HIGH IMPACT ANTI-CRIME PROGRAM
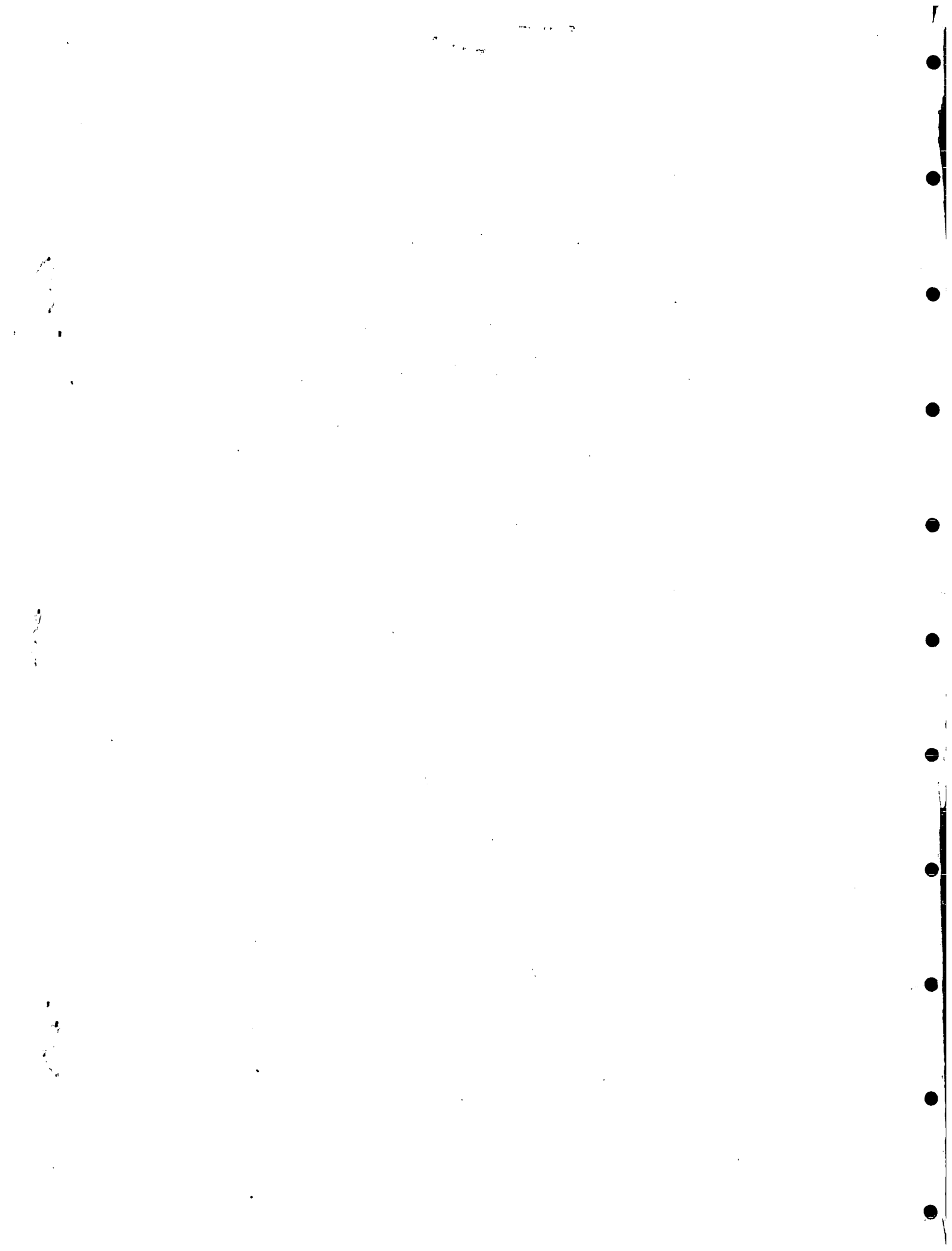
EXAMINATION OF
POLICE PATROL EFFECTIVENESS

NILE&CJ

NOVEMBER 1975

NATIONAL IMPACT PROGRAM EVALUATION

EXAMINATION OF
POLICE PATROL EFFECTIVENESS

BY
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THE MITRE CORPORATION

NCJRS

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ACQUISITIONS

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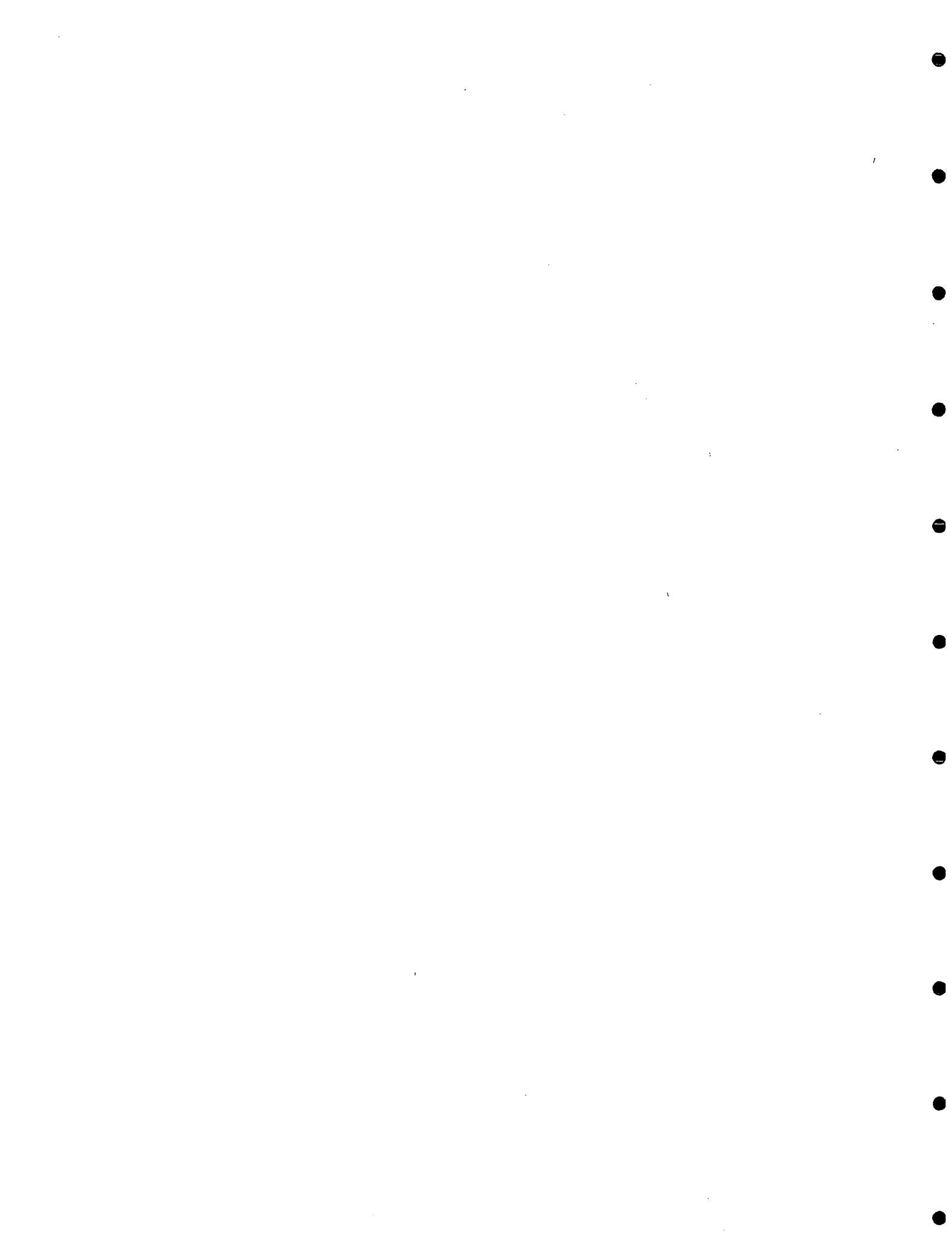
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ABSTRACT

Overt police patrol has long been assumed to be an effective crime control strategy. Recent research results have raised questions as to the validity of this assumption.

This document presents an analysis of official crime data for three overt police patrol projects which were funded and implemented as part of the LEAA's High Impact Anti-Crime Program. The projects examined are the Special Crime Attack Team in Denver, Colorado, the Concentrated Crime Patrol in Cleveland, Ohio and the Pilot Foot Patrol in St. Louis, Missouri.

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EXECUTIVE SUMMARY

As part of the National Level Evaluation of the Law Enforcement
Assistance Administration's High Impact Anti-Crime Program, an analysis
of the effectiveness of three police patrol projects, implemented as
part of the Impact program, has been conducted. This research was
undertaken to assess the validity of the assumption that an increase
in overt police patrol activity has an impact on specific crimes.

Three patrol projects are examined as part of this research. These
are:

Special Crime Attack Team, Denver, Colorado

The Special Crime Attack Team (SCAT) is a flexible team unit of
the Denver Police Department made up of 32 police officers including
detectives, evidence technicians and regular patrolmen. The SCAT unit
is deployed to crime problem neighborhoods and acts as an overlay to
the regular police forces in the area directing its efforts toward
fighting a targeted crime. The first phase of SCAT operations, which
targeted burglary for 12 months, is examined here.

Concentrated Crime Patrol, Cleveland, Ohio

The Concentrated Crime Patrol (CCP), made up of 120 patrolmen, was
deployed to the high crime districts of Cleveland. The overall target
area covered over one-third the area of the city. Patrolmen were
deployed within this area on the basis of levels of reported crime. The
CCP patrolled in mobile units supporting the regular patrol giving
priority to answering calls for service involving criminal incidents.

Pilot Foot Patrol, St. Louis, Missouri

The Pilot Foot Patrol project in St. Louis involved the deployment
of supplementary police patrolmen to high crime areas of the city.
This support patrol operated on foot while the regular patrol was deployed
in mobile units. The participating patrolmen were volunteers from the
ranks of the patrol force; participation in the foot patrol was on an
overtime basis.

Each of the three projects is examined individually and the analysis
is presented on a case-by-case basis. In each case, official crime
levels during the time period covered by police patrol project opera-
tions are analyzed. This crime level analysis is conducted using four
time series models developed as part of the research. These models
predict crime levels for the treatment period based on past crime levels
in the area. These predicted or expected levels are then compared with
the actual levels of crime observed during project operations to assess
whether the assumed downward effect on crime has been realized. The
extent to which empirical evidence is available to support the assumption

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that crime during police patrol treatment is lower than expected is presented for each case, for a number of crimes (murder, rape, aggravated assault, robbery and burglary) and for several areas including the project target area, the area immediately surrounding the target area (adjacent area) and for the untreated portion of the city.

The crime level results of the three case studies are synthesized and general conclusions are presented. Summary results include:

In project target areas:

● For each case at least one of the crimes examined (murder, rape, aggravated assault, robbery, burglary) was significantly lower during project operations than was expected based on previous crime levels.

● In no one project were all five crimes lower than expected.

● No one crime was lower than expected in all three cases.

● In none of the three cases was target area rape lower than expected.

In terms of the remainder of the city not receiving treatment:

● Target areas appear to be responsive to city-wide shifts in crime. In almost every case in which crimes in the untreated portion of the city were lower than expected, the same crimes were lower than expected in the project target area.

● While city-wide shifts in crime may be a good explanation for some of the relative decreases observed in target area crime, all target area decreases cannot be explained in this way. In a number of cases, certain target area crimes were lower than expected during project operations while the same crimes were not found to be lower than expected in the untreated portion of the city.

Analysis of crime in the areas adjacent to the target area showed that:

● In most cases the adjacent area analysis results followed the pattern of the results of crime level analysis for the untreated, noncontiguous portion of the city, indicating that the police patrol projects may have had little effect on adjacent area crime.

- In several cases the adjacent areas exhibited relative decreases in crime similar to those observed in the target area, in situations where no such decreases were observed in the untreated portion of the city. This suggests that in these cases the positive effects of the patrol may not be bound to the target area in all cases.

- Finally in a few cases, crime was found to be lower than expected in both the target area and the untreated portion of the city as a whole but not in the adjacent area, suggesting the possibility of crime displacement in this case.

In general these results suggest that while there may be no uniform relationship between overt police patrol activity and official crime levels there is evidence that patrols implemented in high crime areas have been accompanied by crime levels which are lower than would have been expected based on past crime levels in the area. Hence, overt police patrols should not be ruled out as one possible tool for crime reduction in high crime areas.
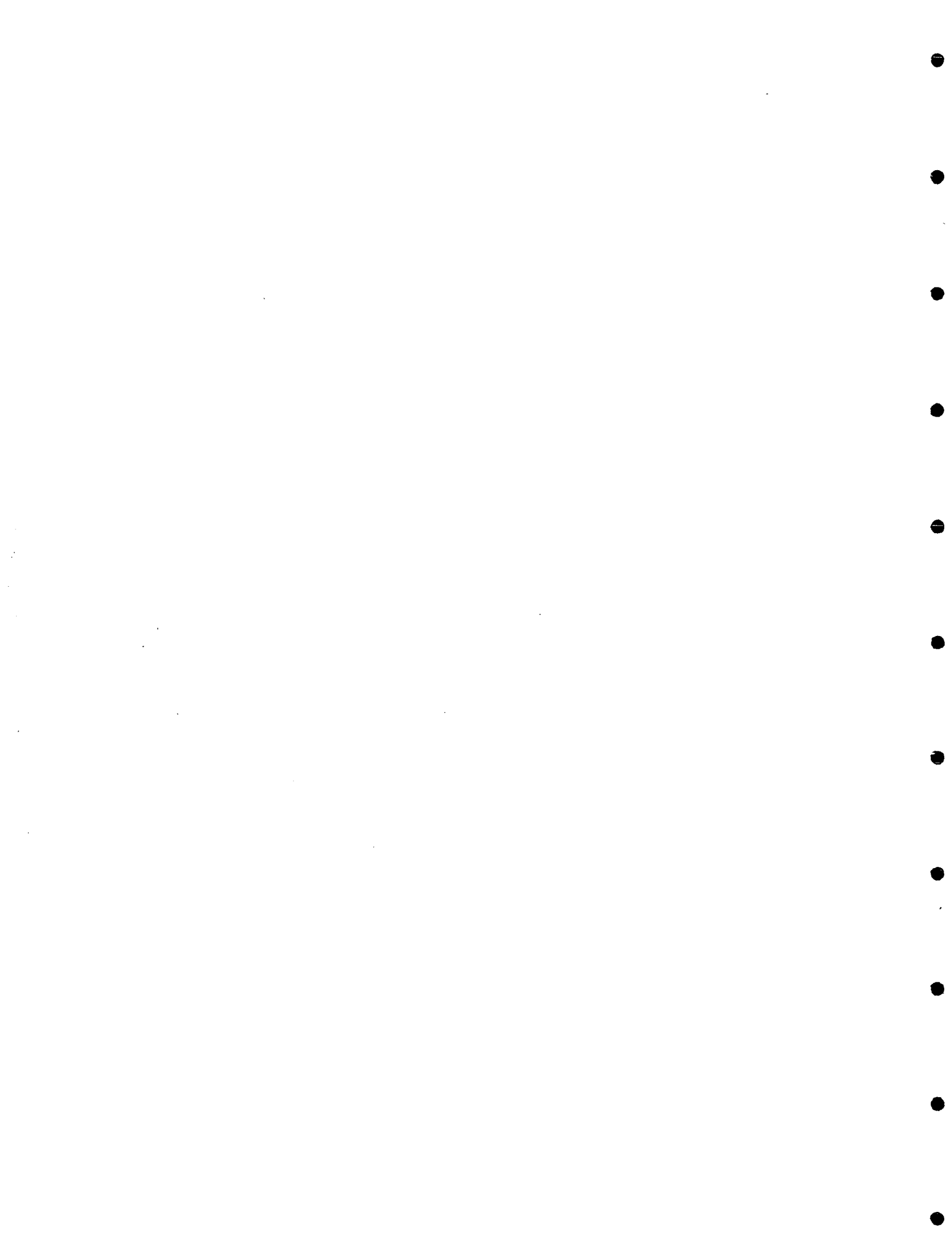
1.0 INTRODUCTION

1.1 Police Patrol and Crime

Crime in America has been growing steadily over the past decade. The federal government, through the Law Enforcement Assistance Administration (LEAA), has been funneling large amounts of resources into the criminal justice agencies of our states and cities in an effort to assist local authorities in their fight against crime. However, despite this increased commitment at the federal and local levels the problems of crime do not appear to be receding, raising doubts about the methods being employed in previous attempts to resolve the situation. More evaluation of these crime control methods is being called for in an effort to delineate the most efficient and most effective routes for accomplishing the desired goals of crime reduction. In general, it has been the innovative approaches to crime control which are most often subjected to evaluation; however, as time goes on, more and more of the "sacred cows" of crime control are being empirically examined and their heretofore assumed effectiveness is being questioned.

One such sacred cow is the concept of "police patrol". The police patrol is the basic unit of police operations. It is estimated that more than 50 percent of all uniformed police officers in this country are engaged in police patrol on a regular basis. It is the police patrol which offers the front line of police operations to the consumer, the public, answering calls for assistance, taking charge at the scene of a crime and offering visible support on the streets.

Much research time and money has gone into examination of alternate ways of operating police patrols in order to achieve certain efficiency goals, such as maximum patrol coverage, shortest time spent in responding to calls for service and highest probability of interrupting a crime in progress. Until recently, however, the effect of different types of police patrol on crime in the areas covered by the patrol has gone

unexamined. It has been assumed that the presence of police patrol officers, no matter what their activities, would have a deterrent effect on crime and hence, energy has been focused on how to deliver that patrol coverage.

However, as new and innovative patrol strategies have been developed and evaluated, it has become apparent that the deterrent effect of police patrol may vary with the type of patrol or may be non-existent. A number of studies are notable in this regard. The Police Foundation's Proactive-Reactive Deployment Experiment, in Kansas City, the first randomly designed test of the effectiveness of police patrol, demonstrated that "preventive" patrol, the presence of police patrol officers not actively engaged in any police function, could not be shown to have a deterrent effect on crime levels in the patrol area. Other studies, such as the evaluation of the Cincinnati Community Sector Team Policing project being conducted by the Urban Institute, are exploring ways that this preventive patrol time can be used more effectively.

With dwindling municipal resources and the uncertainties of continued federal funding for local law enforcement agencies, questions surrounding the effective use of limited capabilities have increased in importance, and evaluation of the impact of both new and on-going efforts in law enforcement are being given greater consideration than ever before.

In this study, several police patrol projects are examined in an attempt to assess their impact on the crime levels in their patrol areas. The three police patrol projects studied were implemented as part of the LEAA's High Impact Anti-Crime Program and this study was undertaken as part of the national-level evaluation of the Impact program.

1.2 The High Impact Anti-Crime Program

The High Impact Anti-Crime Program was developed by the Law Enforcement Assistance Administration (LEAA) in 1971 as part of a nationwide endeavor to address the problems of rising crime in America. The Impact program targeted a reduction in street crimes and burglary in eight selected cities[1] through the design and implementation of comprehensive, crime-problem focused programs. It was hoped that the Impact program experience would prove useful in providing information on the effectiveness of various crime reduction strategies in curbing rising crime rates. Evaluation of the program was mandated from the outset both at the city level and at the national level.

The overall Impact program structure involved inputs to the program from the national, regional, state and local levels. The program was developed at the national level by the LEAA which funded the program through the state planning agencies. Impact program policy was established at the federal level and was carried out jointly by the regions, states and cities. Cities were responsible for the planning of their individual Impact programs; in most cases program/project evaluation was also conducted at the city level. Impact projects were implemented by local operating agencies in each target city. The program as a whole is being evaluated at the national level by the National Institute of Law Enforcement and Criminal Justice and The MITRE Corporation.

1.3 Purpose of the Study

As part of the national-level evaluation of the Impact program, various program aspects are examined in terms of wider crime control policy. This paper reports the findings of an assessment of the effect of Impact police patrol projects on their targeted crime problems. Three case studies are presented and the results of the three are synthesized.

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[1] The Impact target cities are: Atlanta, Baltimore, Cleveland, Dallas, Denver, Newark, Portland, and St. Louis.

2.0 METHODOLOGY AND ANALYSIS APPROACH

2.1 Context and Constraints

The research reported here examines the impact on crime of police patrol projects which were designed and implemented as part of the LEAA's High Impact Anti-Crime Program. The projects included in the study are:

- The Special Crime Attack Team; Denver, Colorado
- The Concentrated Crime Patrol; Cleveland, Ohio
- The Pilot Foot Patrol; St. Louis, Missouri

The Impact program is an action program developed by LEAA to fight rising stranger-to-stranger street crime in eight target cities. The program design incorporated several components which have had some impact on this research and other national-level evaluation research conducted in the program context.

First of all, the Impact program is administered using the New Federalist approach. It was an attempt to provide cities with federal money to fight problems of national priority in a manner which they, at the local level, felt would be most effective. In Impact, the potential federal financial support was substantial, twenty million dollars in action funds for each city over two years, and the resulting action projects were both numerous (over 200) and varied (including a range of crime control approaches implemented across the numerous functional areas of the criminal justice system).

The pivotal agency at the city level was the Crime Analysis Team (CAT). Crime Analysis Teams, created in each of the Impact cities, were vested with the responsibilities of program planning and usually of evaluation as well, and served as the focus for coordination of program activities undertaken by the city operating agencies.

