARY AND CONCLUSIONS

Discussion

As noted at the outset, the goals of the evaluation were to examine the effect of directed patrol on crime and on the community. Specifically, we sought to address the following issues:

- Can the promising results in terms of reducing firearms crime of the Kansas City gun experiment be replicated in Indianapolis?
- Are there differential effects of two related but different directed patrol strategies?
- Does directed patrol have an effect on other types of crime?
- Does this type of directed patrol effort displace crime to surrounding areas or does it lead to a diffusion of benefits to surrounding areas?
- Will the community support this type of aggressive traffic enforcement?

In the following sections we address these issues. We also discuss theoretical, research and practical issues about directed patrol strategies.

A Replication with a Twist

Perhaps the simplest statement that can be made about the Indianapolis directed patrol project is that the Kansas City gun experiment results were replicated in one test site but not the other. For the most part, the activity data of officers working in the north target

area was more similar to officers in the Kansas City experiment than was the activity in the east target area. The impact of directed patrol on gun crime, homicide, aggravated assault with a gun, and armed robbery in the north target beat was also quite similar to that observed in Kansas City. In contrast there was little evidence of impact of directed patrol on gun-related crime, other than a possible effect on homicide, in the east target area. This, of course, raises the important question of why the effect in the north target area but not the east?

Figure 5-1 contrasts the Kansas City results with those observed in Indianapolis.[12] Sherman and colleagues (Sherman, Shaw and Rogan, 1995; Sherman and Rogan, 1995) reasonably hypothesized that the causal mechanism for the Kansas City effect may have been the increased number of illegally possessed firearms that were removed from the high violent crime neighborhood.[13] If removal of illegal weapons was the sole causal mechanism, however, then the Indianapolis project should have produced more of an effect in the east target area, where illegal firearms seizures increased 50 percent, than in the north target area where firearms seizures increased a modest 8 percent. Of course, the results were just the opposite. Several potential explanations emerge.

(Figure 5-1 about here)

[12] Earlier in the report we noted a 65 percent increase in firearms seizures. Figure 5-1 reports a 70 percent increase. The 65 percent figure is based on absolute guns seized whereas the 70 percent figure is based on rates.

[13] It is important to recall that Sherman and colleagues offered the removal of firearms as one of several potential explanations of the impact on gun crime.

Two Related but Distinct Strategies

As noted earlier, two related but different strategies were employed in the two target areas. In the east district, a general deterrence strategy was employed that relied heavily on maximizing the number of vehicle stops. The idea was to create an enhanced police presence through a large number of vehicle stops. The vehicle stops become a mechanism for uncovering illegal weapons, drugs, and other illegal activities. The north district, in contrast, employed a specific deterrence or targeted offender strategy. This approach sought to maximize stops of particularly suspicious activities and to conduct more thorough investigations upon a vehicle or pedestrian stop. It too sought to identify illegal firearms, drugs, and illegal activities.

As noted in Chapter Three, the two strategies were evident in the activity data. The east district officers made twice as many vehicle stops and issued more traffic tickets than did north district officers. The north district officers made more felony arrests per officer hour and uncovered more firearms per officer hour. North target vehicle stops yielded higher rates of citations (versus warnings), arrests, and gun seizures per vehicle stop. Interestingly, it appears that the activity levels in the north target area were more similar to the levels in the Kansas City experiment than were the activity levels in the east district.

Thus, one potential explanation for the differential effects is that the targeted offender approach was a more effective mechanism for reducing firearms-related violence. It may

be that the targeted offender approach sends a message of increased surveillance and removes firearms from those individuals most likely to engage in violent crime. This is in contrast to the wider net approach observed in the east target area. This finding is consistent with prior research that suggests that crackdowns that focus on specific types of crime in specific locations have the most effect on crime (Sherman, 1990).

This is not to imply that the removal of illegally possessed weapons is unimportant. Recall that the total number of firearms seized in both districts was nearly equal. Indeed, it may be that the focus on illegal firearms helps to direct officers toward the appropriate suspicious targets for investigation and that the subsequent removal of illegal firearms provides the type of incapacitation effect that Sherman and colleagues hypothesized.

Beyond the varying strategies, however, several rival explanations merit attention.

The East Target Area May be Suffering from a Decay Effect

Earlier in this report we described the Safe Streets Project, a 30-day directed patrol initiative occurring in November-December 1995. The Safe Streets Project was implemented in target beats in all of IPD's police districts including the east target area. Further, the east district used the same type of general deterrence strategy employed in

the directed patrol experiment. In the Safe Street project, the east target area experienced decreases in burglary, robbery, and motor vehicle theft.[14]

Given the continued high crime rate in the east target beats, and the positive effects of Safe Streets, some type of directed patrol effort has been employed in the east target beats for most of the time since the initial Safe Streets Project. Consequently, this may be generating what Sherman (1992) has called a "decay effect." That is, a police crackdown can have very positive deterrent effects for a time period but eventually the impact declines as offenders begin to take into account the routine of the police effort. Although the east district directed patrol project represented a significant increase in the level of police patrol, it was a strategy that had been operational at a lower level of intensity for approximately 18 months. In contrast, the north target areas had not witnessed directed patrol efforts since the 1995 Safe Street Project.

East District Results May Reflect a Rebound Effect from Earlier Suppression

Related to the decay effect is the possibility that the east district results reflect a statistical artifact produced by the earlier Safe Streets Project. If the Safe Streets Project suppressed crime in the east target areas for the comparable period in 1996, then the increase observed in 1997 may reflect a "regression to the historical mean." That is, it may have been impossible to keep crime at such a low level and consequently a "rebound" effect was occurring in the project period.

[14] Other than robbery, the analysis of Safe Streets did not examine effect on violent crime and there was no focus on firearms-related crime specifically. The burglary and motor vehicle effects were significant at the

To examine this possibility, we compared the January to June period of 1996 to the previous year. The January to June period of 1996 immediately followed the Safe Streets Project. Thus, if a long-term residual deterrence effect was occurring, we would anticipate that crime would be lower during this period than had been true during the previous year. This does not appear to be the case. As Table 5-1 indicates, violent crime in the east district was virtually unchanged from the prior year. Thus, it appears unlikely that the Safe Streets Project produced a long-term suppression effect that produced unusually low violent crime rates for the east target beats in 1996.

(Table 5-1 about here)

The data also indicate that violent crime had been increasing in both the east and north target areas for the first six months of 1997. From the results already presented, it appears that the directed patrol strategy stemmed this increase in the north target area while not having an effect on the east district target area.

The North District May Have Benefited from a K-9 Initiative

As in many evaluations, other activities were occurring simultaneously with the intervention. Within the north district target beats, several areas were also targeted for K-9 patrol. The intent was to reassure the community through increased police presence and to disrupt drug markets by the presence of the patrol. Consequently, the K-9 unit

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.05 level. The robbery effect was significant if employing a .10 cutoff.

would occasionally stop at areas designated as hot spots and drug market locations, some of which were located in the north target area.

We do not, however, believe the K-9 patrol, distinct from directed patrol, generated the crime reductions. This is because the K-9 patrol was spread beyond the target area and the actual number of hours of K-9 patrol in the two target beats was quite low in comparison to the number of hours of directed patrol. It appears that the level of K-9 patrol within the north target area during the 90-day project period consisted of 10 to 15 minute stops for a total of approximately two hours. It is certainly reasonable, however, that a combination of a K-9 patrol that disrupts the activity of drug markets, accompanied by directed patrol, may have an enhanced deterrent effect than either strategy used in isolation.

Effect on Other Types of Crime

There was no evidence of directed patrol having an effect on other types of crime. The declines in overall aggravated assaults and robberies observed in the north district appear largely to be the product of the reductions in aggravated assault with a gun and armed robbery. Both target areas experienced increases in burglary. The north district witnessed a decrease in motor vehicle theft but the decline was also observed in the comparison area and there was a slight drop citywide.

The lack of effect on non-firearm crime seems to reflect the point made earlier that crackdowns seem to have the most impact on specific types of crimes in specific hot spot locations (Sherman, 1990). These findings were, however, somewhat surprising in comparison to the results observed in the earlier Safe Streets Project (see also Whitaker et al., 1985). In that initiative, the strongest effects were observed for burglary and motor vehicle theft. In contrast, the Kansas City project did not find effects beyond firearms crime. This raises questions about the specificity of the directed patrol strategy. Does the focus on firearms generate the firearms-crime specific results? Were the Safe Streets Project's property crime results an aberration?

Residual Deterrence and Crime Displacement

There was some, though weak, evidence of a residual deterrence effect in the north district. Homicide, armed robbery, and aggravated assault with a gun continued to decline in the 90-day post intervention period. The difficulty in drawing conclusions from these results, however, is that these offenses also declined citywide.

As noted in the earlier chapter, there were no discernable patterns of changes in crime in the areas surrounding the target beats. Thus, there was no pattern of either displacement or a diffusion of benefits.

Costs-Benefits

The budgeted cost for this effort was $120,000 to cover the overtime costs of officers working this detail. It does not appear that the full amount was expended during the 90-day project but this appears to be the most accurate estimate of IPD's costs. We can estimate the benefits based on the reductions of homicides and the other offenses that were reduced in the north target area. The estimated cost savings come from a National Research Council study that is the most comprehensive assessment of costs of crime (Cohen, Miller, and Rossman, 1994). The society costs include the criminal justice processing costs of the police, courts and corrections systems, as well as the loss of productivity of an incarcerated offender. The victim costs include medical costs, property costs, loss of victim productivity, and pain and suffering. Society costs for murders are estimated at $103,800 per incident. For robbery and aggravated assault the society costs are $5,600 per incident. The victim costs for murder are estimated at $2.2 million per incident. Victim costs for robbery and aggravated assault are $19,200 and $16,500 per incident, respectively.

Based on these estimates, the prevention of one murder and two robberies and aggravated assaults more than offset the society costs of $120,000 for the directed patrol effort. This does not even include the more costly victim costs. Further, the overall homicide findings and the north district results indicate that there were considerably more than one less homicide and two fewer robberies and aggravated assaults (the net reduction in the north target area was 6 fewer homicides, 16 fewer aggravated assaults with a gun, and 12

fewer armed robberies). Thus, from a cost-benefit perspective it appears that the directed patrol experiment easily paid for itself. Further, these are conservative estimates in that the dollar values for the costs of crime are based on 1987 dollars. To account for inflation these estimates should be increased by approximately 35 to 40 percent (Cohen, Miller, and Rossman, 1994).

On the other hand, we do not account for additional system costs generated by the directed patrol initiative. Specifically, we do not have estimates of the costs associated with the arrests generated by directed patrol. Nor do we have an estimate of revenue generated by the large number of traffic citations issued. Absent all these dimensions we cannot provide a precise cost-benefit estimate. If the National Research Council costs of crime figures are accepted, however, the crime reductions experienced in the north target area appear to readily offset the project's costs.

Effect on the Community

Support for Directed Patrol and Perceptions of the Police

As noted in the earlier chapter, the level of change in citizen attitudes from the period before directed patrol to that following directed patrol was quite modest. The findings did reveal that there was a high level of citizen awareness and support for IPD's directed patrol effort. The results were consistent for both target areas and for whites and African-

Americans. Two-thirds of the sample expressed favorable opinions and high levels of support for IPD.[15]

Thus, overall there appeared to be support for directed patrol and the implementation of aggressive patrol did not appear to generate negative perceptions of the police department. This was particularly striking because the survey was conducted during a highly publicized trial of a small group of officers involved in a downtown incident between off-duty officers and two civilians. The incident was particularly damaging because of allegations of racial overtones.

Despite the large number of contacts between police and citizens, and the large number of citations and arrests, IPD officials reported that there were no reported citizen complaints tied to the directed patrol initiative. IPD took several steps to attempt to prevent conflict from this aggressive police strategy. First, the deputy chief of each district attended community meetings and personally spoke with neighborhood leaders prior to implementation of directed patrol. They explained the project and its goals and stated that the department would not implement the project if the community objected. Assured of the support, at least of formal neighborhood leaders, the deputy chiefs asked these leaders to explain the project to neighborhood residents and to solicit community support. Second, the department provided adequate supervision to the project. A captain in each district was assigned to the project and a team of sergeants directly supervised the

[15] There were some negative changes in terms of assessment of the courteousness and professionalism of IPD officers. These changes, however, were of a very small magnitude and were also observed in the comparison area.

officers, often arriving on the scene of traffic stops and investigations. Further, the captains and sergeants emphasized that the project had to be implemented in a way that was respectful of the citizens that officers had contact with.