Finally, the Impact program as a whole was conceived with the Crime-Oriented Planning, Implementation and Evaluation (COPIE) cycle as the underlying framework. The COPIE cycle involved a number of interrelated steps throughout the life of the program. Initial program planning was done on the basis of empirical data analysis of the crime-specific problems facing each city. Projects were designed in response to those problems and were implemented by operating agencies in the city. Evaluation of the projects was then to be conducted to determine the extent to which they had an impact on their target crime problems.

Conducting evaluative research at the national level in the context of a program like Impact offers the researcher certain advantages. In the case of this particular research endeavor, several are noteworthy. First, since criminal justice functions are normally the responsibility of local agencies, it is often difficult to gain access to information about similar projects being implemented in various locations. For this reason most evaluative studies deal with the impact of a single program in a given locale and rarely are comparisons between similar programs made. The Impact program offered a large pool of potential projects for study which in the majority of cases were directed toward the reduction of Impact crimes. Since these projects were developed and operated within the framework of the COPIE cycle, data have been more available for them than one might expect to find for other similar projects. In addition, the agencies involved were more or less accustomed to using these data for program planning and evaluation. Finally, the Impact Crime Analysis Teams offered a convenient base point in the cities and were the major conduit for acquisition of city crime data.

While the Impact program, like other action programs, provides good opportunities for applied research, research in this context must

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necessarily operate within certain constraints. To begin with, any
action program is funded and operated to provide services, not to test
hypotheses. Research aimed at the examination of assumptions must
operate in a fashion which does not interfere with the delivery of ser-
vices. Program operators must not be overburdened with data collection
tasks. Services have to be offered where needs are greatest and changes
in service delivery must be made when operational needs change, despite
effects on the research endeavor in progress. Likewise, the research
is tied to the delivery of services; delays in project implementation
make for delays in the research.

Further, the Impact program was designed and implemented in the con-
text of the New Federalism concept which allows local areas and cities
to delineate their specific crime problems and to design their own solu-
tions to these problems. Areas selected for special police attention in
each of the eight cities therefore varied, based on the individual cri-
teria used by each city for selection of problem areas, as well as on
the general social-geographic make-up of the cities which would show
variation regardless of the program structure. The types of police
projects chosen for implementation in each city also varied, not only
because of differing crime problems, but also because of the differing
philosophies and capabilities of each city police department.

This situation has placed numerous limitations on the type of
research which could feasibly be conducted at a national level using
Impact projects as the research field. Chief among these limitations
are the following:

(a) The field for the national evaluative research is made up of
    projects designed and operated by the cities; no changes in
    these could be made on behalf of the research endeavor.

(b) As discussed above, the patrol projects implemented under
    the Impact program are similar in that they all involve a
    step-up increase in police patrol coverage targeting a

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specific area crime problem; however, the projects vary in terms of particular patrol strategies employed in each case and the nature of target areas and their crime problems. This has meant that no one specific patrol strategy could be intensively examined and that comparisons of the results of the various strategies must be viewed with caution given the differences in target crimes and areas.

(c) A number of the Impact police patrol projects involve a multi-faceted approach to crime reduction. Because no provisions were made in the Impact structure for research inputs as to the types of activities involved in these projects, their location or their organization, evaluation of project effect on crime was done in terms of the impact of the project in its entirety. This "package" approach to the assessment of project impact precludes the possibility of directly isolating the effects of specific patrol activities implemented as part of the projects and thus unfortunately limits the ability of the research to specify or further explain observed crime-level changes.

(d) The cities and projects were responsible for data collection and reporting. Additional research-specific data forms were deemed infeasible in this context. Research analysis was, therefore, restricted to information routinely collected in each of the three participating cities (i.e., reported crime figures).

(e) Finally, the areas targeted by these projects are not "typical" areas. By the very nature of the crime-oriented planning process used to select projects and target areas in the Impact program, the areas selected for treatment were those which exhibited the greatest crime problems. This means that the results of this analysis are generalizable only to the impact of police patrol in similar problem areas, not to the effects of police patrol in general. This selection bias also means that crime level analysis must consider the statistical artifact of regression to the mean in assessing observed crime level changes.

2.2   Research Approach

2.2.1   Research Design

The Impact police patrol research has been conducted on a case study basis. Each selected Impact police project has served as the subject for an individual case study. For each case (i.e., each project) a secondary analysis of police-reported crime data has been conducted

to assess whether anticipated crime level decreases have been observed during project operations. Crime level analysis for each case has been conducted using the analysis strategy described below in Section 2.2.2.

The case study approach was necessitated by the small number of projects and the variation in project treatments. Because of this small sample size, it is not possible to draw large-scale generalizations from the case studies; however, case study results can serve as indicators of possible police patrol program effects. The results of the individual case studies will be evaluated in this manner.

2.2.2 Analysis Strategy

Each of the police patrol projects included in the research was implemented in target areas which had been exhibiting higher than average and (for some crimes) increasing crime levels. It was expected that the implementation of these police patrol projects would act to retard the growth in crime in these areas and would ultimately result in an absolute decline in both area and city-wide crime levels. This research was undertaken to assess (systematically in each of the three cases) whether such changes in crime have been observed during the time period of project operations.

2.2.2.1 Time Series Models

This crime-level assessment has been made on the basis of the results of analysis using several time series models developed as part of the research project. Because there was no attempt made to incorporate an experimental design into the offering of patrol treatment, no viable control or comparison areas were readily available for use in assessing crime level changes; approaches which essentially approximate such conditions were thus sought for use in the research.

The time-series models developed for this use utilize past crime levels as the predictor for crime during the time period covered by patrol treatment. These predicted crime levels when compared with actual crime levels can be used to assess whether crime is any lower during treatment than might have been expected given previous experience. As such, these models are based on the assumption that the previously established pattern in crime is a good predictor of current crime levels.

Four time-series models were developed and employed in the analysis; they are described in Appendix I.[2] The four are regression models comprised of three components: (a) a base level, (b) a long-term trend, and (c) seasonal variation. Each model is used first to describe crime levels preceding the introduction of police patrol treatment and second, to describe crime levels during the treatment period. Monthly data are analyzed in each of the case studies with the before period ranging from 28 to 75 months in length and the treatment period ranging from 6 to 18 months. Crime during the treatment period is hypothesized to be less than predicted and the two descriptions (before and during) are compared to assess whether such a difference is observed. Results are presented in terms of the percentage confidence that crime levels during treatment are lower than would have been expected based on before treatment estimations.

Thus a high percentage of confidence is taken as an indicator that, as was anticipated by project planners, crime is lower during treatment than one might have expected based on past crime experience. A high percentage confidence is an indicator of a relative crime

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[2] A more detailed technical discussion of these models is available in A Methodology for Conducting a Police Hypothesis Test (MTR-6617).

decrease (relative to that which might have been expected without treatment) rather than an absolute decrease. No attempt is made to assess the magnitude of decreases, but rather concern is focused on whether or not decreases are observed and with how much certainty.

As indicated above, all four models were employed in the analysis. In practice, there was very little variation among the results of the four models and thus in the presentation of the results, the arithmetic mean of the four is utilized for simplicity. The results of all four models for all analyses are presented in Appendix II for reference; the raw data on which the analyses are based are included in Apppendix III.

2.2.2.2 Application of the Models

Crime levels in each case study were analyzed for three basic areas: (a) the target area, the area receiving direct police patrol attention as part of the project; (b) the adjacent area, that portion of the city which, while not receiving any direct police patrol attention, is in close geographical proximity to the treatment area; and (c) the untreated portion of the city, all areas of the city not receiving direct project treatment including the adjacent areas. Figure 1 displays these areas as ideal types.

The reasons for the inclusion of each area are as follows: First, crime in the target area is examined because it is here that it is anticipated that one is most likely to see the direct effects of the project. Second, it is possible that project effects may not be geographically limited to the target area but may have an impact on crime in the surrounding areas; thus, crime level changes in the adjacent area are investigated. Finally, the untreated portion of the city is included in the analysis; these patrol projects have not operated in a void and hence an assessment of their larger crime context has been made.

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TARGET AREA

ADJACENT AREA
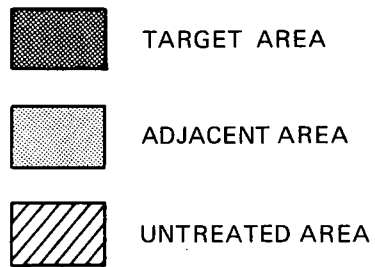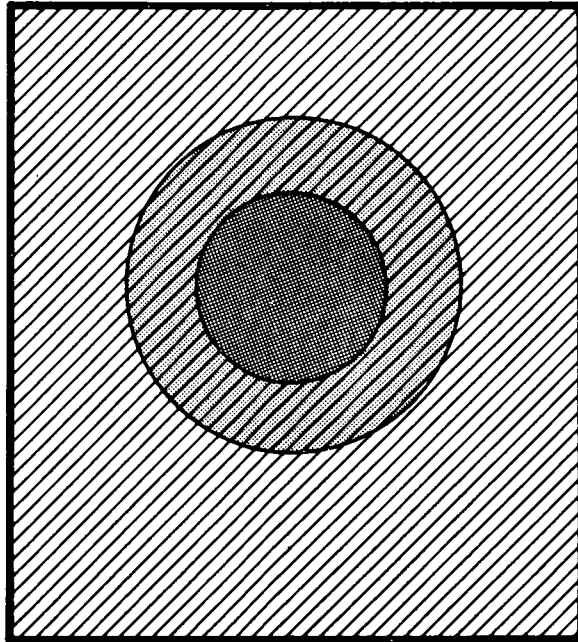
UNTREATED AREA

FIGURE 1
THREE BASIC AREAS INCLUDED IN THE ANALYSIS: TARGET AREA,
ADJACENT AREA, UNTREATED AREA

The basic crimes analyzed are murder, rape, aggravated assault, burglary and robbery. All but aggravated assault have been examined in all three cases. (No monthly data were available on aggravated assault at the target area scale in Cleveland.)

The primary application of these models is an analysis of crime in the three basic areas (target, adjacent and untreated) for the full project operating period. This analysis forms the core of each of the three case studies. Supplementary analysis is conducted for two of the cases. This analysis includes: (a) in one case, a comparison of results based on a portion of the treatment period with full treatment period results, (b) in the other, a comparison of patrol hour crime decreases with non-patrol hour decreases, and (c) a comparison of suppressible (or outdoor) crime decreases with non-suppressible (or indoor) decreases.

2.3 Research Issues

The research approach discussed above is directed towards the examination of several research questions. The selection of the questions was dictated by the constraints on the research project which have been briefly described above and are more fully discussed in A Methodology for Conducting a Police Hypothesis Test (MTR-6617). The central question addressed is:

> Is an incremental increase in overt police activity in an area accompanied by a decrease in the reported crime levels in that area?

Two questions subsidiary to the central question in the test will also be addressed:

> Do the reported crime levels of certain crimes or types of crime show a decrease while others do not? and,

> Are reported levels of outdoor crime affected while those of indoor crime are not?

Several questions related to the central question will also be
addressed:

> Is a decrease in crime in a target area accompanied by
> an increase in crime in the areas immediately adjacent
> to that area?

> Is a decrease in outdoor crime accompanied by increases
> in crime in indoor locations?

These questions, while not all addressed in each of the three case
studies, are examined wherever the necessary data items are available.

The first question has been included for obvious reasons; it
is the assumed impact of police patrol as an effective general anti-
crime tactic that has persuaded police to increase their on-street
manpower in the face of growing crime. Whether or not the anticipated
downward shifts in crime have been observed, and with what degree of
certainty, is examined for all three cases in the research project.
In each of the three cases, the observed changes in various types of
crime are also examined in an attempt to determine whether certain
crimes have been more susceptible to the influence of police patrol
than others. This information would be of use in allowing police to
focus patrol resources on those crime problems which have shown the
greatest promise of a reduction.

The remaining research questions all pertain to the issue of
crime displacement. Has the project actually reduced crime or has
it merely moved the crime problem somewhere else? Three types of
crime displacement are examined.

● Inward Displacement

   The transfer of on-street criminal activity to indoor
   locations potentially out of the sight of a patrol officer
   on duty.

● Localized Geographical Displacement

   The transfer of criminal activity to an area immediately
   adjacent to a specified target area.

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- Temporal Displacement

    The transfer of criminal activity from one time slot in
    which patrol activity has been increased to time slots
    not receiving such attention.

The occurrence of crime displacement to areas immediately adjacent
to target areas is the primary focus of the displacement examination
and is addressed in all three cases. Questions of inward displacement
(from outdoor to indoor crime) or of a temporal displacement (from
treatment time periods to non-treatment time periods) are addressed
in one of the three cases (St. Louis).

One additional issue is raised in the examination of the Cleveland
Concentrated Crime Patrol, the question of the long-term effects of the
increase in patrol activity. It has been asserted that while increases
in police patrol may have an initial impact on crime, this impact will
be short-lived and once the local area becomes accustomed to the change,
crime will return to its previous levels. The CCP is examined in terms
of its short-term impact (first nine months) and its impact over its
full operating period (eighteen months) to determine whether early
effects are maintained over the full operating period.

2.4 Limitations of the Research

Before presenting the individual cases and their analysis results,
some discussion of the limitations of the research is in order, particu-
larly in terms of the interpretation and use of analysis results.

The Impact police patrol research is basically concerned with a
secondary analysis of police reported crime figures. These official
crime data represent only one measure of the number of actual criminal
events which have taken place and, in light of recent victim surveys,
they may be an even more unreliable measure than had heretofore been
suspected. These surveys have shown that there is a wide discrepancy

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between crimes known to the police and those reported by victims in surveys. Analysis of two victim surveys conducted at a one year time interval in Portland, Oregon suggests that changes in police reported figures may be an artifact of changes in citizen rates of crime reporting to police. Thus government programs which seek to solve crime problems through increased anti-crime activity may find official crime levels increasing, due to increased public awareness and increased reporting of crime to the police, rather than because the number of criminal events actually occurring has increased. Nonetheless police crime figures are utilized as the basic indicator of crime occurrence in criminal justice planning and evaluation, especially for the location of crime problem areas needing government attention. In effect, official crime figures are indicators of demands on government to address crime problems. In this research project, changes in these indicators are monitored and described. Analysis results should be interpreted in light of the measurement problems inherent in the data source.

The method of analysis employed in examining the police crime figures takes the form of a hypothesis test. The hypothesis examined is that by supplying additional police attention to crime problem areas, crime levels in those areas will be lower than would otherwise be the case. This hypothesis is tested for three projects, for a number of crimes and for a number of areas (target and adjacent) and the extent to which there is evidence to support the hypothesis is described. The question of crime decreases is addressed in relative terms. No attempt is made to acquire an absolute measure of crime-level changes. A high confidence that the hypothesis is true and that crime is lower during treatment than one would have expected does not necessarily mean that fewer crimes occurred in the area that year than during the previous year. Nor does a higher confidence indicate a greater absolute decrease; it rather indicates that there is greater

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evidence for a decrease.[3] Since deployment decisions are most often made in terms of need, as related to absolute crime level changes, such hypothesis testing results are not expected to be useful for planning at an operational level. They are helpful, however, in delineating general expectations from this type of anti-crime effort. It is therefore useful to know if the experience with police patrols had been that crime, as hypothesized, was lower with added patrol attention than it would have been with normal police coverage. Here it becomes less important to know the particular changes experienced in past projects and more important to know whether the hypothesized changes have been achieved and whether they were observed with any regularity.

Finally, it should be noted once again that because only three case samples are examined, the generalizability and specificity of results will be limited. Each case was investigated in detail and the case study analyses present specific information relating the available evidence for crime decreases for each project. The results of the three studies taken together, however, can serve as general indicators for future expectations of such anti-crime efforts.

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[3]This is more a function of the maount of variance present in the observed data than a difference in average levels of crime.

3.0 THREE CASE STUDIES

Three police patrol projects were selected from the Impact program for examination on a case study basis. These three projects are the Special Crime Attack Team (SCAT) in Denver, Colorado; the Concentrated Crime Patrol (CCP) in Cleveland, Ohio; and the Pilot Foot Patrol in St. Louis, Missouri.

3.1 Project Selection

Certain considerations were taken into account in selecting these projects. For research purposes, included projects were to involve some form of visible or overt police patrol which had been deployed to an area of the city experiencing crime problems and were to remain operating in the target area for at least six months. Only projects funded and operated as part of the High Impact Anti-Crime Program were considered for inclusion. Included projects were to have completed operations by June 1974 and were to have available police reported crime data at the scale of the target area on a monthly basis for at least two years prior to the onset of patrol treatment.

Several projects were eliminated on the need to be areally based for at least a six-month period (Dallas Tactical Deployment, Portland Strike Force, Atlanta Anti-Robbery/Burglary), since a number of Impact police projects sought to target crime reductions through short-term, crime problem-specific (rather than area-specific) police deployment.

Two Impact projects which met the research criteria were eliminated because of data problems. For both the Atlanta Overtime Patrol project and the Baltimore Sixty-Four Foot Patrolmen project, the lack of baseline data at the target area scale precluded their inclusion in the national-level evaluation research project.

3.2 The Selected Projects

The three selected and examined projects are thus similar in
that they all:

- involved some form of overt police patrol;
- targeted area-specific crime problems; and
- operated in their target areas for at least 6 months.

They differ, however, in a number of aspects including mode of
patrol, the nature of patrol activities, the characteristics and size
of target areas and finally, the length of time spent working in the
target area. Table I displays information on a number of aspects
of these patrol projects. Each is briefly described below.

Special Crime Attack Team, Denver, Colorado

The Special Crime Attack Team (SCAT) is a team unit of the Denver
Police Department (32 assigned to the unit) which is deployed as an
overlay to regular patrol in areas experiencing particular crime prob-
lems. Various patrol activities are implemented by the SCAT unit to
target the particular crime problems using various modes of patrol (foot
and mobile) and various police functions (investigation, extra crime
scene searches) in addition to visible police patrol. The first phase
of SCAT operations, which targeted burglary in several precincts during
the 12 months of 1973, is examined here.

Concentrated Crime Patrol, Cleveland, Ohio

The Cleveland Concentrated Crime Patrol (CCP) on the other hand,
involves a larger number of patrolmen (120 assigned to the unit) deployed
over more than one-third of the city of Cleveland. These CCP
officers operated in mobile units to augment the regular patrol, assuming
routine patrol duties with high priority given to responding to calls
involving Impact offenses (murder, rape, robbery, aggravated assault,
and burglary). The period of patrol operations examined here includes
18 months of CCP operations.

TABLE I

PROJECT CHARACTERISTICS OF THREE CASES

	DENVER SPECIAL CRIME ATTACK TEAM (SCAT)	CLEVELAND CONCENTRATED CRIME PATROL (CCP)	ST. LOUIS PILOT FOOT PATROL
MODE OF PATROL	MOBILE AND FOOT	MOBILE	FOOT
PATROL ACTIVITIES	NUMEROUS ACTIVITIES (TARGET HARDENING, PATROL, PUBLIC EDUCATION, AND INVESTIGATION, ALL TARGETING BURGLARY REDUCTIONS)	ROUTINE PATROL ACTIVITIES (PRIORITY GIVEN TO ANSWERING CALLS INVOLVING IMPACT CRIME)	WALK STREETS (IN RADIO CONTACT WITH REGULAR PATROL OFFICERS IN THE AREA)
SHIFT DISTRIBUTION	ALL HOURS	VARIED	HIGH CRIME HOURS
OPERATING PERIOD	12 MONTHS	18 MONTHS	6 MONTHS
NUMBER OF PATROLMEN	32 IN TOTAL	120 PATROLMEN/ 18 PATROL CARS	29 PATROL MAN-HOURS PER DAY PER PAULY BLOCK
SIZE OF TARGET AREA	3 PRECINCTS (40 PRECINCTS IN TOTAL IN DENVER)	3 DISTRICTS (6 DISTRICTS IN TOTAL IN CLEVELAND)	6 PAULY BLOCKS (490 PAULY BLOCKS IN TOTAL IN ST. LOUIS)

Pilot Foot Patrol, St. Louis, Missouri

The third project examined is the St. Louis Pilot Foot Patrol project. This project involved deployment of foot patrol officers to high crime areas during high crime hours. These officers worked on an overtime basis to supplement the regular patrol in the area which performed the routine police functions. The first six-month phase of the St. Louis Foot Patrol, which involved the addition of 29 patrol man-hours per day to each of 6 Pauly blocks,[4] is examined here.

3.3 Crime Level Assessments

In each of the case studies crime levels before and during patrol treatment are examined. The amount of data, the types of crime data, and the breakdown of the data items available varied from case to case. Table II displays the research parameters applicable to each of the case studies.

One analysis is common to all three case studies; that is, an examination of crime in the three basic areas – target area, adjacent area, and the untreated portion of the city – conducted on a 24-hour basis for the full treatment period. In two of the cases, Cleveland and St. Louis, additional analyses have been conducted.

In the examination of the Cleveland Concentrated Crime Patrol, crime levels are examined for the first half of the treatment period (nine months) as well as for the full (eighteen-month) treatment period

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[4]Pauly blocks are the basic geographic breakdown utilized by the St. Louis Police Department for data collection purposes. There are a total of 490 Pauly Blocks in the city.