The citizen survey results suggested that IPD was successful in implementing the project in a fashion that did not generate police-citizen conflict. Of course, the survey approach is unlikely to tap into the perceptions of the most disenfranchised members of the community. Thus, it does not reveal whether other citizens were critical of the increased level and nature of patrol in these areas. There is no evidence of such criticism but it remains a possible effect of directed patrol efforts.

Perceptions of Neighborhood and Crime

In terms of the assessment of impact on perceptions of crime, there was some modest evidence of positive effect for directed patrol. Specifically, the number of respondents stating that drugs and guns were major problems in their neighborhoods declined by the end of the directed patrol initiative. Further, residents of the target areas were more likely to report positive changes in their neighborhood than were residents of the comparison area. On the other hand, there was little evidence that the project had an effect on fear of crime or significantly affected perceptions of the quality of life in the neighborhood.

One interesting observation is that the effects on public perceptions were quite similar for east and north target area residents. This despite the contrasting impact on officially

recorded crime in the two areas. Taylor (1998) has noted that a number of studies have found a disconnect between changes in disorder and changes in crime. Often, changes in disorder have been measured through resident's perceptions and the changes in levels of perceived disorder have been much more dramatic than has been the change in crime. In the present study, we see significant differences in changing levels of crime between the two areas but fairly consistent changes in perceptions of crime and disorder in both neighborhoods. That is, the changes in crime did not translate into differences in perception among residents of both areas. As Taylor has stated, the "relative independence" of changes in crime and perceptions of crime and disorder raises a number of interesting issues about perceived crime, disorder, and fear and the perceived quality of life in a neighborhood.

Implications and Issues

1) **These results indicate that directed patrol in high violent crime locations can have a significant effect on violent crime.**

This is indicated by the overall effect on homicide, the effect on firearms-related crime in the north target area, and the consistency with earlier findings in the Kansas City project. The east target area results on crime, however, suggests that the positive results are not automatic.

2) **Consequently, we need to learn much more about the effects of directed patrol strategies on crime.**

The Kansas City results suggested that removing illegal weapons from a high crime neighborhood may be a key strategy to reduce firearms-related crime. The contrast between the north and east districts suggests that merely removing illegal firearms may not have been the sole causal agent. Rather, it may be that the focus on removing illegal firearms may generate a targeted offender approach that increases surveillance on high-risk individuals in high-risk neighborhoods.

3) **We need to design studies to help isolate the causal mechanisms of directed patrol initiatives.**

Related to the previous point, the causal mechanisms generating the reduced firearms crime in both Kansas City and the north target area remain unclear. The results could be due to a deterrent effect whereby high risk individuals are either less likely to carry illegal firearms or where they are less likely to engage in the underlying behaviors that lead to homicides, gun assaults, and armed robbery. The results could also be due to a related incapacitation effect due to fewer illegal weapons being on the street. An alternative incapacitation effect could be due to the arrest, prosecution, and incarceration of individuals likely to engage in violent crime. Contrasting the Kansas City, north and east target area results begins to demonstrate the analytic advantages of a multiple site, multiple strategy, test of the effects of directed patrol (see Sherman et al., 1997; Sherman, 1998). Our present state of knowledge, however, does not allow us to answer the

theoretical questions of what produced the effects observed in Kansas City and the north target area.

4) What do the east target area findings mean?

The east target areas are intriguing. At first glance it appears that the general deterrence strategy was less effective than the targeted offender strategy. Yet, the same strategy produced crime reductions for burglary and motor vehicle theft during the 30-day Safe Streets Project (Weiss and McGarrell, 1997). Did the east district experience a decay effect by running some form of directed patrol for approximately 18 months? Does the general deterrence strategy have a short-term impact on property crime but not on violent crime? If the east target area did experience a decay effect what is the optimal time period for a directed patrol effort in a targeted area? The answers to these questions will have significant policy implications for police departments considering directed patrol strategies.

5) We need to understand more about the differential impact on racial groups and neighborhoods.

Sampson and Cohen's (1988) study of police aggressiveness across American cities found that proactive policing, as indicated by high arrest ratios for disorder offenses, related to lower robbery rates. The effect was strongest for African-Americans. The Kansas City study found substantial effects of high levels of directed police patrol in a predominantly African-American neighborhood. Similarly, the Indianapolis north target area was a predominantly African-American neighborhood. In contrast, the east target area, where there was no impact, was a predominantly white neighborhood. Thus, in two

of the three tests of directed patrol on firearms crime, the impact has been isolated to the two, poor, African-American neighborhoods. Could it be that these neighborhoods, in contrast to poor, white neighborhoods, may have been underserved by police patrol relative to rates of violent crime? Thus, a significant increase in police patrol may be perceived as more of a change in neighborhood life than was the case in the east target area. On the other hand, the Safe Streets Project in 1995 did find an impact on crime in the east target area. Clearly, we cannot address these issues with a sample size of three but the issue warrants future attention.[16]

6) **We need to learn more about how to implement directed patrol projects in a manner consistent with maintaining positive relationships with the community.**

Consistent findings emerge from Kansas City and the present project in terms of the impact these projects had on citizen perceptions of the police. Both the Kansas City target area and the north target area occurred in predominantly African-American neighborhoods, involved aggressive patrol strategies, and received support by neighborhood residents. The effort was also supported in the predominantly white neighborhoods in the east target area. Given the history of police-citizen relationships in

[16] A similar issue relates to the fact that east district officers wrote more warning tickets than did the north target officers. At first glance it may appear that officers were more "tolerant" in the east area in comparison with the north target area. Looking at all the data, however, reveals that citizens were much more likely to be stopped, arrested, given a citation, and given a warning ticket in the east target area during this 90-day period than were individuals in the north target area. Thus, we do not believe the data are consistent with discriminatory behavior toward residents in the African-American neighborhood.

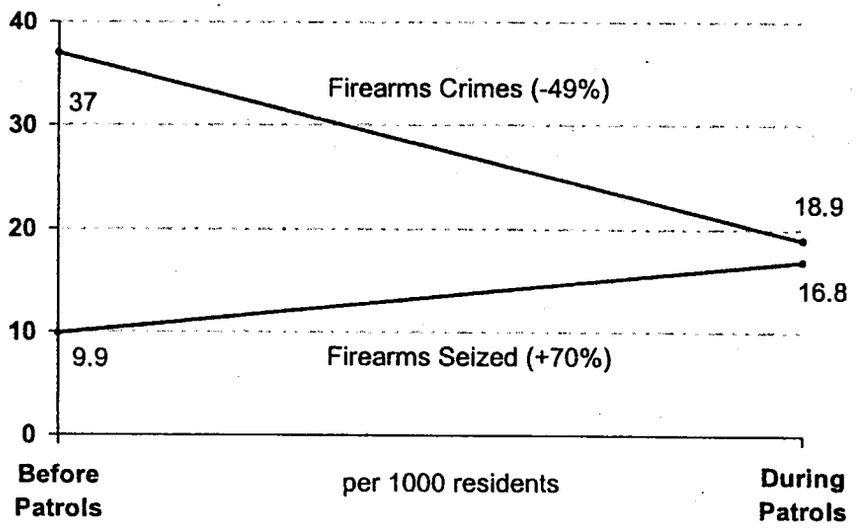
the African-American community, it is striking to find high levels of support by African-Americans for an aggressive police strategy that can lead to significantly higher levels of vehicle stops by the police.

In their 1988 article Sampson and Cohen (1988) quoted Sherman on this issue:

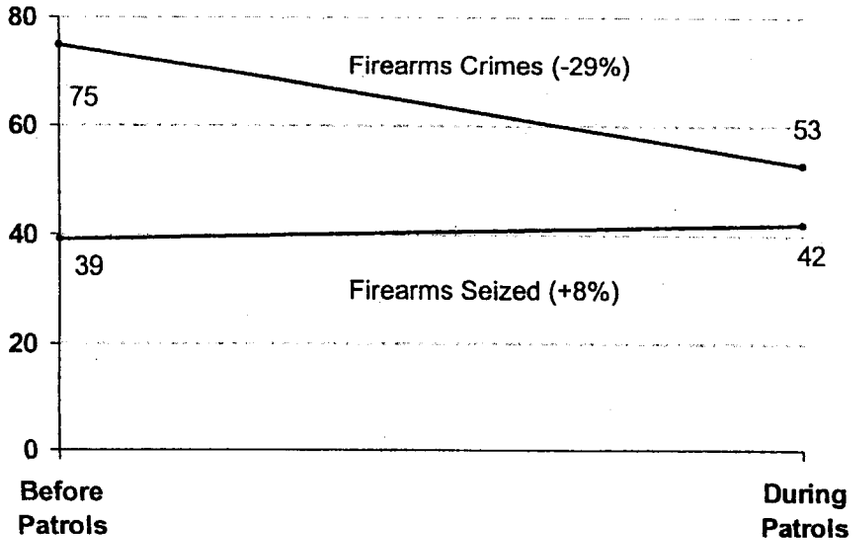
> Done properly, proactive strategies need not abuse minority rights or constitutional due process nor hinder community relations. But the difficulties of implementing such strategies are substantial, and great care is required at implementation (Sherman, 1986:379).

Earlier we noted that IPD district chiefs took the time to meet with neighborhood leaders and community groups to explain the initiative and to secure their support before implementation. We also noted that directed patrol supervisors emphasized the need to treat citizens with respect and explained to citizens why they were being stopped. Our observations suggested that officers did act consistent with these instructions. Beyond these points, however, we need to know more about the training and tactics that can be used to make this type of strategy positively received by the community. This point is given weight in the recent research reported by Paternoster et al. (1997). Although looking specifically at arrest in spouse assault cases, they found that the suspect's perception of the fairness of treatment by the police had long-term impacts on subsequent violence.

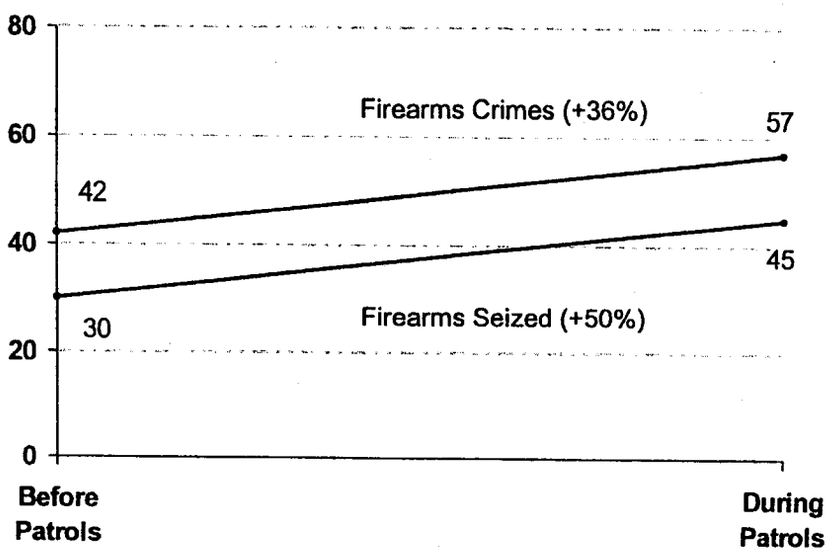
Figure 5-1
Kansas City Gun Experiment



Indianapolis - North District



Indianapolis - East District



Note: Kansas City data are normed by population; Indianapolis data are not.

Table 5-1
Changes in Violent Crime,
Six-Month Period Prior to Implementation with Comparisons to Prior Years

	January-June	East target areas	% change (95-96;96-97)	North target areas	% change (95-96;96-97)
Homicide	95	3	*	4	*
	96	2	*	7	*
	97	2	*	11	*
Aggravated assault	95	135	NA	150	NA
	96	134	+0.7	162	+8.0
	97	169	+25.4	169	+4.3
Robbery	95	110	NA	80	NA
	96	109	-0.9	94	+17.5
	97	135	+23.8	108	+14.9

*Percent change not calculated due to small N

Summary

The results of this directed patrol project are both promising and perplexing. They are promising in the sense that they suggest the important findings from Kansas City that firearms-related crime can be reduced through directed police patrol are replicated in Indianapolis. Given the extent to which the crime problem in the United States is largely a problem of firearms-related violence (Zimring and Hawkins, 1998), these are extremely promising results. They are perplexing in that the east target area, where seizures of illegally possessed firearms increased most significantly, did not experience a reduction in firearms crime. The results are promising enough to warrant continued experimentation. The lingering questions suggest the need for such study.