TABLE II

DISPLAY OF RESEARCH PARAMETERS FOR THREE CASE STUDIES

	DENVER SPECIAL CRIME ATTACK TEAM (SCAT)	CLEVELAND CONCENTRATED CRIME PATROL (CCP)	ST. LOUIS PILOT FOOT PATROL
AREAS EXAMINED	TARGET AREA ADJACENT AREA UNTREATED PORTION OF THE CITY	TARGET AREA ADJACENT AREA* UNTREATED PORTION OF THE CITY*	TARGET AREA ADJACENT AREA UNTREATED PORTION OF THE CITY
HOURS EXAMINED	ALL HOURS	ALL HOURS	ALL HOURS PATROL HOURS NON-PATROL HOURS
CRIMES EXAMINED	MURDER RAPE AGGRAVATED ASSAULT ROBBERY BURGLARY**	MURDER RAPE *** ROBBERY BURGLARY	MURDER RAPE AGGRAVATED ASSAULT ROBBERY BURGLARY
OTHER		FIRST NINE MONTHS AND TOTAL EIGHTEEN MONTHS	BURGLARY AND PERSON CRIMES: SUPPRESSIBLE AND NON-SUPPRESSIBLE
BASELINE DATA PERIOD	28 months	40 months	75 months

*
  THE DESIGNATED ADJACENT AREA IN CLEVELAND DIFFERS FROM THAT IN DENVER AND
  ST. LOUIS SINCE THE CCP WAS DEPLOYED OVER APPROXIMATELY 1/3 THE CITY OF
  CLEVELAND. SEE SECTION 5.1 FOR FURTHER DISCUSSION.

**
  BURGLARY WAS SPECIFICALLY TARGETED BY SCAT ACTIVITY. IN THE OTHER TWO
  PROJECTS ALL IMPACT CRIMES WERE TARGETED.

***
  NO DATA ON AGGRAVATED ASSAULT WERE AVAILABLE AT THE TARGET AREA SCALE FOR
  CLEVELAND.

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to investigate whether crime level decreases observed for the first
nine months of patrol operations differ from decreases apparent for
the full treatment period.

In the St. Louis analysis, crimes are broken down into two
categories, those occurring during foot patrol hours and those occurring
during shifts not receiving any foot patrol attention, and analysis
is conducted on this basis. In addition, analysis of suppressible
person crime and burglary is presented. (Suppressible crimes are
those which occur within the potential view of the policemen on
routine patrol.)

4.0 THE DENVER SPECIAL CRIME ATTACK TEAM: CASE #1

4.1 Description of the Project

The Special Crime Attack Team is a flexible team-police unit designed to deal with specific urban crime problems using a comprehensive multi-faceted approach to crime reduction. The unit is deployed in areas experiencing particular crime problems and acts as an overlay to regular police operations, focusing its efforts on reduction of a target crime.

The SCAT team is a relatively small police unit, consisting of a commander and 32 other personnel including a mix of patrolmen, detectives and evidence technicians. SCAT personnel were selected from the ranks of the Denver Police Department with selection based on proven ability in each area of expertise and on the professional opinion of the commanding officer. Team organization is flexible, allowing the team leader and his assistants the opportunity to mix personnel and tactics to meet the situation upon a daily assessment of neighborhood crime trends.

The activities of the unit vary with the target area being served. In general, the unit employs three major strategies: (a) prevention, (b) interception, and (c) investigation. The actual activities initiated by SCAT are dictated by the nature of the crime problem and by the community context in which the unit is operating. The highest priority is given to working directly with community members to resolve area crime problems.

The SCAT unit is deployed on a quarterly basis and since its inception it has served numerous target areas for varying amounts of time. The unit has been deployed in areas with both burglary and robbery problems.

In this document, the first phase of SCAT project (SCAT I) operations is examined. Beginning in mid-December 1972, the SCAT unit was deployed to three precincts which were experiencing the highest incidences of burglary in the City of Denver. The unit continued to serve these three burglary target precincts throughout the calendar year 1973, although during the second and fourth quarters of 1973, the unit was directing the majority of its efforts towards robbery reduction in other parts of the city.

The SCAT unit efforts in combating burglary in the target precincts involved numerous activities. In addition to the influx of visible police in the area, the unit increased the number of technical crime scene searches in the area by 198 percent over the expected rate based on 1972. There was a 38 percent increase in the clearances by arrest for all target area burglaries in 1973, during the time of SCAT attention. The SCAT members worked with the community to provide public education and target hardening services including: business and domicile security inspections with corrective recommendations, displays and demonstrations of burglary, robbery and larceny prevention measures at target area shopping centers and crime prevention instruction at local neighborhood meetings.

The target crime, burglary, and the target areas were selected on the basis of crime-specific analysis to determine the relative severity of the various possible target crime problems and the geographical locations of these problems. The crime of burglary was selected as the target crime for Phase I of SCAT operations for a number of reasons. The SCAT grant application provides the following rationale behind this choice.

First, burglary is the most frequently occurring crime in the
"Impact" categories. In 1971, Denver had 15,228 burglaries
reported to the police or 2,956 burglaries per 100,000 population.
When compared to the national rate of 1,050 burglaries per 100,000
population, Denver has nearly three times the national rate. Dur-
ing the first six months of 1972 there were 8,220 reported burglar-
ies resulting in a dollar value property loss of $2,859,459.
Approximately 45.6 burglaries are reported to the police each day,
with an average loss of $347. The police department indicated
that the juvenile and young adult offender from the immediate
neighborhood was the most frequent perpetrator of the crime.
Another factor considered in the decision to attack burglary was
the knowledge that many burglaries go unreported. The total
number of criminal acts that occur remains unknown, and only those
discovered by the police, or those reported to the police, become
crime statistics. According to a 1965-66 survey of 10,000 house-
holds conducted nationally by the National Opinion Research Center
(NORC) at the University of Chicago, burglary offenses were almost
three times the reported rate. If this fact is accurate, Denver
may have had as many as 24,660 actual burglaries in the first six
months of 1972. The police were already heavily burdened with
burglary investigations that tap a large amount of investigative
resources. The overburdened detectives found that the sheer weight
of numbers in any given day almost preclude anything but a per-
functory investigation. The clearance rate for burglaries during
the first six months of 1972 was 27.8% (27.2% residential - 28.8%
commercial). The police arrested and charged 1,117 persons with
the crime of burglary. A total of 2,234 burglaries were cleared
or about two (2) burglaries for each person arrested out of the
8,220 burglaries reported.

For the first phase of the project three police precincts (216,
217, 412) were selected as the target areas of operations specifically
because they had the highest incidences of burglary in Denver. These
precincts, predominantly middle class residential areas, contain
sizable minority populations (black and Chicano).

The total burglary target focus consisted of two geographically
separate areas (as seen in Figure 2 which shows the location of the
target areas within the city). One area, Precincts 216 and 217, is
a large, older, residential location in the extreme northeast corner
of the city. The area residents are predominantly black, a sizable

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LEGEND

TARGET PRECINCTS

ADJACENT AREAS

DENVER CITY BOUNDARY
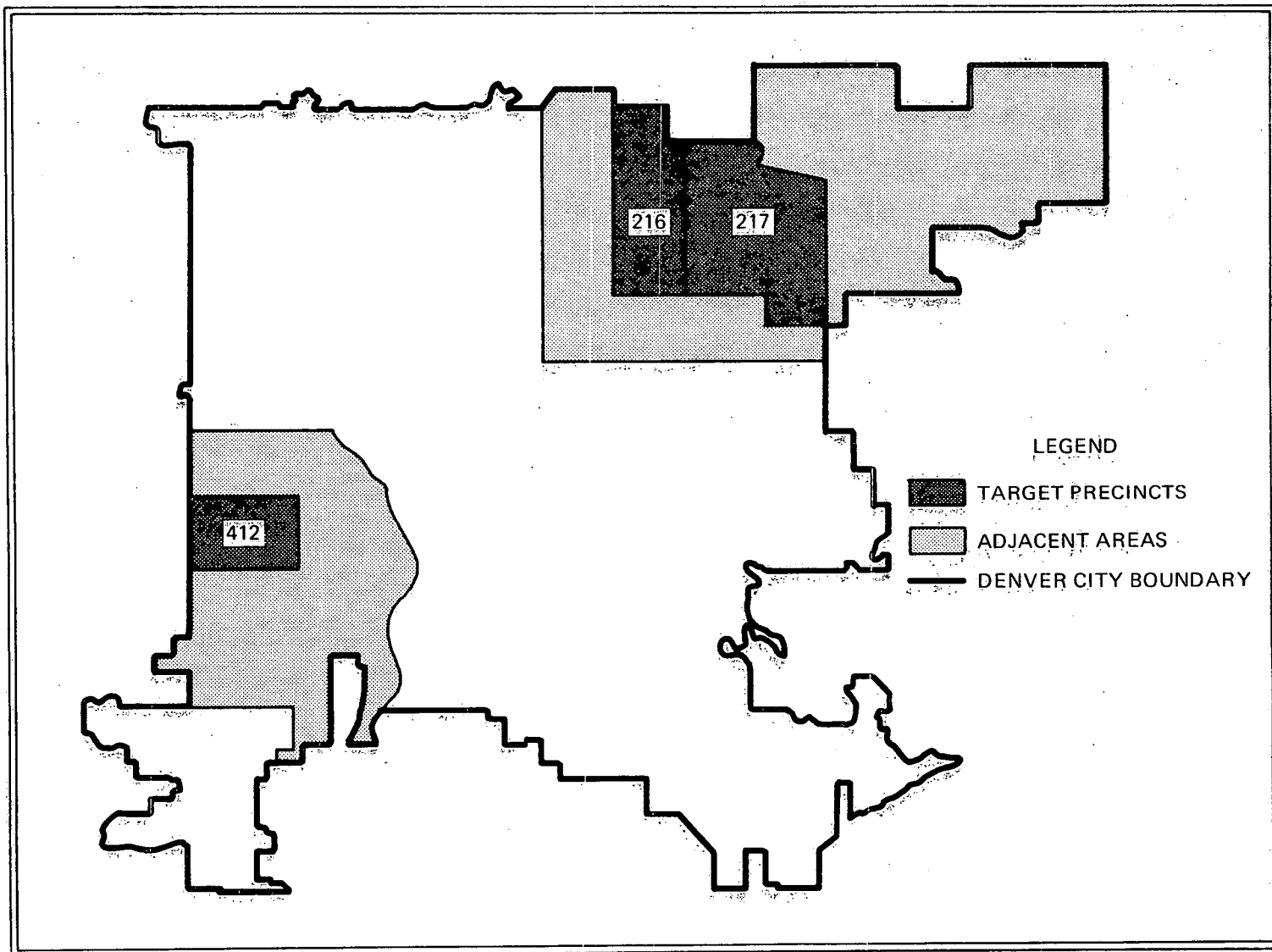
FIGURE 2
SCAT TARGET AREAS AND ADJACENT AREAS

portion of the population is under 18 years of age, and unemployment is low. Homes are well-maintained and the area is free of pedestrian and traffic congestion. There is very little commercial development in these precincts of the city except for a warehouse distribution district at the north end of the area where several interstate highways and the railroad lines merge. The other targeted precinct, 412, is located on the western border of the city. In this precinct, approximately one quarter of the population is Spanish-American. Similar to the target areas described above, a high proportion of the residential population is under the age of 18, there is a low rate of unemployment, and street congestion--both automobile and pedestrian-- is minor. The homes in this area, however, are smaller, more recently built, and in visibly poorer condition. Further, Precinct 412 is not as large as the other precincts and is bordered on three sides by commercial strip development, with the congestion and street activity which generally accompanies it.

The map in Figure 2 also shows those areas immediately adjacent to the target area which are analyzed for possible displacement of crime from the target areas. In both cases (412 and 216/217) there are areas adjacent to the target precincts which are not under the jurisdiction of the Denver Police Department. No crime data are available for these areas. For precinct 412 the adjacent area is not unlike the other surrounding precincts and thus an assessment of crime displacement which excludes this area would not be expected to differ significantly from results obtained from analysis of the entire peripheral area. Similarly, adjacent area analysis results should not be significantly biased by the exclusion of the area immediately north of precincts 216/217 since this is an area covered by highways and railroad tracks, now out of use. Other sections of the precincts adjacent to 216/217 include the airport; while this represents a

different land use from the target area, the amount of airport crime is relatively small and should thus not bias the analysis of adjacent area effects.

Unfortunately, these adjacent areas are rather large, encompassing a total of 11 precincts. Ideally one would like data for a several-block ring surrounding target precincts for assessing localized geographic displacement. However, the precinct scale is the smallest level of data aggregation available from the Denver Police Department so the eleven precincts, as shown in Figure 2, will be used as the basis for the analysis of possible displacement effects.

4.2 SCAT Crime Level Analysis

The time-series models, discussed earlier in section 2.2.2.1 and presented in Appendix I, have been employed in assessing crime level changes occurring in Denver during the time period of SCAT I operations. In this section the results of this analysis are presented. Included in the analysis are: (a) crime level changes observed in the project target area, the three precincts receiving direct patrol attention; (b) crime level changes in the adjacent area, the potential site of any spillover or indirect effects of the project, positive or negative; and (c) crime level changes occurring in that portion of the city which received no SCAT attention. This untreated portion of the city includes the areas adjacent to the target area and, in effect, constitutes the larger system in which the SCAT project was operated. It thus provides a context for evaluating crime level changes observed in the target and adjacent areas. The crimes of murder, rape, aggravated assault, robbery, and burglary were analyzed for all three areas. Since members of the SCAT team were deployed twenty-four hours a day, crime levels were analyzed on this basis. The results presented refer to the full 12-month SCAT anti-burglary treatment period.

The results of the target area crime level analysis are presented in Table III below. As the figures show, for three of the five target area crimes analyzed, high levels of confidence in crime decreases were obtained for the SCAT operating period, indicating that the observed levels of these crimes were lower during SCAT treatment than what would have been expected based on past crime experience in the area. Murder, aggravated assault, and burglary (the project target crime) all appear to have declined during SCAT treatment. No such decreases are observed for either rape or robbery in the target area.

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TABLE III

PERCENT CONFIDENCE THAT CRIME IN SCAT
TARGET AREA IS LOWER THAN EXPECTED*

CRIME	PERCENT CONFIDENCE
MURDER	93.5
RAPE	27.5
AGGRAVATED ASSAULT	97.5
ROBBERY	41.2
BURGLARY	100.0

A similar analysis was conducted of these five crimes in the adjacent area, the eleven precincts surrounding the target area (Table IV, below).

TABLE IV

PERCENT CONFIDENCE THAT CRIME IN SCAT
ADJACENT AREA IS LOWER THAN EXPECTED

CRIME	PERCENT CONFIDENCE
MURDER	56.3
RAPE	19.0
AGGRAVATED ASSAULT	17.2
ROBBERY	18.4
BURGLARY	98.7

As the figures in Table IV indicate, burglary is the only crime of the five examined which appears to have declined in the adjacent area during the SCAT operating period.

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*The raw data on which computations were made are included in Appendix III. Results of each of the four models are listed in Appendix II.

Finally, crime levels in the untreated portion of the city were assessed. These results, displayed in Table V below, provide evidence that burglary was on the decline during the period of SCAT anti-burglary deployment, in that portion of the city which received no special SCAT attention, as well as in the target and adjacent areas.

TABLE V

PERCENT CONFIDENCE THAT CRIME IN UNTREATED AREA OF DENVER IS LOWER THAN EXPECTED

CRIME	PERCENT CONFIDENCE
MURDER	50.9
RAPE	3.0
AGGRAVATED ASSAULT	77.3
ROBBERY	7.9
BURGLARY	99.7

4.3 SCAT Summary Results

The results of the crime level analysis presented in the preceding section have been displayed in Table VI below.

TABLE VI

RESULTS INDICATING THAT CRIME LEVELS ARE LOWER THAN EXPECTED DURING SCAT I OPERATING PERIOD

	TARGET AREA	ADJACENT AREA	UNTREATED AREA OF DENVER
MURDER	YES	NO	NO
RAPE	NO	NO	NO
AGGRAVATED ASSAULT	YES	NO	NO
ROBBERY	NO	NO	NO
BURGLARY	YES	YES	YES

90-100% Confidence = Yes
80-89% Confidence = Some
< 80%   Confidence = No

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These results can be summarized as follows:

- Three target area crimes, murder, aggravated assault, and
  burglary, have exhibited a decline during SCAT despite the
  fact that only burglary was targeted.

- For two of these, murder and aggravated assault, no decreases
  are apparent in the untreated portion of the city during this
  time period – either in those areas immediately adjacent to
  the target area or in the untreated area as a whole.

- For burglary, declines were also observed in the remainder
  of the city which received no direct attention from the
  SCAT unit, including specifically those areas in close
  geographical proximity to the target area, preventing any
  direct attribution to project activities or effects.

- No decreases in robbery or rape in any of the areas
  investigated were observed during the time of SCAT I
  activity.

5.0 CLEVELAND CONCENTRATED CRIME PATROL: CASE #2

5.1 Description of the Project

The Concentrated Crime Patrol (CCP) was implemented as part of the Cleveland Deterrence, Detection and Apprehension Operating Program, one of five programs which constituted Cleveland's Impact effort. The Concentrated Crime Patrol involved the addition of 120 patrolmen to the Cleveland police force to be deployed to high crime areas during high crime hours; members of the CCP patrolled the streets in specially marked Impact cars responding to all crime-related requests for service.

The CCP began operations in May of 1973 and has operated throughout the remainder of the Impact program. Crime levels during the first eighteen months of project activity will be examined here.

The selection of the project for inclusion in the Cleveland Impact program is discussed in the grant application:

> The role of the police in controlling and reducing crimes is basically a dual one.

> An intensive, visible patrol in those areas in which crimes are most frequent will discourage criminals or potential criminals who may be contemplating such acts.

> Therefore, intensive, visible patrol is an essential ingredient of the crime control process.

> The other essential element in the crime control process consists of the removal of persons committing crimes from the streets by apprehension at the scene of the crime or subsequent identification and apprehension through the investigative process.

> It is axiomatic that the success of this objective will depend in direct ratio on the number of police that can be assigned and the amount of time they can expend on such duties.

> These are well known precepts of course, and have been proved over and over again by the experience of police departments throughout the country.

More recently, a number of surveys conducted by the President's
Task Force Commission on Crime have verified and underscored the
importance of these principles. (Grant Application, Page 7)

The results of a study, Operation 25, conducted in New York City
in 1954 are cited in the grant application and the conclusion reached
was:

> The demonstration conclusively proved that crime can be drastically
> reduced by a visible, intensive patrol when an adequate number of
> officers is assigned to the problem. (Grant Application, Page 9)

In addition, consideration was given to the fact that with an increas-
ing number of calls for police service in Cleveland, less time was being
devoted by police to routine preventive patrol.

Thus a new patrol, the Concentrated Crime Patrol, of 120 patrol-
men to be supported by 60 investigative personnel was created to sup-
plement Cleveland's existing police force. Members of the CCP were
recruited from the ranks of the police department and their vacated
positions were filled through normal civil service channels.

The Concentrated Crime Patrol was deployed to the three eastside
districts (IV, V and VI) as shown in the map in Figure 3. In the
process of implementing the CCP, some shifts of department personnel
were made. Specifically, a special unit (the Tactical Unit) which had
formerly been operating in the east side of Cleveland, was deployed to
the west side of the city as the CCP began its activities. The Tacti-
cal Unit (TU) employed less than half the mobile units utilized in the
CCP so that, in effect, implementation of the CCP involved an increase in
patrol over previous levels. Other "untreated" areas of Cleveland (i.e.,
west side districts) were then actually receiving some additional police
attention during the CCP project operating period – the added force on the
west side was, however, much smaller than that deployed to the target area.