References

Bordua, D.J., and L.L. Tifft (1971) "Citizen Interviews, Organizational Feedback, and Police-Community Relations Decisions." *Law and Society Review* 6: 155-182.

Boydstun, J. (1975) *San Diego Field Interrogation: Final Report.* Washington, DC: Police Foundation.

Chaiken, J., M.W. Lawless, and K.A. Stevenson (1974) "The Impact of Police Activities on Subway Crime." *Urban Analysis* 3:173-205.

Clarke, R.V. and D. Weisburd (1994) "Diffusion of Crime Control Benefits." In R.V. Clarke (ed.), *Crime Prevention Studies, Volume 2.* Monsey, NY: Criminal Justice Press.

Cohen, M.A., T.R. Miller, and S.B. Rossman (1994) "The Costs and Consequences of Violent Behavior in the United States." In A. Reiss and J. Roth (eds.), *Understanding and Preventing Violence, Volume 4.* Washington, DC: National Academy Press, pp. 67-166.

Cook, T.D. and D.T. Campbell (1979) *Quasi-experimentation: Design and Analysis Issues for Field Settings.* Boston: Houghton Mifflin.

Cordner, G.W. (1981) "The Effects of Directed Patrol: A Natural Quasi-Experiment in Pontiac." In J. Fyfe (ed.), *Contemporary Issues in Law Enforcement.* Beverly Hills, CA: Sage.

Eck, J.E. (1993) "The Threat of Crime Displacement." *Criminal Justice Abstracts* 25:527-546.

Green, L. (1996) *Policing Places with Drug Problems.* Thousand Oaks, CA: Sage.

Jacob, J.H. and M.J. Rich, (1981) "The Effects of Police on Crime: A Second Look." *Law and Society Review* 15: 109-122.

Kennedy, D.M. (1998) *Pulling Levers: Getting Deterrence Right.* Washington, DC: National Institute of Justice Journal.

Kennedy, D. M. (1997) "Pulling Levers: Chronic Offenders, High-Crime Settings and a Theory of Prevention." *Valparaiso University Law Review* 31:449-(end page?)

Kennedy, D.M., A.M. Piehl and A.A. Braga, (1996) "Youth Violence in Boston: Gun Markets, Serious Youth Offenders, and a Use-Reduction Strategy." *Law and Contemporary Problems* 59:147-196

Koper, C. (1995) "Just Enough Police Presence: Reducing Crime and Disorderly by Optimizing Patrol Time in Crime Hot Spots." *Justice Quarterly*, 12: 649-672.

Marvell, T.B. and C.E. Moody (1996) "Specification Problems, Police Levels and Crime Rates." *Criminology,* 34: 609- 646.

Paternoster, R., R. Bachman, R. Brame, and L.W. Sherman (1997) "Do Fair Procedures Matter? The Effect of Procedural Justice on Spouse Assault." *Law and Society Review* 31:163-204.

Press, S.J. (1971) *Some Effects of an Increase in Police Manpower in the 20th Precinct of New York City.* New York: New York City Rand Institute.

Reiss, A.J., Jr. (1985) *Policing a City's Central District: The Oakland Story.* Washington, DC: National Institute of Justice

Rosenfeld, R. and S.H. Decker (1996) "Consent to Search and Seize: Evaluating an Innovative Youth Firearm Suppression Program." *Law and Contemporary Problems* 59:197-220.

Sampson, R.J. and J. Cohen (1988) "Deterrent Effects of the Police on Crime: A Replication and Theoretical Extension." *Law and Society Review* 22:163-189.

Schnelle, J.F., R.E. Kirchner Jr., J.D. Casey, P.H. Uselton Jr., and M.P. McNees (1977) "Patrol Evaluation Research: A Multiple-Baseline Analysis of Saturation Police Patrolling during Day and Night Hours." *Journal of Applied Behavior Analysis* 10:33-40

Schnelle, J.F., R.E. Kirchner Jr., J.R. Lawler, and M.P. McNees (1975) "Social Evaluation Research: The Evaluation of Two Patrol Strategies." *Journal of Applied Behavior Analysis* 8:232-240.

Shaw, J.W. (1995) "Community Policing Against Guns: Public Opinion of the Kansas City Gun Experiment." *Justice Quarterly* 12: 695-710.

Shaw, J.W. (1994) "Community Policing Against Crime: Violence and Firearms." Doctoral dissertation, University of Maryland.

Sherman, L.W. (1986) "Policing Communities: What Works?" In A. Reiss and M. Tonry (eds.), *Crime and Justice: Communities and Crime,* Vol. 8. Chicago: University of Chicago Press.

Sherman, L.W. (1998) "Cooling the Hot Spots of Homicide: A Plan for Action." In *What Can the Federal Government do to Decrease Crime and Revitalize Communities?* Washington, DC: National Institute of Justice and the Executive Office for Weed and Seed.

Sherman, L.W. (1990) "Police Crackdowns: Initial and Residual Deterrence." In M. Tonry and N. Morris (eds.), *Crime and Justice: An Annual Review of Research,* Vol. 12, pp.1-48. Chicago: University of Chicago Press.

Sherman, L.W., J.W. Shaw and D.P. Rogan, (1995) *The Kansas City Gun Experiment.* Washington, DC: National Institute of Justice.

Sherman, L.W., D.P. Rogan, (1995) "The Effects of Gun Seizures on Gun Violence: "Hot Spots" Patrol in Kansas City." *Justice Quarterly* 12: 673-693.

Sherman, L.W., D.A. Weisburd (1995) "General Deterrent Effects of Police Patrol in Crime "Hot Spots": A Randomized Controlled Trial." *Justice Quarterly* 12:625 -648.