KEY

TARGET AREA

ADJACENT AREA

CLEVELAND CITY BOUNDARY

0 1 2 3

MILES

N

DISTRICT VI

DISTRICT V

DISTRICT III

DISTRICT IV

DISTRICT II

DISTRICT I
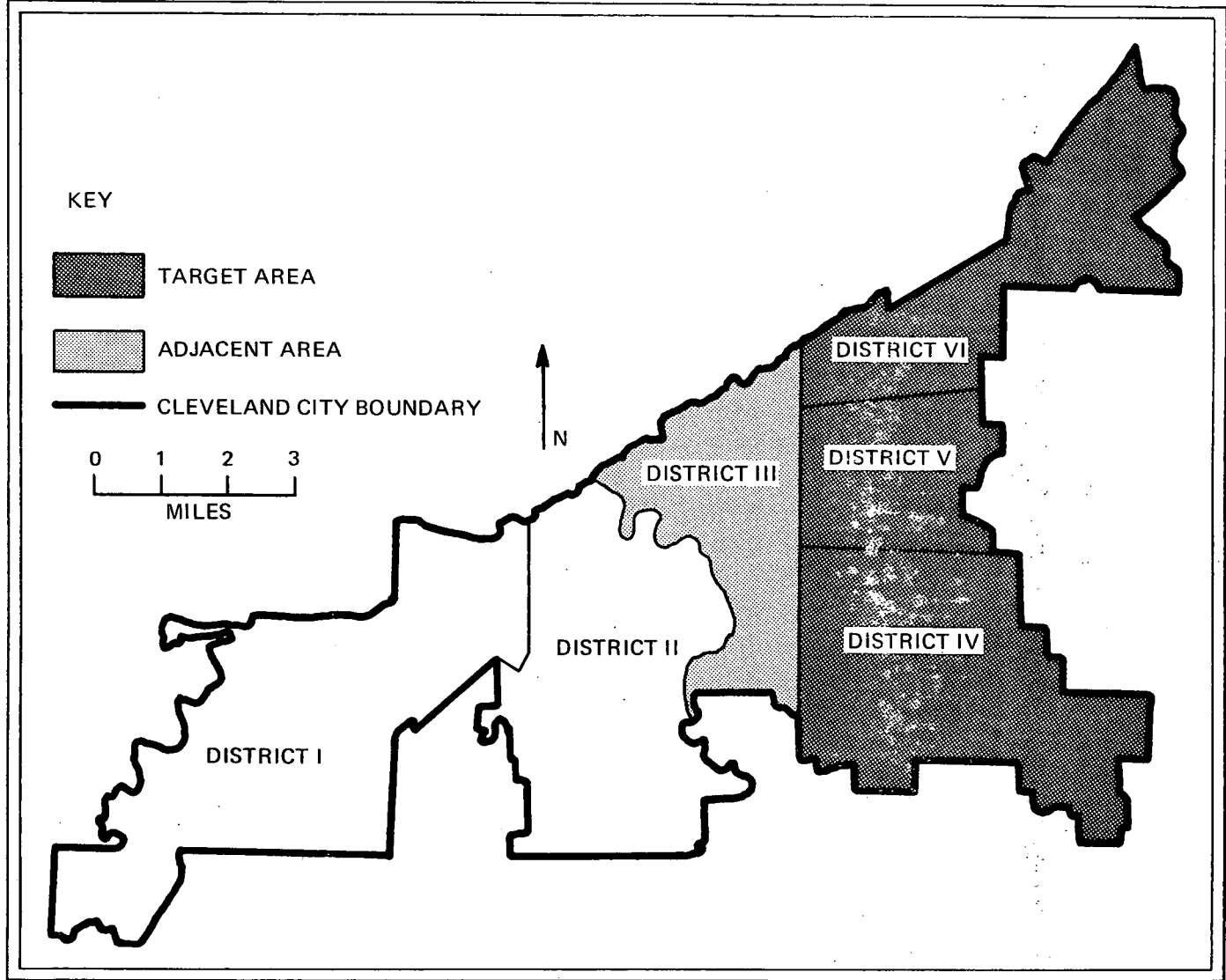
FIGURE 3
CCP TARGET AREA AND ADJACENT AREA

It is clear from Figure 3 that the geographical layout of the CCP is somewhat different than that of the SCAT project. First, the CCP, being much larger than SCAT, covers more than a third of the area of Cleveland. As discussed above, the untreated portion of the city (city area minus the target area) was receiving some, but more limited, new police attention during the treatment period. Finally, the adjacent area, the area in closest geographical proximity to the target area, is somewhat limited in the Cleveland case. Data constraints limited the adjacent area to the area within the municipal boundaries. Thus, District III, as shown in Figure 3, serves as the adjacent area in the CCP analysis.

The CCP was deployed to high crime subareas within the three district target areas during high crime hours, as determined by crime analysis conducted on approximately a weekly basis. CCP patrolmen were actively engaged in crime control activities. As reported in the first CCP evaluation report:

- CCP in 1973 represented approximately 8 percent of the total police force responsible for making arrests, yet project personnel were responsible for 19 percent of all Impact arrests since operations began in the spring of 1973.

- In addition, the CCP reported 15 percent of all Impact crimes.

- Finally, the Impact arrests reported by the Concentrated Crime Patrol accounted for 32 percent of the observed percentage increase in overall Impact clearance rates. (The police force vested with arrest powers is defined as the rank of patrolman on the Cleveland Police Department Personnel Distribution Chart for the line operations of Basic Patrol and Criminal Investigation.)

5.2 CCP Crime Level Analysis

The time-series models described in section 2.0 and utilized in the analysis of crime presented in the Denver case, have been employed in the analysis of crime level changes in Cleveland during the time period of the operation of the Concentrated Crime Patrol. As in the Denver analysis, crime in three basic areas is examined: (a) the target area, (b) the adjacent area, and (c) the untreated portion of the city (which includes the adjacent area). As is discussed above (5.1), while these three areas conform in definition to the three-area breakdown used in the Denver and St. Louis cases, they differ in the Cleveland case in that:

- The CCP treatment area covers almost one-third of the area of the city; and

- The adjacent area used for analysis is comprised of only that area peripheral to the treatment area which is within the city boundaries.

Four crimes are analyzed in the Cleveland analysis, including murder, rape, robbery, and burglary; analysis is conducted on a twenty-four hour a day basis as was done in the case of Denver.

Crime data are available for eighteen months of project operations. Analysis results based on this full eighteen-month period are presented, as well as results based on the first nine months of CCP operations. Patrol operations did not differ between the first and second nine-month periods of activity; the division is an artificial one made for analysis purposes only. Comparisons between the nine-month and the full eighteen-month results allow for an examination of the effect of length of treatment on observed crime level effects.

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5.2.1 Nine-Month Results

Results based on the first nine months of CCP operations are presented in Table VII below.

Target Area

TABLE VII

PERCENT CONFIDENCE THAT CRIME LEVELS IN CCP TARGET AREA
ARE LOWER THAN EXPECTED DURING FIRST 9 MONTHS
OF PROJECT OPERATIONS[*]

CRIME	PERCENT CONFIDENCE
MURDER	99.6
RAPE	51.6
ROBBERY	100.0
BURGLARY	98.5

As the above figures indicate, a high confidence that crime has decreased was obtained for three of the four crimes examined, murder, robbery and burglary; only target area rape shows no evidence of a decrease during this nine-month period.

Adjacent Area

In the adjacent areas, (see Table VIII, following) only robbery shows a high confidence in decreases during the first nine months of treatment, with some evidence apparent for burglary decreases and none for either murder or rape.

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[*]The raw data on which computations were made are included in Appendix III. Results of each of the four models are listed in Appendix II.

TABLE VIII

PERCENT CONFIDENCE THAT CRIME LEVELS IN CCP ADJACENT AREA
ARE LOWER THAN EXPECTED DURING FIRST 9 MONTHS
OF PROJECT OPERATIONS

CRIME	PERCENT CONFIDENCE
MURDER	56.2
RAPE	59.1
ROBBERY	93.0
BURGLARY	69.6

Untreated Area

During this nine-month period little improvement is observed
in the crime levels for the untreated portion of the city (see
Table IX) which includes the ajdacent area. As Table IX shows,
only for robbery is there evidence of decreases during the first
nine months of CCP operations.

TABLE IX

PERCENT CONFIDENCE THAT CRIME LEVELS ARE LOWER THAN EXPECTED
IN THE UNTREATED AREA OF CLEVELAND DURING FIRST
9 MONTHS OF CCP OPERATIONS

CRIME	PERCENT CONFIDENCE
MURDER	10.4
RAPE	51.2
ROBBERY	76.8
BURGLARY	0.5

5.2.2 Eighteen-Month Results

A similar analysis conducted on crime levels for a full eighteen months of CCP treatment yields somewhat different results.

Target Area

Analysis of eighteen-month data fails to confirm confidence in crime level decreases for burglary, but confirms 9-month results for all other crimes (see Table X below).

TABLE X

PERCENT CONFIDENCE THAT CRIME IN CCP TARGET AREA
IS LOWER THAN EXPECTED DURING
18-MONTH TREATMENT PERIOD

CRIME	PERCENT CONFIDENCE
MURDER	99.3
RAPE	48.5
ROBBERY	99.0
BURGLARY	39.6

Adjacent Area

Assessing crime level changes in the adjacent area for the eighteen-month treatment period (Table XI below), no evidence is available which indicates crime level decreases for any of the four crimes. Decreases observed for adjacent area robbery during the first nine months of the project were no longer observed after eighteen months of project operations.

TABLE XI

PERCENT CONFIDENCE THAT CRIME IN CCP ADJACENT AREA
IS LOWER THAN EXPECTED DURING
18-MONTH TREATMENT PERIOD

CRIME	PERCENT CONFIDENCE
MURDER	7.8
RAPE	50.0
ROBBERY	28.9
BURGLARY	11.5

Untreated Area

Similarly, as is shown in Table XII below, an examination of
crime in the untreated area of the city for the eighteen-month period
indicates little improvement in any of the four crimes; the evidence
for robbery decreases in the untreated portion of the city also observed
for the first nine months again is no longer apparent in the eighteen-
month analysis.

TABLE XII

PERCENT CONFIDENCE THAT CRIME LEVELS IN THE UNTREATED AREA
OF CLEVELAND ARE LOWER THAN EXPECTED DURING
18-MONTH TREATMENT PERIOD

CRIME	PERCENT CONFIDENCE
MURDER	38.3
RAPE	27.1
ROBBERY	5.6
BURGLARY	0.0

5.3 CCP Summary Results

Crime levels in Cleveland during the first nine months and the full eighteen months of the Concentrated Crime Patrol operations were analyzed and the results were presented above in Section 5.2. These results have been summarized in Table XIII below.

TABLE XIII

RESULTS INDICATING THAT CRIME LEVELS ARE LOWER THAN
EXPECTED DURING CCP OPERATING PERIOD

		TARGET AREA	ADJACENT AREA	UNTREATED AREA OF CLEVELAND
9 MONTHS OF TREATMENT	MURDER	YES	NO	NO
	RAPE	NO	NO	NO
	ROBBERY	YES	YES	NO
	BURGLARY	YES	NO	NO
18 MONTHS* OF TREATMENT	MURDER	YES	NO	NO
	RAPE	NO	NO	NO
	ROBBERY	YES	NO**	NO
	BURGLARY	NO**	NO	NO

90-100% Confidence = Yes
80-89% Confidence = Some
< 80% Confidence = No

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* Includes nine-month period assessed above.

** Eighteen-month results differ from nine-month results.

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As the information on the table indicates, observed changes in crime during the Concentrated Crime Patrol treatment period were as follows:

- Three target area crimes, murder, robbery and burglary, exhibited a decline during the first nine months of operations; no such decreases were in evidence for the untreated portion of the city.

- For robbery during the first nine months of the project, target area decreases were accompanied by a decline in adjacent area robbery. The remainder of the city did not exhibit such decreases during this nine month period.

- Considering the full 18-month period of CCP treatment, target area decreases in murder and robbery appear to have been sustained.

- No decrease in target area burglary is observed for the 18-month treatment period - as was observed during the first nine months of treatment.

- While target area robbery exhibited a decline for the full eighteen months as well as the first nine months of CCP activity, adjacent area decreases observed in the first half of the treatment period did not appear to obtain when assessing the total treatment period.

6.0 THE ST. LOUIS PILOT FOOT PATROL: CASE #3

6.1 Description of the Project

The St. Louis Pilot Foot Patrol project was funded and implemented as part of St. Louis' overall Impact program effort. The project involved the assignment of additional police officers to high crime areas in the City of St. Louis during high crime hours of the day to supplement the regular police force in the area by patrolling the streets on foot.

Impact foot patrol in St. Louis began in July of 1972 and has continued in three phases throughout the Impact program. In this research, Phase I (Pilot Foot Patrol Phase) of the project will be examined, including the months of July thorugh December of 1972. (The Pilot Foot Patrol actually operated in its designated target area for an additional two months [January and February 1973]; however, the two months were not included in this research because the necessary data were not available.)

The selection of a foot patrol project for inclusion in the St. Louis Impact program was based on several factors; as stated in the original grant application at the time of the initiation of the Impact program:

> The present commissioned strength of the St. Louis patrol force was inadequate to handle the responsibilities of both calls for service and crime prevention. (Page 19)

This shrinkage in regular patrol manpower was due to three factors: (a) increased development of specialized patrol units which draw upon the bureau of field operations for their personnel, (b) increased police benefits extending the amount of police time covered by sick leave and paid vacations (both of which have decreased the actual on-duty patrol hours), and (c) increased demands for police service. In meeting this need for supplementary police patrol coverage, the St. Louis planners felt that foot patrol was an appropriate solution because:

Police departments have come under some criticism in recent years because of their increased use of patrol cars. Foot patrol was once used extensively by police departments to perform the patrol functions. The officers on foot were known and respected in the neighborhood. Foot patrol officers could recognize strangers in the neighborhood and could obtain information on offenders from contacts developed in the neighborhood. It is hoped that the use of foot patrol in this project will reinstate some of these advantages. (Original Grant Application, Page 19, Continuation Sheet 2)

The areas targeted by the Pilot Foot Patrol were selected on the basis of the number of reported street crimes and suppressible burglaries. "Suppressible" crimes are those which are routinely classified by the Crime Classification Section of the St. Louis Police Department as occurring in locations which were potentially visible to a policeman on routine patrol. Suppressible crimes are thus considered to be "ones which could have been prevented or interrupted by a cruising patrol car." (Original Grant Application, Page 19, Continuation Sheet 3) Those areas exhibiting the highest frequency of street crimes and suppressible burglaries were selected for foot patrol attention. Based on an analysis of police crime figures for 1971, six Pauly blocks[5] were selected for foot patrol treatment under the Pilot Foot Patrol Phase. A map of the target area, Pauly blocks number 533, 534, 537, 541, 545, and 647, is provided in Figure 4. The map presented in Figure 4 shows the location of the six target Pauly blocks and the 28 surrounding Pauly blocks which have been designated as the adjacent area in the analysis.

Assignment of foot patrol officers to the six Pauly blocks included in the target area was as follows:

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[5] Pauly blocks are the basic geographic breakdown utilized by the St. Louis Police Department for data collection purposes. There are a total of 490 Pauly blocks in the city.
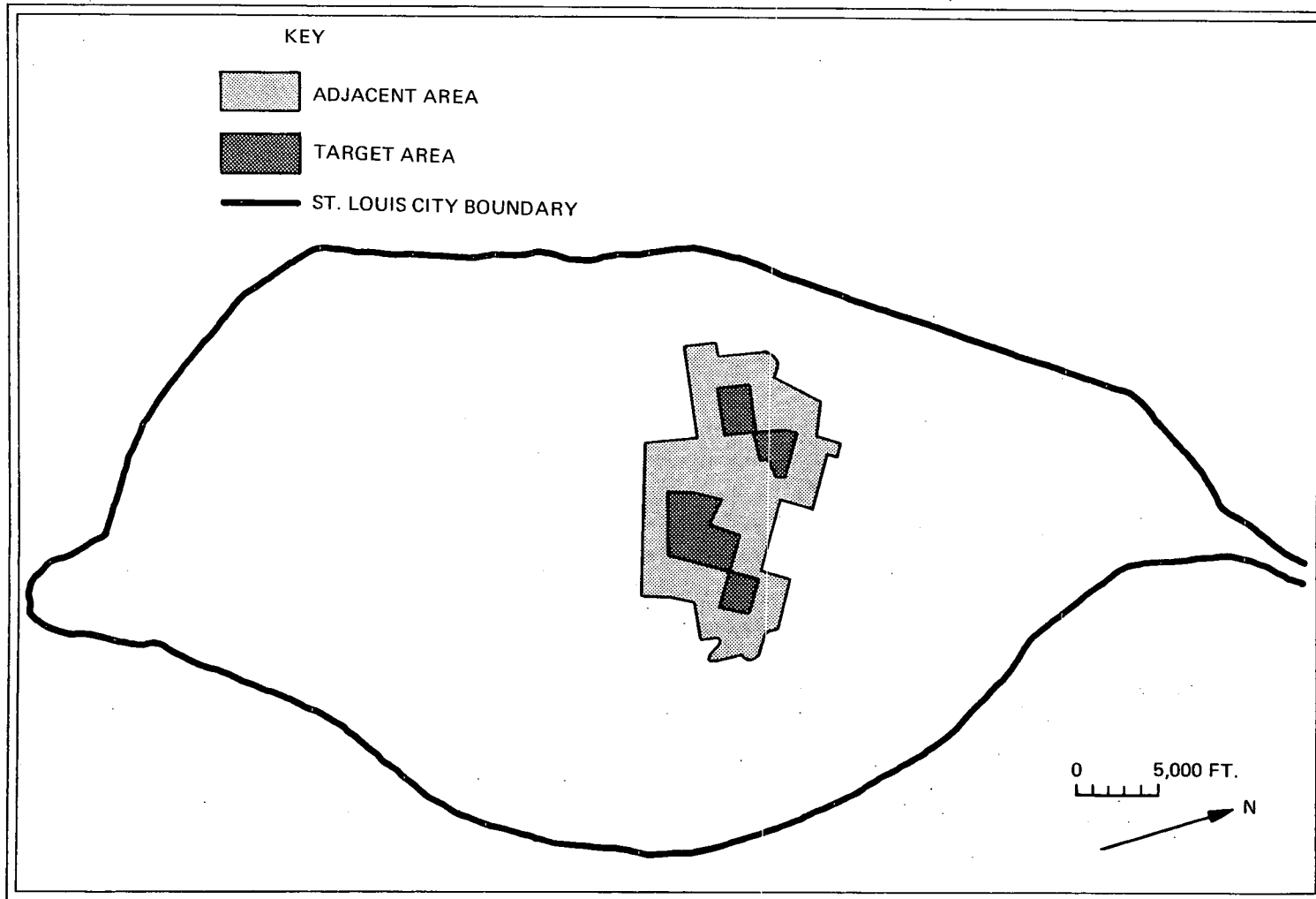
FIGURE 4
ST. LOUIS PILOT FOOT PATROL TARGET AREA AND ADJACENT AREA

Time Period	Number of Officers
Sunday thru Thursday 7 p.m. to 1 a.m.	10 pairs of officers, 2 Detectives, 2 Sergeants, 1 Lieutenant
Friday and Saturday 6 p.m. to 2 a.m.	20 pairs of officers 4 Detectives, 4 Sergeants, 1 Lieutenant

(Original grant application, Page 19, Continuation Sheet 4.) Again, selection of patrol hours was determined by reported crime incidence (patrol hours accounted for 57.5 percent of the target area crime).

In effect, the Pilot Foot Patrol involved the addition of a total of 1,240 hours of foot patrol coverage a week in the six high crime Pauly blocks during high crime hours. The policemen patrol on foot in pairs maintaining radio contact via miniature hand-held radios assigned to each officer.

Officers were assigned to foot patrol duty on a volunteer overtime basis. Because of this assignment process there was no consistent makeup of the patrol force and the patrol officers had no prior experience with the target area.

6.2 St. Louis Crime Level Analysis

Crime levels in St. Louis during the time period of Pilot Foot Patrol operations were analyzed in a manner similar to that utilized in the Denver and Cleveland cases. The time series models described earlier (in Section 2.0) were utilized to assess reported crime levels for all five crimes in the three areas of concern (project target area, the adjacent areas, and the untreated portion of the city) during six months of foot patrol treatment in 1972.[6]

As mentioned above, the Pilot Foot Patrol operated for eight months, July 1972 to February 1973, before foot patrolmen were deployed to new target areas. Data, however, were only provided for July to December 1972.

In addition to an analysis on a 24-hour a day basis for the three basic areas (presented in Section 6.2.1), a separate analysis of patrol hours vs. non-patrol hours (the Pilot Foot Patrolmen were deployed during high crime hours) was conducted and the results are presented in Section 6.2.2. Finally, in Section 6.2.3, person crime and burglary are examined. "Suppressible" crimes (crimes which occur in places visible to officers on routine patrol) form the focus of this analysis, which assesses whether decreases in such crimes are more apparent than for "non-suppressible" crimes or crimes in total.

6.2.1 All Hours

An examination of reported crime in the St. Louis Foot Patrol target area reveals that the levels of three of the five crimes analyzed using the time series models appear to be lower during patrol operations than one would have expected. (See Table XIV below)

TABLE XIV

PERCENT CONFIDENCE THAT CRIME LEVELS IN TARGET AREA
ARE LOWER THAN EXPECTED DURING
ST. LOUIS PILOT FOOT PATROL OPERATING PERIOD

CRIME	PERCENT CONFIDENCE
MURDER	97.5
RAPE	14.0
AGGRAVATED ASSAULT	85.4
ROBBERY	100.0
BURGLARY	100.0

A high percent confidence is obtained for decreases in target area murder, robbery and burglary. There is some evidence of a decrease in aggravated assault, while it appears that no decrease in rape was observed.

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In the area adjacent to the target areas, again three crimes show a decline (see Table XV); however, in this case it is rape, aggravated assault and burglary which appear to have decreased, burglary being the only crime which is down in both the target and adjacent area.

TABLE XV

PERCENT CONFIDENCE THAT CRIME LEVELS IN ADJACENT AREA
ARE LOWER THAN EXPECTED DURING ST. LOUIS
PILOT FOOT PATROL OPERATING PERIOD

CRIME	PERCENT CONFIDENCE
MURDER	54.2
RAPE	91.8
AGGRAVATED ASSAULT	100.0
ROBBERY	82.9
BURGLARY	99.9

Some evidence is available which indicates a possible decline in robbery in the adjacent area; adjacent area murder appears to have remained constant during the time of patrol activity.

Finally, looking at crimes in the remainder of St. Louis which received no foot patrol treatment and includes the adjacent areas discussed above, we find the results listed below in Table XVI.

TABLE XVI

PERCENT CONFIDENCE THAT CRIME LEVELS IN UNTREATED AREA
OF ST. LOUIS ARE LOWER THAN EXPECTED DURING
PILOT FOOT PATROL OPERATING PERIOD

CRIME	PERCENT CONFIDENCE
MURDER	96.6
RAPE	99.4
AGGRAVATED ASSAULT	89.8
ROBBERY	96.2
BURGLARY	100.0

As the table shows, all five crimes appear to have decreased in the untreated portion of the city during the period of foot patrol operations.

6.2.2 Patrol Hours

Because the foot patrol was deployed in the target area during high crime hours of the day, it might be expected that crime decreases would be more likely during the treatment time slot than during that part of the day receiving no special treatment.[7] To address this possibility, a distinction was made between crimes occurring during patrol hours and crimes occurring during non-patrol hours. Analysis was conducted on each of these; the results are presented below.

Table XVII below displays the results of the analysis for the five target area crimes broken out by patrol and non-patrol hours.

TABLE XVII

PERCENT CONFIDENCE THAT CRIME LEVELS IN TARGET AREA ARE
LOWER THAN EXPECTED DURING PATROL AND NON-PATROL HOURS

CRIME	PERCENT CONFIDENCE	
	PATROL HOURS	NON-PATROL HOURS
MURDER	92.9	94.4
RAPE	24.7	25.8
AGGRAVATED ASSAULT	81.0	77.7
ROBBERY	100.0	99.6
BURGLARY	99.9	99.9

As the table shows, the crime level decreases observed in the target area are not found exclusively during the treatment patrol hours.

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[7] The St. Louis project is the only one of the three in which patrolmen were deployed during particular shifts consistently throughout the project operating period.

Results for adjacent area crime using a similar break-down are somewhat different. (See Table XVIII below)

TABLE XVIII

PERCENT CONFIDENCE THAT CRIME LEVELS IN ADJACENT AREA
ARE LOWER THAN EXPECTED DURING
PATROL HOURS AND NON-PATROL HOURS

CRIME   PERCENT CONFIDENCE

	PATROL HOURS	NON-PATROL HOURS
MURDER	48.8	60.1
RAPE	97.6	72.2
AGGRAVATED ASSAULT	100.0	96.9
ROBBERY	96.3	53.6
BURGLARY	95.4	100.0

Adjacent area burglary and aggravated assault appear to have decreased during both the treatment and the non-treatment time slots. Robbery and rape in the adjacent area, however, show a decline during the hours of the foot patrol, but appear to have remained relatively stable during non-patrol hours.

Finally, looking at crime in that portion of the city which received no direct foot patrol attention (this includes the areas immediately adjacent to the target area), we obtain the results displayed in Table XIX. Again (as in both the target and adjacent areas) burglary appears to have decreased in the untreated area during both patrol hours and non-patrol hours as does robbery.

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The other three crimes examined all show a decline in the untreated area during patrol hours; however, during non-patrol hours one of these, aggravated assault, shows little evidence of decrease. For the others, rape and murder, confidence in crime decreases is reduced during the non-treatment time slot.

TABLE XIX

PERCENT CONFIDENCE THAT CRIME LEVELS IN THE UNTREATED AREA
OF ST. LOUIS ARE LOWER THAN EXPECTED DURING
PATROL AND NON-PATROL HOURS

CRIME	PERCENT CONFIDENCE	
	PATROL HOURS	NON-PATROL HOURS
MURDER	96.9	88.0
RAPE	100.0	85.0
AGGRAVATED ASSAULT	95.4	69.4
ROBBERY	95.8	94.1
BURGLARY	100.0	100.0

6.2.3 Suppressible Crime

It is often alleged that street crime is more susceptible to deterrence by police action than other types of crime. The St. Louis Police Department categorizes its reported crime offenses which occur on the street within potential view of the police officer on routine patrol as "suppressible" crimes. In this section, "suppressible" (or outdoor) crimes and "non-suppressible" (or indoor) crimes are examined to assess whether there appears to be any greater evidence for decreases in crimes occurring on the street than for "off-street"

crimes. Total person crime (including murder, rape, assault and robbery) and burglary[8] are analyzed using this suppressible/non-suppressible breakdown.

The results of the analysis of person crimes are displayed in Table XX. As the figures show, there is evidence that total person crime (including murder, rape, aggravated assault and robbery) has decreased all over the city of St. Louis during the time period of foot patrol activity - including both treatment and non-treatment areas during both treatment and non-treatment time shifts. Similar universal declines are observed for suppressible or "on-street" person crimes. Person crime occurring in locations not visible to the routine patrolman (non-suppressible person crime), however, appears to have decreased in only the target area during the time of patrol presence. There is no evidence of any decrease in non-suppressible person crime in other areas during either patrol or non-patrol hours.

The results for burglary are similar although somewhat less marked. As is shown in Table XXI, both total and suppressible burglary appear to have decreased in all areas during all hours. Again, as for non-suppressible person crimes, non-suppressible burglaries appear to have declined only in the target areas and only during patrol hours, although the evidence for this decrease is not as strong as for person crime. No evidence is apparent for any other decreases.

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[8] A suppressible burglary is one in which the point of entry was potentially visible to the patrolman on routine patrol.

TABLE XX

PERCENT CONFIDENCE THAT PERSON CRIME
(TOTAL, SUPPRESSIBLE, AND NON-SUPPRESSIBLE) IS LOWER
THAN EXPECTED DURING PILOT FOOT PATROL OPERATIONS*

		PERSON CRIME		
		TOTAL	SUPPRESSIBLE	NON-SUPPRESSIBLE
TARGET AREA	ALL HOURS	100.0	100.0	49.1
	PATROL HOURS	100.0	100.0	87.2
	NON-PATROL HOURS	98.8	100.0	24.0
ADJACENT AREA	ALL HOURS	99.4	100.0	25.2
	PATROL HOURS	100.0	100.0	27.3
	NON-PATROL HOURS	85.6	97.0	26.6
UNTREATED PORTION OF ST. LOUIS	ALL HOURS	97.9	100.0	11.7
	PATROL HOURS	99.4	100.0	7.9
	NON-PATROL HOURS	93.4	99.4	22.7

*INCLUDES MURDER, RAPE, AGGRAVATED ASSAULT AND ROBBERY.

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TABLE XXI

PERCENT CONFIDENCE THAT BURGLARY
(TOTAL, SUPPRESSIBLE AND NON-SUPPRESSIBLE) IS LOWER
THAN EXPECTED DURING PILOT FOOT PATROL OPERATIONS

		TOTAL BURGLARY	SUPPRESSIBLE BURGLARY	NON-SUPPRESSIBLE BURGLARY
TARGET AREA	ALL HOURS	100.0	100.0	69.6
	PATROL HOURS	99.9	99.9	83.6
	NON-PATROL HOURS	99.9	99.9	59.8
ADJACENT AREA	ALL HOURS	99.3	100.0	26.4
	PATROL HOURS	95.4	99.9	8.7
	NON-PATROL HOURS	100.0	100.0	55.3
UNTREATED PORTION OF ST. LOUIS	ALL HOURS	99.8	100.0	4.3
	PATROL HOURS	100.0	100.0	3.4
	NON-PATROL HOURS	100.0	100.0	7.4

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6.3 St. Louis Summary Results

Analysis of crime levels in St. Louis during the first six months of Pilot Foot Patrol operations was presented in Section 6.2 above. Three analyses were presented including: (a) changes in crime on an aggregate 24-hour basis; (b) changes in crime during patrol and non-patrol hours; and, (c) changes in crime occurring on the street and off the street. The results of these three are displayed in Tables XXII, XXIII, and XXIV.

TABLE XXII

RESULTS INDICATING THAT CRIME LEVELS ARE LOWER
THAN EXPECTED DURING PILOT FOOT PATROL OPERATIONS

	TARGET AREA	ADJACENT AREA	UNTREATED PORTION OF ST. LOUIS
MURDER	YES	NO	YES
RAPE	NO	YES	YES
AGGRAVATED ASSAULT	SOME	YES	YES*
ROBBERY	YES	SOME	YES
BURGLARY	YES	YES	YES

90-100% Confidence = Yes
80-89% Confidence = Some
< 80 Confidence = No

As is shown by the information on these summary tables, the results of the St. Louis analysis indicate:

- During Foot Patrol operations, target area murder, robbery and burglary all exhibited declines and there was some evidence for a decrease in aggravated assault in the target area. Only target area rape showed no decrease. (Table XXII)

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*89.8%

TABLE XXIII

RESULTS INDICATING CRIME LEVELS ARE LOWER THAN EXPECTED DURING PILOT FOOT PATROL OPERTIONS, PATROL AND NON-PATROL HOURS

	CRIME	ALL HOURS	PATROL HOURS	NON-PATROL HOURS
TARGET AREA	MURDER	YES	YES	YES
	RAPE	NO	NO	NO
	AGGRAVATED ASSAULT	SOME	SOME*	NO*
	ROBBERY	YES	YES	YES
	BURGLARY	YES	YES	YES
ADJACENT AREA	MURDER	NO	NO	NO
	RAPE	YES	YES	NO
	AGGRAVATED ASSAULT	YES	YES	YES
	ROBBERY	SOME	YES	NO
	BURGLARY	YES	YES	YES
UNTREATED PORTION OF ST. LOUIS	MURDER	YES	YES	SOME
	RAPE	YES	YES	SOME
	AGGRAVATED ASSAULT	YES**	YES	NO
	ROBBERY	YES	YES	YES
	BURGLARY	YES	YES	YES

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90-100% CONFIDENCE = YES
80-89%  CONFIDENCE = SOME
< 80%   CONFIDENCE = NO
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*IT SHOULD BE NOTED THAT THE PERCENT CONFIDENCE IN DECREASES IN AGGRAVATED ASSAULT DURING PATROL HOURS IS 81% AND DURING NON-PATROL HOURS, 77%.

**89.8%.

TABLE XXIV

RESULTS INDICATING THAT CRIME LEVELS ARE LOWER THAN EXPECTED
DURING ST. LOUIS PILOT FOOT PATROL OPERATIONS: BURGLARY AND
PERSON CRIME, SUPPRESSIBLE AND NON-SUPPRESSIBLE

		PERSON CRIME			BURGLARY		
		TOTAL	SUPPRESSIBLE	NON-SUPPRESSIBLE	TOTAL	SUPPRESSIBLE	NON-SUPPRESSIBLE
TARGET AREA	ALL HOURS	YES	YES	NO	YES	YES	NO
	PATROL HOURS	YES	YES	SOME	YES	YES	SOME
	NON-PATROL HOURS	YES	YES	NO	YES	YES	NO
ADJACENT AREA	ALL HOURS	YES	YES	NO	YES	YES	NO
	PATROL HOURS	YES	YES	NO	YES	YES	NO
	NON-PATROL HOURS	YES	YES	NO	YES	YES	NO
UNTREATED PORTION OF ST. LOUIS	ALL HOURS PATROL HOURS NON-PATROL HOURS	YES	YES	NO	YES	YES	NO

90-100% CONFIDENCE = YES
80-89% CONFIDENCE = SOME
< 80% CONFIDENCE = NO

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- These target area crime decreases were accompanied by declines in crime in the remainder of the city which received no direct attention from Foot Patrol. All five crimes examined appear to have decreased in the untreated portion of St. Louis as a whole for the period of Foot Patrol activity (Table XXII) making direct attribution of declines in the target area to the project impossible.

- In those areas in close geographic proximity to the target area, decreases in rape, aggravated assault and burglary were observed (as was the case in the untreated portion of the city as a whole). However, less evidence is available to indicate a decrease in adjacent area robbery and no declines in murder in the adjacent area are apparent. (Table XXII)

- In general, across all three areas, crime level changes observed on a 24-hour basis (as described above) are reflections of crime level changes observed during the hours of patrol activity. (Table XXIII)

- Crime level decreases during non-patrol hours are less frequently observed than decreases in patrol hour crime. In some cases the differences are minor; for instance, target area assault, which appeared to be decreasing during patrol hours, shows slightly less evidence of such a decrease during non-patrol hours, although the difference between the two results is small. In the untreated areas immediately adjacent to the target area, however, observed decreases in rape and robbery were restricted to patrol hours; while in the untreated portion of the city as a whole, patrol hour decreases in aggravated assault were not apparent during non-patrol hours and less evidence was available for decreases in murder and rape in this area during non-patrol hours. (Table XXIII)

- Almost universally, observed crime level decreases were limited to those crimes which occurred in locations visible to the police officer on routine patrol. The exception to this is notable - the only evidence for decreases of non-suppressible (or "off street") person-to-person crimes and burglary was found for the target areas during patrol hours. No other declines in these crimes are apparent. (Table XXIV)

7.0 CRIME DISPLACEMENT

The analysis strategy utilized in this research project allows for an examination of local geographic displacement of crime through an examination of crime level changes observed in the areas immediately adjacent to the project area as compared to changes observed in other areas of the city.

In the preceding sections, observed crime level changes for the three cases have been described for project target areas, for adjacent areas and for areas of the city receiving no direct project attention, the untreated areas (which include the adjacent area). For the purposes of evaluating adjacent area results, one additional area of analysis has been introduced - that portion of the city which received no project attention and which is located such that it is geographically separate from the target area. This "noncontiguous untreated area" is graphically displayed in Figure 5. Using this areal breakdown, the untreated area described in the preceding sections is made up of the adjacent area plus the noncontiguous untreated area.

The results of an analysis of crime level changes observed in the noncontiguous untreated areas in each of the three target cities are displayed in Table XXV (see page 62 below). No analysis was conducted of rape since no decreases in rape were observed in any of the project target areas. Again, as in previous analyses, no data were available for aggravated assault in Cleveland. The results are summarized for each city and are displayed with summary results for the target area and adjacent area analyses in Tables XXVI, XXVII, and XXVIII. (Four model results are listed in Appendix II.)

The results can be interpreted as follows. The adjacent area can be considered as a sort of swing district which could either follow the pattern of the project target area in terms of crime level changes or could follow the pattern of the rest of the city which,
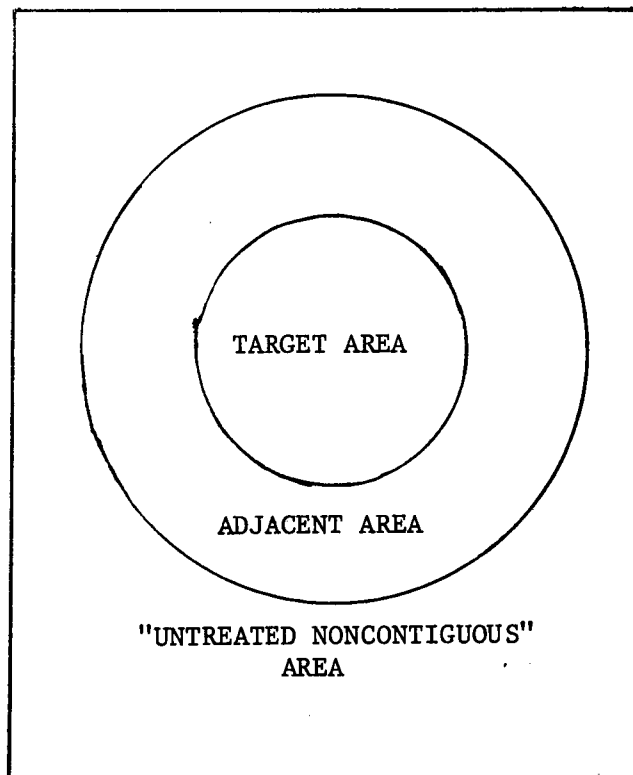
FIGURE 5

AREA BREAKDOWN FOR EXAMINATION OF CRIME DISPLACEMENT:
TARGET AREA, ADJACENT AREA, UNTREATED NONCONTIGUOUS AREA

TABLE XXV

PERCENT CONFIDENCE THAT CRIME IS LOWER THAN EXPECTED
IN UNTREATED NONCONTIGUOUS AREA OF THE
CITY FOR EACH OF THE THREE CASES

CRIME	DENVER SCAT	CLEVELAND CCP		ST. LOUIS PILOT FOOT PATROL
		9 MONTHS	18 MONTHS	
MURDER	55.2	13.0	72.3	97.9
AGGRAVATED ASSAULT	92.9	*	*	66.6
ROBBERY	13.2	51.7	5.8	96.9
BURGLARY	99.5	0.0	0.0	100.0

*NO DATA AVAILABLE.

TABLE XXVI

EVIDENCE TO SUPPORT CRIME LEVEL DECREASES
DURING DENVER SCAT OPERATIONS

CRIME	TARGET AREA	ADJACENT AREA	UNTREATED NONCONTIGUOUS AREA
MURDER	YES	NO	NO
AGGRAVATED ASSAULT	YES	NO	YES
ROBBERY	NO	NO	NO
BURGLARY	YES	YES	YES

90-100% CONFIDENCE = YES
80-89% CONFIDENCE = SOME
< 80%   CONFIDENCE = NO

TABLE XXVII

EVIDENCE TO SUPPORT CRIME LEVEL DECREASES DURING CLEVELAND CONCENTRATED CRIME PATROL OPERATIONS

	TARGET AREA	ADJACENT AREA	UNTREATED NON-CONTIGUOUS AREA
9 MONTHS			
MURDER	YES	NO	NO
ROBBERY	YES	YES	NO
BURGLARY	YES	NO	NO
18 MONTHS			
MURDER	YES	NO	NO
ROBBERY	YES	NO	NO
BURGLARY	NO	NO	NO

90-100% CONFIDENCE = YES
80-89% CONFIDENCE = SOME
< 80% CONFIDENCE = NO

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TABLE XXVIII

EVIDENCE TO SUPPORT CRIME LEVEL DECREASES DURING
ST. LOUIS PILOT FOOT PATROL OPERATIONS

CRIME	TARGET AREA	ADJACENT AREA	UNTREATED NON-CONTIGUOUS AREA
MURDER	YES	NO	YES
AGGRAVATED ASSAULT	SOME	YES	NO
ROBBERY	YES	SOME	YES
BURGLARY	YES	YES	YES

90-100% CONFIDENCE = YES
80-89% CONFIDENCE = SOME
< 80% CONFIDENCE = NO

like the adjacent area, received no direct attention (i.e., the noncontiguous untreated area). It might be expected that, if the anti-crime impact of police activity is not geographically bound, the project effects may appear in the adjacent area as well as the target area and thus the adjacent area pattern would "swing" toward that of the target area. If the project has no effect on crime in the areas in close geographic proximity to the target area then the adjacent area would "swing" toward the pattern of the untreated portion of the city.

It is also possible that the adjacent area may be affected by the project but not in a positive way, that crime may be displaced from the target area to the adjacent area. The analysis approach utilized in this research project does not allow for a direct assessment of this possibility. However, in those cases where relative decreases in crime in both the target area and the untreated area are not accompanied by a similar decrease in the adjacent area, the possibility of crime displacement can be indirectly inferred.

From this perspective, the three cases may be described as follows:

Denver

In Denver, adjacent area results are mixed. For robbery and burglary, all three areas showed similar results (although opposite results were obtained for each crime); thus, no further discrimination of adjacent area patterns is possible. For murder, the adjacent area followed the pattern of the remainder of the untreated area, suggesting that project effects were not felt in the area surrounding the target area. For aggravated assault, relative decreases were observed in both the target area and in the noncontiguous untreated area; no decreases were observed, however, for adjacent area aggravated assault, signaling a possible displacement of crime from the target area to the adjacent area.

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Cleveland

In most cases in Cleveland, the changes observed in the adjacent area are reflections of changes in the remainder of the untreated area of the city. The one exception to this was robbery during the first half of the treatment period. Short-term target area declines in robbery were also observed in the adjacent area, suggesting a possible spillover of project effectiveness into the surrounding area. Such an effect was not, however, observed for the full 18-month treatment period.

St. Louis

As in the Denver case, robbery and burglary analysis results were uniform across the three areas precluding any further assessment of adjacent area effects for these two crimes. Adjacent area aggravated assault in the St. Louis case appears to have followed the pattern of the target area; in fact, there is more evidence to indicate a relative decrease in aggravated assault in the adjacent area than in the target area itself. No evidence was found for such decreases in the remainder of the untreated area of the city. Decreases in murder were observed for both the project target area and the untreated noncontiguous area but not in the adjacent area, suggesting a possible displacement of crime from the target area into peripheral areas.

It thus appears that there is no uniform pattern of crime displacement in operation across the three cases analyzed. From among the several crimes examined in the three case studies, examples can be found of each of the possible alternative patterns of adjacent area crime level changes. In 4 instances, the adjacent areas reflect changes observed in the target areas, suggesting a spillover of project benefits from the treatment area into areas in close geographic proximity to the site of treatment. In other instances, however, this is not the case and target area decreases are not reflected in adjacent area

results. This suggests that in these situations, the project effects have been confined to the target area. Finally, in 2 cases, adjacent area crimes have not exhibited decreases when decreases have been observed in the rest of the city - both in the target area and in the untreated noncontiguous area, indicating a possible displacement of crime from the target area into the surrounding area.

8.0 SUMMARY CONCLUSIONS: POLICE PATROL AND CRIME

Setting reasonable and realistic expectations for crime control efforts is an important step in creating and evaluating programs to solve crime problems. In previous sections of this report, several police patrol projects are examined in an effort to determine the validity of their hypothesized effect on crime. Actual crime data are examined to assess whether or not the anticipated lower levels of crime were realized. While the results of only these three cases are available, they can provide us with an indication of what one might reasonably expect to see in other similar situations.

In each of the cases examined, crime of some type appears to be lower in the target area during the period of increased police activity than one would have expected based on past experience with crime in the area. In no case were all five target area crimes (murder, rape, aggravated assault, robbery and burglary) found to be less relative to expectations. In addition, there was little consistency observed across the cases in the particular crimes which appeared to be decreasing during project operating periods. No one crime was found to be on the (relative) decline in all three cases. On the other hand, there was one crime, rape, which consistently showed no evidence for declines in target areas across the cities.