Sherman, L.W., D. Gottfredson, D. MacKenzie, J. Eck, P. Reuter, S. Bushway (1997) *Preventing Crime: What Works, What Doesn't, What's Promising.* Washington, DC: Office of Justice Programs.

Weiss, A. and S. Freels (1996) "The Effects of Aggressive Policing: The Dayton Traffic Enforcement Experiment." *American Journal of Police* 15:45-64.

Weiss, A. and E.F. McGarrell (1997) "The Impact of Traffic Enforcement on Crime." Unpublished manuscript.

Wilson, J.Q., (1968) "The Urban Unease: Community vs. City." *The Public Interest* 12:25-39.

Wilson, J.Q. and B. Boland (1978) "The Effect of the Police on Crime." *Law and Society Review* 12: 367-390.

Zimring, F.E. and G. Hawkins (1998) *Crime is not the Problem: Lethal Violence in America.* New York: Oxford University Press.

Appendix A

Analysis of Crime Data

Our analysis is based on Uniform Crime Report data obtained from the Indianapolis Police Department. Data were obtained for two time periods, the project period in 1997 and the same dates in 1996. Throughout this section we refer to the 1996 data as "pre" and the 1997 (project data) as "post." This approach is consistent with Cook and Campbell (1979).

The problems associated with the use of UCR data are well documented. Of particular concern are two issues. First, it is the case that not all crime is reported to the police. Two factors mitigate this threat. First, we are observing crimes like murder and auto theft that have high rates of reporting. Second, we would not expect big changes in reporting practices in a neighborhood from year to year.

The second potential threat to our data is that police officers, in order to make the program appear to be effective may have manipulated the crime data. Once again, this is unlikely because of the nature of the offenses. Moreover, IPD maintains a central UCR classification unit that reviews and classifies every crime report. Thus, even if an officer had changed a robbery to a larceny in order to make the program look better, the UCR unit would have re-classified the report to be a robbery. Additionally, no one within the police department knew the target area that served as the comparison beat. Further, the

fact that the results from the east and north target areas were so contradictory suggests that manipulation of crime data was not a threat in this experiment.

As a further check on reliability, the crime data in this analysis included a total count of firearms crimes that was based on our own coding of incident reports. The fact that our coding resulted in patterns very similar to those observed in the official UCR data adds to our confidence in the crime data.

The analysis focused on the following UCR offenses: Homicide, Aggravated Assault, Aggravated Assault with a Gun, Robbery, Armed Robbery, Vehicle Theft, and Burglary. As noted above, we also analyzed total firearms crimes for the target and comparison areas.

We conducted a number of analyses. The analyses included a comparison of the number of offenses for the pre- and post-periods as well as comparisons of both pre- and post-trends as well as contrasts with the trend in comparison areas. The comparison areas include a constructed control, counts for the entire city less the two treatment areas, and an alternative control. The picture that emerged from these various analyses converged with that described in Chapter Three. The most consistent findings emerged in the north target area for firearms related crimes (homicide, aggravated assault with a gun, and armed robbery). In the following section we describe the additional analyses conducted for the five UCR offenses: homicide, aggravated assault, robbery, burglary, and motor vehicle theft. The analysis sought to answer two questions. First, we attempted to

determine whether changes in crime levels in the experiment were large enough to be a result of something other than chance. Second, we tried to determine whether those changes were a result of the experimental treatment.

In the first analysis we compared the number of offenses in each area in the 1996 time period with the project period. This procedure compared the mean number of offenses per day (and its variance) between the two time periods. The results appear in Table A-1. There are two important elements to the table. The "t" value shows the direction of the change (in this case a positive sign indicates a reduction) and the magnitude of the change. The significance test indicates the likelihood that a result of this size could have resulted by chance. Generally, if the obtained value is less than .05, we can argue that the result is statistically significant.

(Table A-1 about here)

Based on this analysis we found statistically significant reductions in homicide in the North District and a large but not statistically significant reduction in robbery in the North District.

This preliminary analysis suggested that the directed patrol project may have had an effect on crime, particularly in the North District. However, this approach ignores the counter-factual. That is, using only pre- and post- measures from the experimental areas ignores what was going on outside of the target areas. This can result in two problems.

First, it may be the case that crime went down in the target, but also went down everywhere else, and thus one would mistakenly credit the program for the reduction. Second, it might be the case that even though crime went up in the target it might have gone up even more outside the target. The difference could be attributed to the program.

In order to conduct these comparisons we constructed a two-beat comparison area. We sought a comparison area that was as much like the target areas as possible. Unfortunately, this was difficult because the beats that most closely matched the target beats were adjacent to the targets in the East District, and we were concerned that the treatment might diffuse into the comparison area. The selected area was not as similar as we would have preferred. We refer to this area as our constructed control.

In order to include data from the control we estimated a series of regression models in which there were two independent variables. The first was a variable that captures whether an observed crime frequency is from the treatment or control. The second captures whether the observation is from the pre- or post- time period. Using this method we could identify the effect of the treatment while controlling for other factors. Table A-2 illustrates the results of this analysis. Of particular interest is the "AREA" variable. For convenience we report only the associated "t" value. In general, "t" values in excess of 1.96 are indicative of statistical significance. We observed statistically significant reductions in East robbery and North Burglary.

(Table A-2 about here)

Note that these results are not consistent with the first analysis. We remained concerned that our constructed control did not accurately reflect changes in crime the remainder of the city. For example, even though homicide dropped in the target areas, it rose dramatically in the rest of the city. Thus we decided to compare the treatment areas with the remainder of the city (less the targets). In this analysis we used a "gain score" approach. That is, we subtracted the post observation from the pre. This is the same as including the period variable. This allows us to estimate an equation with only one independent variable. These results appear in Table A-3.

(Table A-3 about here)

Using this approach we found statistically significant reductions in North homicide, North aggravated assault, North burglary, and East aggravated assault. The results for East homicide and East burglary nearly reached statistical significance.

Finally we chose the most conservative approach to this control group question. We were concerned that using a citywide control might introduce error by capitalizing on the large relative differences between the targets and control. To test this, we identified an alternative control that is essentially the equivalent of a two beat average control, and re-estimated the equations. These results appear in Table A-4.

(Table A-4 about here)

We observe that by using this approach we found statistically significant reductions in North Homicide, and large reductions in North Robbery and North Aggravated Assault.