Crime decreases in areas of the city not receiving increased police attention are presumably due to forces other than the police patrol; these decreases are reflected in changes in city-wide trends. Our analysis shows that the target areas in all three cases were responsive to such city-wide trends, specifically to downward shifts in city-wide crime. In almost every case where crime in the untreated areas of the city appeared to be lower during treatment than was expected, similar results were found for target areas, indicating that

while the target areas may deviate from the remainder of the city in terms of the severity of their crime problems they may still be susceptible to city-wide influences.

Downward changes in city-wide crime may thus explain some of the observed target area decreases. This is certainly a possibility in the case of St. Louis where there is evidence that during the project time period crime of all types in the untreated portion of the city was lower than expected. This is not to say that the St. Louis Pilot Foot Patrol has had no effect on crime. Since the analysis presented here does not address questions of magnitude, it is possible that target area crime levels may be lower during treatment than would be explainable by city-wide crime decreases.[9]

All target area decreases were not observed in the context of city-wide declines in crime. While in general the target areas show a relative decline in crime when such decreases are observed for the remainder of the city, the converse does not appear to hold. In both the Denver and Cleveland cases, there are several examples of various types of crime which appear to be lower than expected in the target areas during patrol treatment while there is no evidence for similar decreases in the remainder of the city.

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[9] An earlier analysis of the Denver SCAT I project found this to be the case for burglary in the SCAT target area. A time-series analysis, similar to that presented here, indicated that burglary in both the treated and untreated areas of Denver was lower than expected during SCAT I based on past crime levels. Further examination of the absolute levels of crime concluded that the decreases observed in the target area were much more substantial than those in the remainder of the city and thus these target area shifts could not be attributed solely to city-wide trends. See The Denver Special Crime Attack Team: A Case Study of Police Patrol Effectiveness (MTR-6864, Revision 1).

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The assessment of adjacent area results indicates that there is no uniform pattern of either the displacement of crime into surrounding areas or spillover of project benefits to the target area periphery. In the case of several of the crimes examined, it appears that project activities have had no effect on adjacent area crime; in these instances, crime level changes in the adjacent areas have followed the pattern of the geographically separate, untreated portion of the city rather than reflecting changes (decreases) observed in the project target areas. In a few cases, target area decreases are reflected in adjacent area results (in the absence of similar decreases in the noncontiguous, untreated areas) suggesting that there are certain circumstances where project benefits may not be restricted to the direct project target area. Finally, in several cases no adjacent area decreases are observed while there is evidence for such decreases both in the target area and in the noncontiguous untreated area of the city, indicating a possible displacement of crime from the target area into the surrounding area.

In the one case where crime decreases during the hours of patrol are specifically examined (St. Louis), results indicated that for the target area there were few differences between the patrol and non-patrol hours in the observed crime decreases; thus indicating that patrol effects may not be bound directly to the hours of patrol. This conclusion is very tentative for several reasons; first, because crime was generally lower than expected in St. Louis at the time of the project, it is difficult to isolate possible patrol effects. Second, data on time of crime occurrence are generally not very reliable, since crimes are often not reported until some time after the event and recorded times are often based on rough estimates made by either the victim or the reporting officer. Similar caveats are applicable to any general conclusions based on the St. Louis results of suppressible and non-suppressible crimes.

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Finally, in the Cleveland case, the results of the two crime level assessments conducted on the first half of the project treatment period and the full treatment period indicate that early results do not necessarily hold for longer treatment time periods. This suggests that increased police activity may not be a long-term solution to crime and that there may be, after some point, decreasing returns in terms of anti-crime effects of continued special police attention. More specific investigation is needed to address these possibilities.

In terms of general expectations for police patrol as an anti-crime strategy, these case studies indicate that while there may be no uniform effect of all types of patrol in all areas, the possibility of police patrols affecting crime levels should not be ruled out. While the Kansas City study[10] results indicated that the preventive patrol function may not be additive in fighting crime in typical urban neighborhoods, the results of these case studies indicate that in atypical or crime problem neighborhoods additional police patrol may be a help. The present results suggest that it should not be assumed that all crimes will be affected; that is, show a lower level than previous experience would lead one to expect; nor should it be assumed that observed short-term effects will necessarily be sustained over time. However, it should also not be assumed that, in general, increasing police patrol will have no effect on crime.

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[10] Kansas City Proactive-Reactive Deployment Experiemnt conducted by the Kansas City Police Department and the Police Foundation.

APPENDIX I

TIME-SERIES MODELS

APPENDIX I

The analysis strategy utilized in the assessment of police patrol
impact on crime is a trend analysis of monthly crime figures. Four
models have been developed and are employed in the analysis.

All four models describe the level of crime in a given time-space.
Using historical or baseline crime data, each model is used to describe
the levels of crime occurring before project interventions are intro-
duced. These same model descriptions are then applied to the crime
data for the period of project operations to determine if the decreases
expected from project intervention have been experienced.

Each of the four models is presented below. A more detailed tech-
nical description of the models and their solutions is available in
A Methodology for Conducting a Police Hypothesis Test (MTR-6617).

Model #1

For each space-time slot and each crime type, we can obtain data
as to numbers of crimes committed (i.e., reported) each month. These
will form a time series: X_1, X_2, X_3, ..., X_N, X_{N+1}, ..., X_{N+M}
where N is the number of data points prior to treatment and M is the
number of data points during treatment.
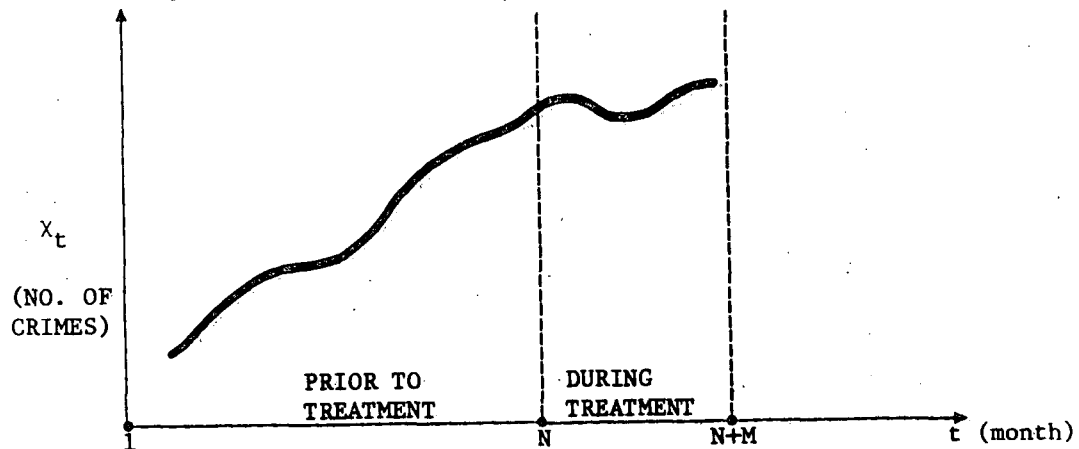
Each such series is to be analyzed to determine the confidence it engenders in the hypothesis that the treatment has reduced the crime level to less than what it would have been in the absence of treatment.

To test the hypothesis, it is necessary to model the process that generates the x_t. It seems plausible to assume that the data are generated as a sum of the following components:

1. A "reference" level of crime, denoted by "a", a constant.

2. A "long term trend", represented by "bt", where b is a constant.

3. An "annual cyclic component", represented by $c \sin \left(\frac{\pi t}{6}\right) + d \cos \left(\frac{\pi t}{6}\right)$, where c and d are constants.

4. A purely random, or "noise" component, denoted by ε_t.

Thus, before treatment (i.e., t = 1, 2, ..., N),
$$x_t = a + bt + c \sin \left(\frac{\pi t}{6}\right) + d \cos \left(\frac{\pi t}{6}\right) + \varepsilon_t$$

It is assumed that the effect of increasing police visibility is to change the crime rate by some factor, denoted by Θ. Thus, during treatment (i.e., t = N + 1, N + 2, ..., N + M),

$$U_t = \left[a + b\tau + c \sin \left(\frac{\pi t}{6}\right) + d \cos \left(\frac{\pi t}{6}\right) + \eta_t \right] \Theta$$

where for notational convenience the t, x_t and ε_t are denoted by τ, U_t and η_t respectively, thus distinguishing them from the pre-treatment values.

The hypothesis, that the crime level has been reduced by the treatment to a level below what it would have been without treatment, is then mathematically equivalent to: $\Theta < 1$.

The time series data are to be analyzed to estimate the quantity Θ. The estimate, $\hat{\Theta}$, will be a random variable (since it is computed from data), and will contain an uncertainty, which can be depicted as:

PROBABILITY DENSITY

FOR $\hat{\theta}$
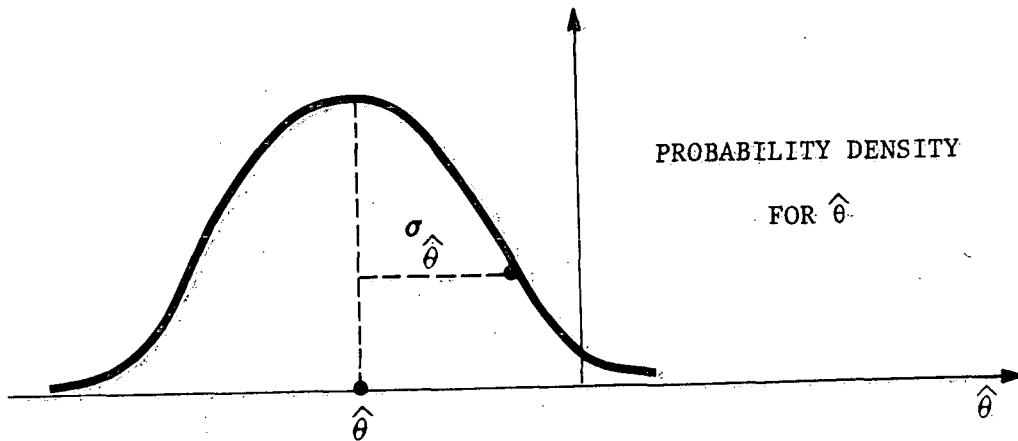
The uncertainty is measured by the standard deviation, $\sigma_{\hat{\theta}}$, of the estimate $\hat{\theta}$.

The area under the probability density curve, for $\hat{\theta} < 1$, measures the percentage confidence that the data accords to the hypothesis, $\hat{\theta} < 1$.

What is necessary, then, are formulas for computing $\hat{\theta}$ and $\hat{\sigma}_{\hat{\theta}}$ (the estimated value of $\sigma_{\hat{\theta}}$) from the data.

The required formulas can be most efficiently expressed in matrix notation. The results are as follows:

$$\hat{\theta} = \frac{X^T Y \underline{U}}{X^T W X}$$

$$\hat{\sigma}_{\hat{\theta}}^2 = \frac{X^T V X}{\underline{1}^T \text{ diag } V} \left\{ \frac{1}{(X^T W X)} + \frac{(X^T Z X)}{(X^T W X)^2} \right\} \frac{(X^T Y \underline{U})^2}{(X^T W X)^2}$$

where X, $\underline{U}$ are vectors of crime data

    superscript T indicates the transpose

    superscript - 1 indicates the inverse

    $\underline{1}$ is a vector whose components are all ones

and

$$
\left\{
\begin{aligned}
Y &= H\left(G^T G\right)^{-1} G^T \\
w &= G\left(G^T G\right)^{-1} H^T H\left(G^T G\right)^{-1} G^T \\
z &= G\left(G^T G\right)^{-1} H^T H\left(G^T G\right)^{-1} H^T H\left(G^T G\right)^{-1} G^T \\
v &= I - G\left(G^T G\right)^{-1} G^T
\end{aligned}
\right.
$$

where

$$
G = \begin{pmatrix}
1 & 1 & \sin\left(\dfrac{\pi}{6}\right) & \cos\left(\dfrac{\pi}{6}\right) \\[2mm]
1 & 2 & \sin\left(\dfrac{2\pi}{6}\right) & \cos\left(\dfrac{2\pi}{6}\right) \\[2mm]
\cdots & & & \\
\cdots & & & \\
1 & N & \sin\left(\dfrac{N\pi}{6}\right) & \cos\left(\dfrac{N\pi}{6}\right)
\end{pmatrix}
$$

$$
H = \begin{pmatrix}
1 & N+1 & \sin\left[\dfrac{(N+1)\pi}{6}\right] & \cos\left[\dfrac{(N+1)\pi}{6}\right] \\[2mm]
1 & N+2 & \sin\left[\dfrac{(N+2)\pi}{6}\right] & \cos\left[\dfrac{(N+2)\pi}{6}\right] \\[2mm]
\cdots & & & \\
\cdots & & & \\
1 & N+M & \sin\left[\dfrac{(N+M)\pi}{6}\right] & \cos\left[\dfrac{(N+M)\pi}{6}\right]
\end{pmatrix}
$$

and

$$
\left\{
\begin{aligned}
&I = \text{identity matrix} \\
&\text{diag } R = \text{a vector whose components are} \\
&\qquad\qquad \text{the major diagonal elements of} \\
&\qquad\qquad \text{the square matrix } R.
\end{aligned}
\right.
$$

MODEL # 2

Another representation of the process by which the X_t are generated is (for $t = 1, 2, \ldots, N$):

$$X_t = \sum_{i=1}^{12} a_i \nu_{ti} + bt + \varepsilon_t$$

where the ν_{ti} are 0-1 indicator variables that specify whether month t is January, February, etc. For example, if the data started in January, one would have:

$$
\left.
\begin{aligned}
&\nu_{11} = 1 \\
&\nu_{12} = \nu_{13} = \cdots = \nu_{1\,12} = 0 \\
&\nu_{22} = 2 \\
&\nu_{21} = \nu_{23} = \cdots = \nu_{2\,12} = 0
\end{aligned}
\right\}
$$

$$\ldots$$

$$\ldots$$

$$\nu_{12\,12} = 1$$

$$\nu_{12\,1} + \nu_{12\,2} = \cdots = \nu_{12\,11} = 0$$

$$\nu_{13\,1} = 1$$

$$\nu_{13\,2} = \nu_{13\,3} = \cdots = \nu_{13\,12} = 0$$

etc.

The advantage of this representation is that the seasonal variations, while still repeating cyclically from one year to the next, are not restricted by assumption to be sinusoidal. The disadvantage is that 13 parameters, rather than 4 (as in the sinusoidal representation assumed earlier), are required to determine the X_t. This may be

expected to lead to statistical errors in curve fitting the parameters
when the number of data points (i.e., N) is sparse.

A posteriori tests of goodness-of-fit can help to determine which of
these (or other) representations provides a best description of avail-
able data, in individual cases.

It is assumed, as before, that the effect of increasing police
visibility is to change the crime rate by some factor Θ, to be estimated.
Thus, during treatment (i.e., $t = N+1, N=2, \ldots, N+M$):

$$U_\tau = \left[\sum_{i=1}^{12} a_i \mu_{\tau i} + b\tau + n_\tau \right] \Theta$$

where, again for notational convenience, the t, ν_{ti}, and ε_t have been
replaced by τ, μ_{ti}, and n_t respectively, to distinguish them from
pretreatment values.

Assuming this as the appropriate representation, the resulting formulas
required to estimate $\hat{\Theta}$ and $\hat{\sigma}_\Theta$ as expressed in matrix forms, are:

$$\hat{\Theta} = \frac{X^T Y U}{X^T W X}$$

$$\hat{\sigma}_\Theta^2 = \frac{(X^T V X)}{1^T \text{ diag } V} \quad \frac{1}{(X^T W X)} + \frac{(X^T Z X)}{(X^T W X)^2} \quad \frac{(X^T Y U)^2}{(X^T W X)^2}$$

where X, U are vectors of crime data

   superscript T indicates the transpose

$\underline{1}$ is a vector whose componets are all ones

diag V = a vector whose components are the major diagonal

elements of the square matrix V

and, using superscript -1 to indicate the inverse.

$$
\left\{
\begin{aligned}
Y &= \Omega(\Omega^T\Omega)^{-1}\Gamma \\
W &= \Omega(\Omega^T\Omega)^{-1}\Gamma^T\Gamma(\Omega^T\Omega)^{-1}\Omega^T \\
Z &= \Omega(\Omega^T\Omega)^{-1}\Gamma^T\Gamma(\Omega^T\Omega)^{-1}\Gamma^T\Gamma(\Omega^T\Omega)^{-1}\Omega^T \\
V &= I - \Omega(\Omega^T\Omega)^{-1}\Omega^T
\end{aligned}
\right.
$$

where

I - the identify matrix

and $\Omega,\ \Gamma$ are the partitioned matrix

$$
\left\{
\begin{aligned}
\Omega &= (\nu\ \underline{t}) \\
\Gamma &= (\mu\ \underline{\tau})
\end{aligned}
\right.
$$

where $\underline{t}$ and $\underline{\tau}$ are the vectors

$$
\begin{aligned}
\underline{t} &= \begin{pmatrix} 1 \\ 2 \\ \cdots \\ \cdots \\ N \end{pmatrix} \\[2em]
\underline{\tau} &= \begin{pmatrix} N+1 \\ N+2 \\ \cdots \\ \cdots \\ N+M \end{pmatrix}
\end{aligned}
$$

and ν , μ are the matrices of the ν_{ti}, $\mu_{\tau i}$ respectively.

MODEL #3

In Model #2 the seasonality component of crime trends is handled through monthly estimations of seasonal effects involving the estimation of 13 parameters. Because of limitations on the amount of available data it is desirable to limit the number of parameters to the extent possible. Model #3 is similar to Model #2 except that seasonality is handled on a quarterly basis. Thus the number of parameters to be fit α_i is reduced to four (α_1, α_2, α_3, α_4) and $\gamma_{ti}, \mu_{\gamma i}$ are defined to interpolate months.

Thus for t ↔

January	1	0	0	0
February	2/3	1/3	0	0
March	1/3	2/3	0	0
April	0	1	0	0

Model #3 then follows the pattern set out for Model #2.

MODEL #4

Finally, Model #4 treats seasonality and long term trends exactly as Model #3. However, Model #4 suggests that crime levels during treatment will be reduced not by a factor Θ (as in Models #1-3) but rather that during treatment, the level of crime observed before treatment will be reduced by a constant (C).

Thus for Model #4:

Before Treatment:
$$X_t = \sum_{i=1}^{4} \alpha_i \gamma_{ti} + bt + \epsilon_t$$

During Treatment:
$$\nu_\tau = \sum_{i=1}^{4} \alpha_{\tau i} \mu_{\tau i} + b\tau + \eta_\tau - C$$

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The hypothesis is that if treatment has had the desired effect and crime has decreased then $C > 0$.