We conducted four separate analyses to determine the impact of directed patrol on crime. Each produced slightly different results. The interpretation of these findings is relatively straightforward. First, there were large reductions in crime in the North District and in homicide in the East District. Second, the reduction in homicide in the North District was larger than we would expect through chance. Finally, it appears that, when we include information from different control groups we can argue that the directed patrol program contributed to statistically significant reductions in North District homicide and aggravated assault. These results are largely consistent with those reported in Chapter Three and suggest that the directed patrol effort had the most significant effect in the North District and for firearm-related violence.

Appendix B

Citizen Survey Instrument

Appendix B
Baseline Community Survey Instrument
June/July 1997

>Q1< First, I'll ask some general questions about your neighborhood.

<1> PROCEED

>yrs< How long have you lived in your neighborhood?

<0> less than a year
<1-50> 1 to 50 years
<51> 51 or more years

>mnth< How many months?

<0> less than one month
<1-11> 1 to 11 months

>q2< In general, how do you rate your neighborhood as a place to live? Would you say:

<1> excellent
<2> good
<3> fair, or
<4> poor

>q3< In general, in the past three months, would you say your neighborhood has become a better place to live, a worse place to live, or has it stayed about the same?

<1> a better place
<3> a worse place
<5> stayed about the same

>hhld< How many people, including yourself, live in your household?

<1> 1 person
<2-20> 2 to 20 people

>prbl< Now, I'm going to read a list of conditions that some people say are problems in the neighborhood where they live. For each one, please tell me if you think it has been a problem over the past three months.

>q4< Over the past three months in your neighborhood, has theft or burglary been:

<1> a major problem [goto q4a]
<3> a minor problem, or
<5> not a problem

>q4a< How much effort do you think the police have made in dealing with theft and burglary in your neighborhood the past three months? Would you say:

<1> a lot of effort
<3> some effort, or
<5> no effort

>q5< Over the past three months in your neighborhood, has drug dealing been:

<1> a major problem [goto q5a]
<3> a minor problem, or
<5> not a problem

>q5a< How much effort do you think the police have made in dealing with drug dealing in your neighborhood in the past three months? Would you say:

<1> a lot of effort
<3> some effort, or
<5> no effort

>q6< Over the past three months in your neighborhood, have gangs been:

<1> a major problem [goto q6a]
<3> a minor problem, or
<5> not a problem

>q6a< How much effort do you think the police have made in dealing with gangs in your neighborhood in the past three months? Would you say:

<1> a lot of effort
<3> some effort, or
<5> no effort

>q7< Have shootings and other gun-related crimes been:

<1> a major problem [goto q7a]
<3> a minor problem, or
<5> not a problem

>q7a< How much effort do you think the police have made in dealing with shootings and other gun-related crimes in your neighborhood in the past three months? Would you say:

<1> a lot of effort
<3> some effort, or
<5> no effort

>q8< Have traffic problems such as speeding, careless driving, or drunk driving been:

<1> a major problem [goto q8a]
<3> a minor problem, or
<5> not a problem

>q8a< How much effort do you think the police have made in dealing with traffic problems such as speeding, careless driving, or drunk driving in your neighborhood in the past three months? Would you say:

<1> a lot of effort
<3> some effort, or
<5> no effort

>q9< How would you rate the job the police are doing in terms of working with people in your neighborhood to solve local problems? Would you say:

<1> excellent
<2> good
<3> fair, or
<4> poor

>q10< During the past year, have there been any community meetings held in your neighborhood to try to deal with local problems?

<1> yes[goto q11]
<5> no

>q11< Have you attended any of these meetings?

<1> yes
<5> no

>q12< When was the last time you saw a police officer in your neighborhood? Was it:

<1> within the past 24 hours
<2> within the past week
<3> within the past month, or
<4> more than a month ago
<6> never see the police

>po1< Next, I'm going to ask some questions specifically about your contact with the Indianapolis Police Department, or IPD.

>po15< Within the past three months, have you called the IPD for assistance?

<1> yes[goto q13]
<5> no

>q13< How many times within the past three months have you called the IPD for assistance?

<1> 1 time
<2-10> 2 to 10 times
<11> 11 or more times

>q13a< What was the problem you contacted the IPD about

>q13b< How satisfied were you with the way the problem was handled? Were you:

<1> very satisfied
<2> somewhat satisfied
<3> somewhat dissatisfied, or
<4> very dissatisfied

>po5b< Has anyone else in your household called the IPD for assistance within the past three months?

<1> yes[goto po5c]
<5> no

>po5c< How many times within the past three months has anyone else in your household called the IPD for assistance?

<1> 1 time
<2-10> 2 to 10 times
<11> 11 or more times

>q14< Other than for traffic control, have you been stopped by IPD officers, while on the street or in a car, in the past three months?

<1> yes[goto q14a]
<5> no

>q14a< How many times within the past three months have you been stopped by IPD officers?

<1-5> 1 to 5 times
<6> 6 or more times

>q14b< Why did the police stop you

>q14c< How satisfied were you with the way you were treated when the officers stopped you: Were you:

<1> very satisfied
<2> somewhat satisfied
<3> somewhat dissatisfied, or
<4> very dissatisfied

>stp1< Has anyone else in your household been stopped by IPD officers, while on the street or in a car, in the past three months?

<1> yes[goto stp2]
<5> no

>stp2< How many times within the past three months has anyone else in your household been stopped by IPD officers?

<1-5> 1 to 5 times
<6> 6 or more times

>gen< Next, I'll be asking some general questions about your neighborhood.

<1> PROCEED

>q15< How safe would you feel walking alone in your neighborhood [bold]during the day[n]? Would you say:

<1> very safe
<2> somewhat safe
<3> somewhat unsafe, or
<4> very unsafe

>q16< How safe would you feel walking alone in you neighborhood after dark? Would you say:

<1> very safe
<2> somewhat safe
<3> somewhat unsafe, or
<4> very unsafe

>ovr2< Overall, would you say that crime in your neighborhood has increased, remained about the same, or decreased in the past three months?

<1> increased
<3> remained about the same
<5> decreased

>q18< Now, I would like to read a few statements about police in your neighborhood. For each statement, please use one of the following responses, strongly agree, somewhat agree, somewhat disagree, or strongly disagree. If you don't know how to answer, please let me know.

>q18a< First, the police in your neighborhood try to provide the kind of services that the people in your neighborhood want. Do you:

<1> strongly agree
<2> somewhat agree
<3> somewhat disagree, or
<4> strongly disagree

>q18b< Your neighborhood gets its fair share of police services. Do you:

<1> strongly agree
<2> somewhat agree
<3> somewhat disagree, or
<4> strongly disagree

>q18c< If you saw a crime occur, you would be likely to call the police. Do you:

<1> strongly agree
<2> somewhat agree
<3> somewhat disagree, or
<4> strongly disagree

>q18d< In your opinion, most citizens in your neighborhood have a favorable opinion of the IPD. (Do you:)

<1> strongly agree
<2> somewhat agree
<3> somewhat disagree, or
<4> strongly disagree

>q18e< In your opinion, IPD officers are professional. (Do you:)

<1> strongly agree
<2> somewhat agree
<3> somewhat disagree, or
<4> strongly disagree

>q18f< In your opinion, IPD officers are courteous. (Do you:)

<1> strongly agree
<2> somewhat agree
<3> somewhat disagree, or
<4> strongly disagree

>q18h< In your opinion, IPD officers harass citizens. (Do you:)

<1> strongly agree
<2> somewhat agree
<3> somewhat disagree, or
<4> strongly disagree

>q18i< The level of police patrol in your neighborhood makes you less fearful of crime. (Do you:)

<1> strongly agree
<2> somewhat agree
<3> somewhat disagree, or
<4> strongly disagree

>q18g< Overall, how much do you support the IPD on a 1 to 5 scale where 1 indicates no support and 5 indicates strong support?

<1> no support
<2-4>
<5> strong support

>q19< Thinking about the number of police you see in your neighborhood, would you say there are:

<1> too many
<3> too few, or
<5> about the right number

>q20< How satisfied are you with the level of police patrol in your neighborhood? Would you say:

<1> very satisfied
<2> somewhat satisfied
<3> somewhat dissatisfied, or
<4> very dissatisfied

>q21< In the past three months, have you [bold]heard about[n] the police making drug busts in your neighborhood?

<1> yes
<5> no

>q22< In the past three months, have you actually [bold]seen[n] the police making drug busts in your neighborhood?

<1> yes
<5> no

>q23< Considering all the sources you use to get information about crime, what source do you use most often? Would you say:

<1> a newspaper
<2> television news
<3> radio news
<4> community meetings, or
<5> some other source

>q24< We know that not everyone reads a local newspaper on a regular basis, and some may read a variety of newspapers regularly.

How many days in the past week, if any, did you read the Indianapolis Star?

<0> none
<1-7> 1 to 7 days

>q25< Recently, as part of a federally-sponsored program to combat illegal drugs and violent crime, the IPD began a patrol program to get drugs and guns off the streets. Are you aware of this program?

<1> yes
<5> no

>q26< The program will include a component known as directed patrol. Directed patrol involves providing intense patrol or increasing the visibility of the police in areas with high rates of gun and drug crimes.

Please tell me how much you support starting this program in your neighborhood on a 1 to 5 scale where 1 indicates no support and 5 indicates strong support?

<1> no support
<2-4>
<5> strong support

>demo< Finally, we have a few questions so that we can classify your responses. At no time will they be used to identify anyone.

>dem1< First, in what kind of housing unit do you live? Do you live in:

<1> a single family home
<2> a duplex or a double
<3> an apartment building
<4> a mobile home, or
<5> some other kind of housing unit (specify) [specify]

>de1a< Does your family own or rent this residence?

<1> own
<5> rent

>dem3< In what year were you born?

<1900-1979> year

>dem4< Is your race or ethnic background:

<1> White
<2> Black or African American
<3> Hispanic
<4> Asian
<5> Native American, or
<7> some other race (specify) [specify]

>gend< RECORD RESPONDENT'S GENDER.
<1> male, or
<5> female

>dem5< What is the highest grade of school or level of education you have completed?

<0> no school or kindergarten [goto de5a]
<1-11> grades 1 to 11 [goto de5a]
<12> high school
<13-15> some college [goto de5b]
<16> college degree
<17> some post-graduate school
<18> master's degree
<19> any doctorate or medical or law (J.D.) degree
<20> vocational or technical school beyond high school

>de5a< Do you have a GED or other high school equivalency?

<1> yes
<5> no

>de5b< Do you have a bachelor's, associate's, nursing or any other kind of college degree?

<1> bachelor's
<2> associate's
<3> nursing
<4> some other kind (specify) [specify]

<5> no

>dem6< Currently, are you:

<1> working for pay (employed) [goto de6a]
<2> temporarily unemployed [goto de6b]
<3> retired
<4> keeping house
<5> a student, or
<6> doing something else (specify) [specify]

>de6a< Are you employed full-time or part-time?

<1> full-time
<5> part-time

>de6b< How long have you been unemployed?

<0> less than one year[goto de6c]
<1-5> 1 year to 5 years
<6> 6 or more years

>de6c< IF NECESSARY: How many months?

<0> less than one month
<1-11> 1 to 11 months

>dem7< Are you:

<1> married
<2> living with a partner
<3> widowed
<4> separated
<5> divorced, or
<6> never married

>inc1< Considering all sources of income and all salaries, was your household's total annual income in 1996, before taxes and other deductions, less than $25,000, or was it $25,000 or more?

<1> less than $25,000 [goto inc2]
<5> $25,000 or more [goto inc3]

>inc2< IF NECESSARY: Was it less than $15,000?

<1> yes ($14,999 or less)
<5> no ($15,000 - $24,999)

>inc3< IF NECESSARY: Was it more than $35,000?

<1> yes ($35,000 or more) [goto inc4]
<5> no ($25,000 - $34,999)

>inc4< IF NECESSARY: Was it more than $50,000?

<1> yes (more than $50,000)
<5> no ($35,000 - 49,999)

>vad1< I also need to verify your street address for[loc 5/31] purposes of our research. I have it listed as [fill ADDR].

Is this correct?

<1> yes [goto ENDQ]
<5> no
===>

>vad2< What is your correct street address?