APPENDIX II

FOUR MODEL ANALYSIS RESULTS

TABLE II-1

PERCENT CONFIDENCE OBTAINED USING FOUR TIME-SERIES
MODELS IN CRIME DECREASES IN DENVER DURING PERIOD OF
SCAT I ACTIVITY

CRIME	MODEL	TARGET AREA	ADJACENT AREA	UNTREATED PORTION OF DENVER
MURDER	1	96.8	56.8	48.7
	2	100.0	47.3	53.4
	3	98.3	66.7	49.9
	4	79.0	54.2	51.4
RAPE	1	27.4	19.4	4.0
	2	45.4	29.3	4.0
	3	28.0	18.5	3.4
	4	9.2	8.8	0.6
AGGRAVATED ASSAULT	1	99.1	19.9	80.5
	2	99.3	19.8	74.8
	3	98.9	19.0	78.3
	4	92.8	10.1	75.6
ROBBERY	1	38.7	18.2	8.3
	2	50.9	18.5	5.4
	3	40.5	20.4	9.9
	4	34.7	16.5	8.1
BURGLARY	1	100.0	98.6	99.8
	2	100.0	99.2	100.0
	3	100.0	99.1	99.0
	4	100.0	97.8	99.8

TABLE II-2

PERCENT CONFIDENCE OBTAINED USING FOUR TIME-SERIES MODELS
FOR CRIME DECREASES IN CLEVELAND DURING FIRST
NINE MONTHS OF CONCENTRATED CRIME PATROL ACTIVITY

CRIME	MODEL	TARGET AREA	ADJACENT AREA	UNTREATED PORTION OF CLEVELAND
MURDER	1	100.0	56.5	11.0
	2	100.0	60.1	12.8
	3	100.0	59.8	10.1
	4	98.3	48.3	7.5
RAPE	1	49.7	52.5	50.5
	2	57.5	82.0	51.7
	3	49.9	51.0	51.5
	4	49.4	50.9	51.2
ROBBERY	1	100.0	94.4	78.2
	2	100.0	94.1	75.3
	3	100.0	95.5	79.7
	4	100.0	88.3	74.1
BURGLARY	1	99.7	73.9	0.4
	2	99.8	62.9	0.2
	3	99.7	74.4	0.6
	4	94.9	67.1	0.7

TABLE II-3

PERCENT CONFIDENCE OBTAINED USING FOUR TIME-SERIES MODELS
FOR CRIME DECREASES IN CLEVELAND DURING FULL
EIGHTEEN MONTHS OF CONCENTRATED CRIME PATROL ACTIVITY

CRIME	MODEL	TARGET AREA	ADJACENT AREA	UNTREATED PORTION OF CLEVELAND
MURDER	1	99.7	10.2	40.9
	2	100.0	9.2	39.1
	3	99.6	9.4	38.7
	4	97.8	2.3	34.4
RAPE	1	46.5	44.7	25.5
	2	56.2	69.5	33.9
	3	46.0	43.5	25.5
	4	45.1	42.4	23.5
ROBBERY	1	99.4	28.0	5.5
	2	99.5	27.2	6.0
	3	99.4	31.7	6.2
	4	97.7	28.8	4.5
BURGLARY	1	43.4	13.1	0.0
	2	39.3	10.2	0.0
	3	45.1	13.5	0.0
	4	30.5	9.3	0.0

TABLE II-4
PERCENT CONFIDENCE OBTAINED USING FOUR TIME-SERIES MODELS
IN CRIME DECREASES DURING ST. LOUIS PILOT
FOOT PATROL: TARGET AREA

CRIME	MODEL	PATROL HOURS	NON-PATROL HOURS	ALL HOURS
MURDER	1	94.8	96.3	99.3
	2	99.8	99.8	100.0
	3	95.1	96.6	99.3
	4	82.0	84.8	91.4
RAPE	1	27.1	26.8	15.6
	2	21.9	26.8	11.0
	3	25.5	22.8	14.8
	4	24.3	26.8	14.4
AGGRAVATED ASSAULT	1	80.2	72.7	83.9
	2	82.3	89.1	87.1
	3	25.5	22.8	14.8
	4	24.3	26.8	14.4
ROBBERY	1	100.0	99.9	100.0
	2	100.0	99.9	100.0
	3	100.0	99.9	100.0
	4	100.0	98.7	100.0
BURGLARY TOTAL	1	100.0	100.0	100.0
	2	100.0	100.0	100.0
	3	100.0	100.0	100.0
	4	99.5	99.7	99.9
BURGLARY SUPPRESSIBLE	1	100.0	100.0	100.0
	2	100.0	100.0	100.0
	3	100.0	100.0	100.0
	4	99.4	99.9	99.9
BURGLARY NON-SUPPRESSIBLE	1	83.9	61.0	70.7
	2	88.6	55.3	68.1
	3	84.6	61.6	71.0
	4	77.1	61.2	68.7
PERSON CRIMES TOTAL	1	100	99.1	100
	2	100	99.5	100
	3	100	99.2	100
	4	100	97.3	100
PERSON CRIMES SUPPRESSIBLE	1	100	100	100
	2	100	100	100
	3	100	100	100
	4	100	99.7	100
PERSON CRIMES	1	89.0	23.3	48.5
	2	90.5	29.7	54.6
	3	87.9	22.7	46.7
	4	81.3	20.1	46.5

TABLE II-5
PERCENT CONFIDENCE OBTAINED USING FOUR TIME SERIES MODELS
IN CRIME DECREASES DURING ST. LOUIS PILOT
FOOT PATROL OPERATIONS: ADJACENT AREA

CRIME	MODEL	PATROL HOURS	NON–PATROL HOURS	ALL HOURS
MURDER	1	51.5	58.4	54.1
	2	49.5	62.5	44.5
	3	50.1	60.5	54.7
	4	44.2	58.9	52.4
RAPE	1	98.9	70.2	91.7
	2	99.3	72.9	93.7
	3	98.9	74.2	93.4
	4	93.3	71.4	88.5
AGGRAVATED ASSAULT	1	100.0	96.8	100.0
	2	100.0	98.6	100.0
	3	100.0	97.3	100.0
	4	99.9	95.0	99.8
ROBBERY	1	96.5	54.6	83.3
	2	99.1	54.3	86.8
	3	96.4	52.7	82.1
	4	93.1	52.6	79.4
BURGLARY TOTAL	1	96.0	100.0	100.0
	2	97.7	100.0	100.0
	3	96.5	100.0	100.0
	4	91.5	99.9	99.7
BURGLARY SUPPRESSIBLE	1	100.0	100.0	100.0
	2	100.0	100.0	100.0
	3	100.0	100.0	100.0
	4	99.6	100.0	100.0
BURGLARY NON–SUPPRESSIBLE	1	9.4	54.4	25.2
	2	12.7	56.9	30.0
	3	9.6	55.1	26.0
	4	3.1	54.7	24.2
PERSON CRIME TOTAL	1	100	86.2	99.6
	2	100	86.3	99.7
	3	100	86.4	99.6
	4	99.8	83.5	98.5
PERSON CRIME SUPPRESSIBLE	1	100	97.6	100.0
	2	100	97.7	100.0
	3	100	97.9	100.0
	4	100	94.9	99.8
PERSON CRIME NON–SUPPRESSIBLE	1	30.3	27.3	26.8
	2	27.9	27.8	26.4
	3	29.6	26.8	26.1
	4	21.3	24.6	21.6

TABLE II-6
PERCENT CONFIDENCE OBTAINED USING FOUR TIME SERIES MODELS IN CRIME DECREASES DURING ST. LOUIS PILOT FOOT PATROL OPERATIONS: UNTREATED PORTION OF ST. LOUIS

CRIME	MODEL	PATROL HOURS	NON—PATROL HOURS	ALL HOURS
MURDER	1	98.2	88.8	97.7
	2	97.7	89.4	97.9
	3	98.0	88.1	97.6
	4	93.7	80.9	93.3
RAPE	1	100.0	85.8	99.7
	2	100.0	82.9	99.6
	3	100.0	87.7	99.8
	4	99.8	83.4	98.4
AGGRAVATED ASSAULT	1	95.2	67.1	88.8
	2	96.7	70.1	91.4
	3	95.7	69.3	90.0
	4	93.8	71.2	88.9
ROBBERY	1	96.1	94.6	96.9
	2	97.7	96.5	97.9
	3	96.1	94.1	96.1
	4	93.8	91.3	93.8
BURGLARY TOTAL	1	100.0	100.0	100.0
	2	100.0	100.0	100.0
	3	100.0	100.0	100.0
	4	99.9	99.9	99.9
BURGLARY SUPPRESSIBLE	1	100.0	100.0	100.0
	2	100.0	100.0	100.0
	3	100.0	100.0	100.0
	4	100.0	100.0	100.0
BURGLARY NON—SUPPRESSIBLE	1	4.1	7.6	4.7
	2	5.2	9.6	6.2
	3	3.9	7.6	4.6
	4	0.4	4.9	1.8
PERSON CRIMES TOTAL	1	100.0	93.8	98.3
	2	99.7	94.8	98.7
	3	99.5	93.7	98.2
	4	98.4	91.2	96.5
PERSON CRIMES SUPPRESSIBLE	1	100.0	99.6	100.0
	2	100.0	99.5	100.0
	3	100.0	99.7	100.0
	4	99.9	98.7	99.8
PERSON CRIMES NON—SUPPRESSIBLE	1	9.1	21.7	12.0
	2	9.5	28.0	14.5
	3	8.7	21.0	11.6
	4	4.2	19.8	8.6

TABLE II-7

PERCENT CONFIDENCE THAT CRIME IS LOWER THAN EXPECTED
IN NONCONTIGUOUS AREAS FOR THREE CASES: FOUR MODEL RESULTS

CRIME	DENVER SCAT	ST. LOUIS PILOT FOOT PATROL	CLEVELAND CCP	
			9 MONTHS	18 MONTHS
MURDER	49.8	98.8	13.5	75.4
	64.1	99.1	16.6	74.7
	54.9	98.6	13.9	74.6
	51.8	95.0	7.9	64.6
AGGRAVATED ASSAULT	94.8	64.3	*	*
	92.1	67.7		
	93.7	66.5		
	90.7	67.8		
ROBBERY	14.2	97.5	51.5	6.5
	8.2	98.4	52.4	6.4
	16.0	96.9	53.0	6.4
	14.3	94.7	49.9	3.8
BURGLARY	99.5	100.0	0.0	0.0
	99.8	100.0	0.0	0.0
	99.6	100.0	0.0	0.0
	99.2	99.9	0.0	0.0

** AS FOR THE OTHER ANALYSES, NO DATA ON AGGRAVATED ASSAULT WERE
AVAILABLE FOR CLEVELAND.

APPENDIX III

MONTHLY CRIME DATA

On the following pages the raw crime data which were used as the basis for the analyses in the body of the paper are listed. Crime levels by month have been included for all crimes analyzed for all three cases.

MONTHLY CRIME DATA FOR DENVER
SPECIAL CRIME ATTACK TEAM (I) PROJECT

TARGET AREA CRIME

	MURDER	RAPE	ASSAULT	ROBBERY	BURGLARY
09 70	0	1	7	11	
10 70	0	1	9	13	73
11 70	2	1	16	6	78
12 70	0	0	6	9	53
01 71	1	5	9	4	67
02 71	0	1	5	4	57
03 71	1	3	12	11	97
04 71	0	2	10	13	118
05 71	1	5	15	13	112
06 71	0	2	25	9	105
07 71	0	5	25	11	129
08 71	0	6	13	20	149
09 71	0	5	18	15	109
10 71	1	0	5	10	110
11 71	1	4	17	9	105
12 71	0	0	4	9	93
01 72	1	2	5	16	103
02 72	0	0	9	12	138
03 72	0	1	21	11	132
04 72	0	0	18	11	148
05 72	0	2	20	6	179
06 72	0	6	15	9	174
07 72	0	1	26	11	207
08 72	0	2	16	15	192
09 72	2	2	12	8	133
10 72	0	2	14	13	167
11 72	2	3	15	11	145
12 72	1	0	17	6	134
01 73*	0	0	21	17	105
02 73*	0	1	8	15	81
03 73*	0	2	22	10	85
04 73*	0	3	13	10	75
05 73*	0	3	12	8	88
06 73*	1	4	18	11	86
07 73*	0	4	15	9	116
08 73*	1	1	17	12	112
09 73*	1	4	14	9	105
10 73*	0	4	16	18	96
11 73*	0	3	8	14	96
12 73*	2	3	14	14	102

ADJACENT AREA CRIME

	MURDER	RAPE	ASSAULT	ROBBERY	BURGLARY
09 70	1	8	29	26	
10 70	0	10	29	27	207
11 70	0	4	37	29	196
12 70	2	4	36	27	214
01 71	1	5	35	24	275
02 71	0	4	31	20	213
03 71	2	11	33	28	208
04 71	0	3	22	28	237
05 71	0	9	53	46	236
06 71	2	8	33	25	232
07 71	1	9	43	29	294
08 71	0	10	43	36	255
09 71	2	7	26	37	242
10 71	2	8	32	33	239
11 71	0	4	35	19	219
12 71	5	7	18	29	247
01 72	0	4	27	22	212
02 72	2	6	26	31	200
03 72	0	4	22	20	202
04 72	0	2	27	31	255
05 72	1	5	22	25	268
06 72	0	5	30	15	289
07 72	1	5	31	13	296
08 72	4	5	23	31	299
09 72	0	6	28	29	209
10 72	0	5	18	24	240
11 72	1	4	19	37	298
12 72	1	5	20	32	246
01 73*	0	6	13	46	222
02 73*	0	2	21	39	208
03 73*	4	2	29	30	256
04 73*	0	3	17	33	225
05 73*	2	8	26	20	203
06 73*	0	7	31	24	256
07 73*	1	10	23	24	264
08 73*	1	6	20	33	264
09 73*	0	3	23	35	232
10 73*	1	2	30	39	270
11 73*	2	4	31	38	235
12 73*	3	4	16	38	294

*Period Covered by Project Operations. (Data source: Denver Police Department)

MONTHLY CRIME DATA FOR DENVER SPECIAL CRIME ATTACK TEAM (I) PROJECT

CITYWIDE CRIME

	MURDER	RAPE	ASSAULT	ROBBERY	BURGLARY
9 70	6	39	129	152	1263
10 70	6	44	134	170	1263
11 70	6	28	152	154	1154
12 70	8	26	122	191	1282
1 71	6	38	142	165	1223
2 71	10	28	141	125	1139
3 71	5	46	146	201	1322
4 71	5	26	136	168	1276
5 71	8	39	182	157	1236
6 71	7	35	208	164	1309
7 71	2	41	199	179	1372
8 71	6	59	210	231	1325
9 71	6	34	167	193	1189
10 71	11	26	204	196	1306
11 71	5	26	164	179	1237
12 71	11	36	151	209	1293
1 72	7	19	129	162	1267
2 72	9	27	128	172	1238
3 72	7	24	153	156	1350
4 72	6	18	167	149	1252
5 72	9	36	163	145	1410
6 72	4	35	188	127	1426
7 72	7	46	218	149	1702
8 72	9	40	169	186	1652
9 72	11	45	179	179	1302
10 72	5	29	160	168	1428
11 72	7	28	123	214	1401
12 72	8	21	150	207	1322
1 73*	7	35	151	232	1120
2 73*	11	25	117	238	1195
3 73*	6	28	191	215	1219
4 73*	5	27	126	192	1184
5 73*	6	41	154	156	1167
6 73*	4	54	161	138	1193
7 73*	12	44	177	154	1394
8 73*	9	56	210	188	1428
9 73*	3	41	157	170	1302
10 73*	8	40	179	271	1365
11 73*	8	35	156	216	1197
12 73*	17	35	127	240	1303

*Period covered by project operations
(Source: FBI Uniform Crime Reports)

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MONTHLY CRIME DATA FOR CLEVELAND CONCENTRATED CRIME PATROL PROJECT

	TARGET AREA CRIME					ADJACENT AREA CRIME			
	MURDER	RAPE	ROBBERY	BURGLARY		MURDER	RAPE	ROBBERY	BURGLARY
1 70	17	21	420	610	1 70	3	2	73	89
2 70	15	19	394	642	2 70	3	5	68	112
3 70	21	19	339	651	3 70	2	3	85	124
4 70	22	19	326	702	4 70	2	2	65	122
5 70	26	18	283	578	5 70	2	7	64	81
6 70	16	26	246	598	6 70	1	1	59	99
7 70	13	15	307	557	7 70	4	1	80	126
8 70	28	16	358	496	8 70	2	7	57	84
9 70	26	15	324	544	9 70	2	7	72	71
10 70	21	20	379	703	10 70	3	1	74	103
11 70	10	26	349	676	11 70	3	5	60	100
12 70	24	19	501	816	12 70	2	8	68	100
1 71	14	17	401	789	1 71	0	6	84	72
2 71	22	24	343	677	2 71	0	7	63	59
3 71	17	26	323	746	3 71	0	11	67	76
4 71	21	22	359	655	4 71	4	3	77	72
5 71	19	33	316	575	5 71	3	6	63	76
6 71	15	23	280	538	6 71	2	3	73	66
7 71	18	19	343	611	7 71	3	8	99	98
8 71	25	33	397	647	8 71	1	7	93	107
9 71	18	33	369	693	9 71	1	9	96	111
10 71	24	30	459	838	10 71	4	4	66	90
11 71	14	28	447	912	11 71	2	8	80	90
12 71	27	28	484	971	12 71	3	4	94	84
1 72	23	27	391	647	1 72	2	8	68	63
2 72	14	35	290	633	2 72	0	6	50	98
3 72	17	39	357	699	3 72	4	3	58	124
4 72	22	22	296	531	4 72	5	4	57	87
5 72	14	22	290	548	5 72	3	12	66	84
6 72	15	26	289	442	6 72	2	6	73	79
7 72	32	25	285	422	7 72	3	5	77	81
8 72	21	23	335	479	8 72	2	6	69	79
9 72	30	26	313	506	9 72	4	5	68	70
10 72	21	33	396	644	10 72	2	3	78	90
11 72	16	25	449	672	11 72	4	2	73	87
12 72	25	24	406	642	12 72	0	3	70	85
1 73	21	30	399	453	1 73	1	5	64	80
2 73	19	23	297	356	2 73	3	0	52	97
3 73	14	25	293	449	3 73	1	2	42	80
4 73	15	16	285	393	4 73	3	5	68	91
5 73*	10	25	255	409	5 73*	0	2	58	68
6 73*	17	20	190	361	6 73*	2	6	46	57
7 73*	9	43	222	412	7 73*	5	6	61	80
8 73*	18	24	209	292	8 73*	4	4	55	63
9 73*	8	25	232	325	9 73*	1	4	47	65
10 73*	11	32	293	430	10 73*	3	3	67	71
11 73*	19	38	326	435	11 73*	1	5	66	67
12 73*	23	24	321	429	12 73*	3	7	84	85
1 74*	12	32	293	473	1 74*	3	8	62	113
2 74*	12	17	261	478	2 74*	4	10	53	89
3 74*	9	40	323	565	3 74*	3	8	58	119
4 74*	16	37	274	546	4 74*	4	6	86	109
5 74*	13	37	259	576	5 74*	3	3	69	99
6 74*	16	31	281	605	6 74*	3	3	85	111
7 74*	22	23	355	592	7 74*	8	5	90	104
8 74*	16	32	384	574	8 74*	7	7	111	94
9 74*	21	36	306	605	9 74*	5	5	82	105
10 74*	26	27	417	742	10 74*	9	3	83	95

*Period covered by project operations
(Data Source: Cleveland Police Department)

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	MURDER	RAPE	ROBBERY	BURGLARY
1 70	26	24	492	862
2 70	21	26	514	918
3 70	32	25	490	1016
4 70	26	26	425	984
5 70	28	27	389	799
6 70	25	28	335	854
7 70	20	14	415	817
8 70	32	25	452	711
9 70	31	24	419	762
10 70	28	20	493	959
11 70	17	32	443	960
12 70	24	32	608	1083
1 71	17	26	525	981
2 71	24	33	446	903
3 71	24	37	442	995
4 71	27	26	468	864
5 71	29	42	415	827
6 71	18	30	379	783
7 71	25	31	485	885
8 71	32	41	530	938
9 71	21	53	514	986
10 71	31	36	576	1101
11 71	23	37	574	1228
12 71	30	36	633	1289
1 72	31	48	510	890
2 72	17	48	412	945
3 72	21	49	468	1048
4 72	28	34	412	846
5 72	19	37	405	809
6 72	23	36	424	729
7 72	43	35	423	729
8 72	26	42	456	744
9 72	40	34	429	755
10 72	25	41	542	965
11 72	23	34	609	1022
12 72	33	29	549	964
1 73	25	35	494	791
2 73	23	32	368	713
3 73	23	29	391	796
4 73	33	26	367	687
5 73*	15	35	337	757
6 73*	30	36	316	695
7 73*	19	41	336	758
8 73*	36	50	361	777
9 73*	22	35	345	713
10 73*	22	41	385	758
11 73*	23	45	457	769
12 73*	33	35	464	875
01 74*	17	48	411	866
02 74*	17	35	395	820
03 74*	14	60	442	939
04 74*	23	55	452	949
05 74*	19	51	402	1012
06 74*	19	61	449	1081
07 74*	33	35	533	1074
08 74*	25	45	553	1057
09 74*	27	43	452	1165
10 74*	39	39	724	1323

*Period covered by project operations

(Data Source: FBI Uniform Crime Reports)

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MONTHLY CRIME DATA FOR ST. LOUIS PILOT FOOT PATROL PROJECT

TARGET AREA CRIME/HOURS OF PATROL

	MURDER	RAPE	ASSAULT	ROBBERY	BURGLARY		MURDER	RAPE	ASSAULT	ROBBERY	BURGLARY
3 66	0	2	8	3	12	1 70	3	3	10	11	23
4 66	0	0	7	8	11	2 70	1	1	7	14	28
5 66	0	0	9	3	10	3 70	0	2	8	12	28
6 66	0	1	8	7	10	4 70	2	3	10	24	28
7 66	1	1	9	6	16	5 70	1	0	16	21	31
8 66	1	0	6	3	18	6 70	1	0	11	26	15
9 66	1	0	13	11	16	7 70	1	1	11	19	18
10 66	0	0	11	10	6	8 70	2	3	16	11	21
11 66	0	1	7	8	11	9 70	1	2	7	23	15
12 66	1	1	10	10	10	10 70	2	0	7	20	21
1 67	0	1	9	7	10	11 70	1	1	12	19	23
2 67	2	2	14	13	10	12 70	2	2	8	23	28
3 67	0	2	6	9	17	1 71	3	0	11	13	25
4 67	2	0	7	7	16	2 71	1	2	12	26	23
5 67	1	0	13	10	19	3 71	0	1	16	11	20
6 67	2	0	14	17	19	4 71	0	0	13	12	27
7 67	2	1	13	16	22	5 71	1	2	8	11	22
8 67	0	3	12	14	24	6 71	0	0	9	18	16
9 67	0	2	14	17	23	7 71	1	1	18	17	23
10 67	1	0	11	13	16	8 71	2	1	17	16	31
11 67	0	1	12	12	19	9 71	1	0	11	15	23
12 67	0	0	9	18	26	10 71	3	3	12	18	24
1 68	0	1	2	9	18	11 71	0	2	13	20	18
2 68	0	0	7	6	27	12 71	1	0	12	20	17
3 68	0	0	13	11	33	1 72	3	0	5	14	15
4 68	1	2	9	12	34	2 72	0	1	7	11	18
5 68	1	0	13	14	27	3 72	0	1	10	10	24
6 68	1	2	19	17	22	4 72	0	1	15	8	31
7 68	2	2	6	25	27	5 72	0	0	9	8	23
8 68	0	2	13	21	27	6 72	3	0	13	20	21
9 68	0	3	7	17	11	7 72*	1	2	16	10	20
10 68	1	2	14	16	23	8 72*	0	5	12	8	15
11 68	0	2	8	15	25	9 72*	2	1	9	13	21
12 68	0	1	8	21	28	10 72*	0	2	12	13	19
1 69	0	2	4	20	24	11 72*	1	0	11	10	15
2 69	0	1	15	14	22	12 72	0	1	7	10	14
3 69	2	0	12	7	32						
4 69	3	1	10	16	37						
5 69	2	3	21	12	31						
6 69	0	2	17	19	50						
7 69	0	3	13	24	35						
8 69	0	4	18	20	41						
9 69	0	0	13	19	37						
10 69	0	1	6	23	32						
11 69	0	0	13	14	26						
12 69	0	2	11	7	17						

*Period covered by project operations
(Data Source: St. Louis Police Department)

MONTHLY CRIME DATA FOR ST. LOUIS PILOT FOOT PATROL PROJECT

TARGET AREA CRIME/PATROL HOURS

	TOTAL	PERSON CRIME SUPP.	NON-SUPP.	BURGLARY SUPP.	NON-SUPP.
5 66	12	8	4	9	
6 66	16	14	2	5	1
7 66	17	14	3	10	5
8 66	10	7	3	14	6
9 66	25	23	2	12	4
10 66	21	18	3	5	4
11 66	16	11	5	5	1
12 66	22	13	9	7	6
1 67	17	14	3	8	3
2 67	31	20	11	8	2
3 67	16	9	7	12	2
4 67	16	9	7	10	5
5 67	24	19	5	12	6
6 67	33	26	7	13	7
7 67	32	28	4	16	6
8 67	29	19	10	18	6
9 67	33	26	7	17	6
10 67	25	21	4	10	6
11 67	25	17	8	16	3
12 67	27	17	10	19	7
1 68	12	8	4	14	4
2 68	13	7	6	23	4
3 68	24	21	3	27	6
4 68	24	21	3	27	7
5 68	28	24	4	21	6
6 68	39	30	9	18	4
7 68	35	28	7	21	6
8 68	36	31	5	24	3
9 68	27	21	6	9	2
10 68	33	20	13	18	5
11 68	25	19	6	19	6
12 68	30	25	5	24	4
1 69	26	19	7	17	7
2 69	30	22	8	18	4
3 69	21	12	9	26	6
4 69	30	26	4	30	7
5 69	38	28	10	24	7
6 69	38	21	17	42	8
7 69	40	33	7	27	8
8 69	42	33	9	23	18
9 69	32	26	6	29	8
10 69	30	24	6	26	6
11 69	27	22	5	20	6
12 69	20	14	6	12	5

	TOTAL	PERSON CRIME SUPP.	NON-SUPP.	BURGLARY SUPP.	NON-SUPP.
1 70	27	15	12	19	4
2 70	23	18	5	20	8
3 70	22	18	4	22	6
4 70	39	26	13	24	4
5 70	38	30	8	21	1C
6 70	38	29	9	14	1
7 70	32	26	6	14	4
8 70	32	21	11	16	5
9 70	33	24	9	13	2
10 70	29	22	7	20	1
11 70	33	20	13	13	10
12 70	35	19	16	25	3
1 71	27	15	12	22	3
2 71	41	31	10	17	6
3 71	28	21	7	13	7
4 71	25	18	7	18	9
5 71	22	17	5	15	7
6 71	27	21	6	10	6
7 71	37	31	6	15	8
8 71	36	31	5	27	4
9 71	27	22	5	15	8
10 71	36	27	9	17	7
11 71	35	27	8	15	3
12 71	33	26	7	13	4
1 72	22	16	6	11	4
2 72	19	15	4	13	5
3 72	21	14	7	20	4
4 72	24	18	6	25	6
5 72	17	15	2	17	6
6 72	36	27	9	14	7
7 72*	29	25	4	15	5
8 72*	25	18	7	10	5
9 72*	25	18	7	17	4
10 72*	27	23	4	17	2
11 72*	22	12	10	10	5
12 72*	18	13	5	8	6

*Period covered by project operations
(Data Source: St. Louis Police Department)

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MONTHLY CRIME DATA FOR ST. LOUIS PILOT FOOT PATROL PROJECT

TARGET AREA/NON-PATROL HOURS

	MURDER	RAPE	ASSAULT	ROBBERY	BURGLARY			MURDER	RAPE	ASSAULT	ROBBERY	BURGLARY
3 66	0	0	6	7	51		1 70	0	1	11	16	58
4 66	0	0	6	9	30		2 70	1	2	7	13	30
5 66	0	3	5	3	48		3 70	3	0	13	19	58
6 66	0	1	11	4	46		4 70	1	1	11	12	36
7 66	2	2	18	13	40		5 70	0	2	14	23	45
8 66	1	2	6	12	36		6 70	0	0	13	16	42
9 66	0	0	4	7	38		7 70	2	2	13	31	42
10 66	0	0	12	13	20		8 70	3	3	7	29	51
11 66	0	3	4	7	37		9 70	3	1	11	26	44
12 66	0	1	1	7	25		10 70	0	2	11	23	45
1 67	1	1	9	19	33		11 70	4	1	13	19	54
2 67	1	1	8	6	24		12 70	2	1	6	28	66
3 67	2	2	9	8	26		1 71	1	4	6	21	64
4 67	1	1	12	5	27		2 71	1	0	10	12	53
5 67	1	0	7	5	43		3 71	0	0	5	14	54
6 67	0	1	12	11	45		4 71	0	3	11	16	49
7 67	0	3	20	21	43		5 71	1	1	10	23	46
8 67	0	1	6	15	45		6 71	1	3	13	14	49
9 67	0	2	13	19	48		7 71	0	2	14	15	51
10 67	1	2	6	15	47		8 71	1	5	15	28	35
11 67	0	1	7	9	49		9 71	1	4	10	22	41
12 67	0	3	8	23	28		10 71	0	2	15	24	41
1 68	1	3	8	7	42		11 71	1	1	20	18	41
2 68	0	0	4	9	42		12 71	0	1	9	18	38
3 68	0	1	13	9	49		1 72	1	2	5	13	44
4 68	0	0	10	9	39		2 72	1	1	11	23	35
5 68	1	2	10	9	31		3 72	0	1	11	19	26
6 68	0	0	7	11	43		4 72	0	2	16	16	34
7 68	0	0	8	17	47		5 72	2	5	16	14	40
8 68	2	1	9	26	52		6 72	0	1	5	19	24
9 68	0	3	12	17	47		7 72*	0	3	9	22	39
10 68	1	2	15	17	63		8 72*	0	5	16	19	37
11 68	0	1	11	28	45		9 72*	1	4	12	25	36
12 68	1	1	9	20	53		10 72*	0	0	14	27	42
1 69	1	1	13	21	47		11 72*	2	5	8	17	42
2 69	1	0	9	13	34		12 72*	2	0	12	17	23
3 69	3	2	18	14	42							
4 69	1	0	16	16	57							
5 69	0	2	13	24	64							
6 69	0	5	13	29	52							
7 69	2	0	18	30	71							
8 69	2	1	10	23	40							
9 69	2	2	8	29	62							
10 69	3	2	8	21	60							
11 69	0	3	6	28	48							
12 69	1	2	7	21	38							

*Period covered by project operations
(Data Source: St. Louis Police Department)

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MONTHLY CRIME DATA FOR ST. LOUIS PILOT FOOT PATROL PROJECT

TARGET AREA/NON-PATROL HOURS

	PERSON CRIME			BURGLARY				PERSON CRIME			BURGLARY	
	TOTAL	SUPP.	NON-SUPP.	SUPP.	NON-SUPP.			TOTAL	SUPP.	NON-SUPP.	SUPP.	NON-SUPP.
5 66	11	5	6	28	20		1 70	28	19	9	28	30
6 66	16	10	6	20	26		2 70	23	17	6	18	12
7 66	35	23	12	28	12		3 70	35	22	13	42	16
8 66	21	14	7	25	11		4 70	25	16	9	25	11
9 66	11	5	6	30	8		5 70	39	30	9	20	25
10 66	25	18	7	10	10		6 70	29	27	2	25	17
11 66	14	6	8	22	15		7 70	48	32	16	26	16
12 66	9	6	3	15	17		8 70	42	27	15	30	21
1 67	30	15	15	22	11		9 70	41	31	10	29	15
2 67	16	12	4	20	4		10 70	36	30	6	28	17
3 67	21	15	6	13	13		11 70	37	24	13	35	19
4 67	19	10	9	16	11		12 70	37	24	13	46	20
5 67	13	9	4	27	16		1 71	32	24	8	45	19
6 67	24	20	4	29	16		2 71	23	16	7	34	19
7 67	44	29	15	25	18		3 71	19	14	5	45	9
8 67	22	18	4	26	19		4 71	30	15	15	32	17
9 67	34	25	9	23	25		5 71	35	25	10	27	19
10 67	24	19	5	30	17		6 71	31	18	13	29	20
11 67	17	14	3	33	16		7 71	31	21	10	37	14
12 67	34	17	17	13	15		8 71	49	33	16	18	17
1 68	19	11	8	29	13		9 71	37	30	7	30	11
2 68	13	7	6	27	15		10 71	41	34	7	29	12
3 68	23	15	8	33	16		11 71	40	32	8	34	7
4 68	19	12	7	23	16		12 71	28	19	9	27	11
5 68	22	18	4	14	17		1 72	21	13	8	27	17
6 68	18	13	5	23	20		2 72	36	26	10	25	10
7 68	25	21	4	26	21		3 72	31	21	10	28	8
8 68	38	30	8	43	9		4 72	34	26	8	21	13
9 68	32	22	10	30	17		5 72	37	20	17	30	10
10 68	35	28	7	38	25		6 72	25	19	6	15	9
11 68	40	20	20	30	15		7 72*	34	20	14	25	14
12 68	31	28	3	40	13		8 72*	40	28	12	22	15
1 69	36	21	15	33	14		9 72*	42	28	14	24	12
2 69	23	16	7	25	9		10 72*	41	29	12	24	18
3 69	37	23	14	28	14		11 72*	32	20	12	27	15
4 69	33	23	10	38	19		12 72*	31	20	11	21	2
5 69	39	27	12	40	24							
6 69	47	28	19	39	13							
7 69	50	39	11	51	20							
8 69	36	28	8	24	16							
9 69	41	33	8	42	20							
10 69	34	27	7	43	17							
11 69	37	22	15	31	17							
12 69	31	23	8	27	11							

*Period covered by project operations
(Data Source: St. Louis Police Department)

MONTHLY CRIME DATA FOR ST. LOUIS PILOT FOOT PATROL

ADJACENT AREA CRIME/HOURS OF PATROL

	MURDER	RAPE	ASSAULT	ROBBERY	BURGLARY		MURDER	RAPE	ASSAULT	ROBBERY	BURGLARY
3 66						1 7C	3	3	13	24	43
4 66	1	1	14	12	28	2 7C	0	3	21	30	37
5 66	0	4	24	18	49	3 7C	2	1	22	21	57
6 66	1	1	12	5	4C	4 7C	1	5	22	26	56
7 66	0	2	13	9	37	5 7C	1	4	28	35	62
8 66	2	1	14	21	42	6 70	C	1	26	34	45
9 66	1	2	14	17	38	7 70	2	3	26	31	55
1C 66	C	1	18	22	24	8 7C	2	1	25	32	49
11 66	C	4	18	19	25	9 7C	0	1	28	28	50
12 66	C	3	13	22	23	1C 7C	1	4	12	39	5C
1 67	1	1	10	15	50	11 70	C	3	2C	37	54
2 67	2	1	11	9	32	12 70	0	3	18	34	39
3 67	1	1	13	11	32	1 71	3	2	19	28	62
4 67	2	0	14	26	28	2 71	0	2	15	28	42
5 67	0	2	15	22	29	3 71	1	4	15	22	56
6 67	1	2	19	15	42	4 71	5	2	2C	35	62
7 67	1	C	20	13	59	5 71	C	8	24	26	64
8 67	2	1	21	27	59	6 71	2	2	28	22	53
9 67	1	1	24	27	45	7 71	2	4	15	27	78
1C 67	2	1	20	14	47	8 71	1	4	27	30	47
11 67	2	2	18	15	41	9 71	1	1	19	32	6C
12 67	5	3	21	21	35	1C 71	2	3	27	19	61
1 68	0	5	15	28	46	11 71	2	5	26	31	43
2 68	2	1	25	12	32	12 71	0	1	15	30	45
3 68	0	3	23	27	33	1 72	3	6	22	26	48
4 68	4	3	33	21	30	2 72	2	4	11	17	41
5 68	4	3	18	23	65	3 72	1	4	16	23	66
6 68	2	1	13	26	8C	4 72	3	5	17	21	54
7 68	1	3	21	18	61	5 72	2	3	29	23	42
8 68	0	5	33	27	64	6 72	C	4	27	23	44
9 68	3	6	35	31	58	7 72*	3	6	27	32	35
1C 68	4	4	21	35	61	8 72*	3	4	27	29	66
11 68	1	4	15	35	63	9 72*	1	4	11	27	66
12 C8	C	2	28	33	56	1C 72*	3	1	18	44	66
1 65	3	2	16	38	69	11 72*	1	C	22	30	54
2 65	5	2	21	24	70	12 72*	1	1	11	27	51
3 65	2	4	16	34	42				7	21	58
4 69	4	5	22	15	58						
5 69	1	0	34	28	67						
6 65	1	1	39	25	7C						
7 69	1	1	33	25	64						
8 69	2	10	36	27	78						
9 69	0	4	33	29	84						
1C 69	3	4	33	23	58						
11 69	4	4	25	39	81						
12 69	6	1	24	28	66						
	2	2	13	37	58						

*Period covered by project operations
(Data Source: St. Louis Police Department)

MONTHLY CRIME DATA FOR ST. LOUIS PILOT FOOT PATROL PROJECT

ADJACENT AREA CRIME/HOURS OF PATROL

	PERSON CRIME			BURGLARY	
	TOTAL	SUPP.	NON-SUPP.	SUPP.	NON-SUPP.
3 66	28	C	28	0	28
4 66	46	0	46	-C	49
5 66	19	11	8	19	21
6 66	24	14	1C	22	15
7 66	38	3C	8	28	14
8 66	34	23	11	25	13
9 66	41	33	8	16	8
10 66	41	31	10	17	8
11 66	38	32	6	16	7
12 66	27	21	6	22	28
1 67	23	14	9	21	11
2 67	25	15	10	18	14
3 67	42	29	13	19	9
4 67	39	33	6	21	8
5 67	41	35	6	26	16
6 67	34	25	9	34	25
7 67	61	46	15	34	25
8 67	53	39	14	32	13
9 67	37	25	12	27	20
10 67	37	29	8	26	15
11 67	50	32	18	20	15
12 67	48	31	17	35	11
1 68	40	20	20	22	10
2 68	53	38	15	26	7
3 68	61	44	17	25	5
4 68	48	35	13	52	13
5 68	42	33	9	57	23
6 68	43	39	4	37	24
7 68	65	52	13	43	21
8 68	75	58	17	39	19
9 68	64	49	15	44	17
10 68	55	4C	15	51	12
11 68	63	45	18	46	10
12 68	59	46	13	51	18
1 69	52	35	17	51	19
2 69	56	38	18	32	1C
3 69	46	3C	16	42	16
4 69	67	55	12	57	10
5 69	65	48	17	58	12
6 69	60	5C	1C	49	15
7 69	75	61	14	62	16
8 69	68	54	14	61	23
9 69	73	62	11	43	15
10 69	72	53	19	54	27
11 69	59	45	14	55	11
12 69	54	42	12	4C	18

	PERSON CRIME			BURGLARY	
	TOTAL	SUPP.	NON-SUPP.	SUPP.	NON-SUPP.
1 70	43	33	10	33	1C
2 70	54	32	22	28	9
3 70	46	34	12	43	14
4 70	54	41	13	41	15
5 70	68	55	13	51	11
6 70	61	49	12	29	16
7 70	62	49	13	39	16
8 70	60	45	15	37	12
9 70	57	47	1C	34	16
10 70	56	47	9	34	16
11 70	60	41	19	35	19
12 70	55	39	16	26	13
1 71	52	31	21	41	21
2 71	39	25	14	23	19
3 71	60	42	18	33	23
4 71	57	43	14	44	18
5 71	58	39	19	49	15
6 71	46	33	13	42	11
7 71	63	48	15	50	28
8 71	56	45	11	38	9
9 71	50	39	11	42	18
10 71	60	53	7	47	14
11 71	52	37	15	35	8
12 71	49	41	8	37	8
1 72	37	22	15	28	2C
2 72	45	35	10	33	8
3 72	43	3C	13	41	25
4 72	60	41	19	4C	14
5 72	55	45	1C	23	19
6 72	63	47	16	28	16
7 72*	65	38	27	18	17
8 72*	45	31	14	39	27
9 72*	67	45	22	51	15
10 72*	56	46	10	38	16
11 72*	39	31	8	24	27
12 72*	30	26	4	33	25

*Period covered by project operations
(Data Source: St. Louis Police Department)

MONTHLY CRIME DATA FOR ST. LOUIS PILOT FOOT PATROL PROJECT

ADJACENT AREA CRIME/NON-PATROL HOURS

	MURDER	RAPE	ASSAULT	ROBBERY	BURGLARY
3 66	C	0	27	13	68
4 66	2	3	10	18	83
5 66	1	0	23	19	91
6 66	2	3	14	14	79
7 66	2	3	17	18	104
8 66	1	1	20	25	77
9 66	3	2	20	25	64
10 66	3	3	11	27	76
11 66	2	0	13	33	78
12 66	0	0	13	20	79
1 67	1	2	7	26	79
2 67	0	0	11	20	74
3 67	3	3	18	17	71
4 67	4	1	8	21	85
5 67	3	2	13	15	97
6 67	1	6	17	28	109
7 67	0	4	18	29	117
8 67	1	2	18	27	114
9 67	1	4	18	30	107
10 67	0	5	13	24	108
11 67	2	5	16	25	79
12 67	2	2	19	42	105
1 68	1	4	8	21	89
2 68	C	2	25	20	88
3 68	2	3	9	32	107
4 68	2	5	20	26	113
5 68	2	3	9	31	127
6 68	2	4	14	41	128
7 68	1	6	21	37	143
8 68	1	1	17	34	103
9 68	4	2	17	27	96
10 68	1	9	23	32	143
11 68	1	7	15	31	111
12 68	2	4	14	40	133
1 69	2	1	17	32	122
2 69	2	7	12	38	113
3 69	6	7	24	26	115
4 69	4	3	31	39	101
5 69	4	10	21	32	129
6 69	4	5	26	29	149
7 69	3	7	32	39	123
8 69	1	9	29	50	148
9 69	3	6	27	51	137
10 69	5	6	19	53	155
11 69	4	C	16	40	103
12 69	1	3	13	34	123

	MURDER	RAPE	ASSAULT	ROBBERY	BURGLARY
1 70	5	4	8	54	112
2 70	4	8	12	32	107
3 70	2	1	14	32	116
4 70	2	7	16	34	81
5 70	3	4	26	37	126
6 70	3	6	25	51	129
7 70	5	6	30	37	110
8 70	2	6	25	54	111
9 70	1	8	23	41	133
10 70	2	4	10	41	147
11 70	0	2	19	33	118
12 70	0	4	24	41	124
1 71	1	C	17	48	145
2 71	3	3	16	30	137
3 71	3	4	20	45	145
4 71	0	1	24	26	122
5 71	0	11	16	36	131
6 71	1	5	18	26	134
7 71	2	2	36	33	111
8 71	0	1	26	30	131
9 71	1	2	23	28	177
10 71	4	6	22	38	148
11 71	2	4	23	39	128
12 71	1	1	12	30	105
1 72	7	7	17	36	94
2 72	1	6	13	25	94
3 72	C	C	20	36	90
4 72	2	2	21	31	96
5 72	1	4	20	23	97
6 72	1	4	29	25	115
7 72*	3	4	24	40	115
8 72*	1	8	29	40	111
9 72*	1	5	26	53	119
10 72*	2	4	11	41	130
11 72*	2	4	16	41	131
12 72*	3	3	10	47	72

*Period covered by project operations
(Data Source: St. Louis Police Department)

MONTHLY CRIME DATA FOR ST. LOUIS PILOT FOOT PATROL PROJECT

ADJACENT AREA CRIME/NON-PATROL HOURS

| | PERSON CRIME | | | BURGLARY | | | | PERSON CRIME | | | BURGLARY | |
	TOTAL	SUPP.	NON-SUPP.	SUPP.	NON-SUPP.			TOTAL	SUPP.	NON-SUPP.	SUPP.	NON-SUPP.
3 66	40	0	40	0	68		1 70	71	41	30	70	42
4 66	33	1	32	0	83		2 70	56	33	23	73	34
5 66	43	30	13	52	39		3 70	49	35	14	76	40
6 66	33	22	11	48	31		4 70	59	35	24	49	32
7 66	40	29	11	60	44		5 70	70	42	28	70	56
8 66	47	32	15	48	29		6 70	85	52	33	69	60
9 66	50	36	14	34	30		7 70	78	58	20	72	38
10 66	44	36	8	57	19		8 70	87	64	23	67	47
11 66	48	29	19	51	27		9 70	73	45	28	85	48
12 66	33	24	9	41	38		10 70	57	40	17	81	66
1 67	36	23	13	45	34		11 70	54	36	18	68	50
2 67	31	21	10	40	34		12 70	69	45	24	71	53
3 67	41	22	19	40	31		1 71	66	39	27	91	54
4 67	34	21	13	38	47		2 71	52	35	17	85	52
5 67	33	16	17	57	40		3 71	72	61	11	81	64
6 67	52	36	16	56	53		4 71	51	38	13	72	50
7 67	51	32	19	59	58		5 71	63	42	21	73	58
8 67	48	35	13	64	50		6 71	50	33	17	70	64
9 67	53	39	14	55	52		7 71	73	55	18	62	49
10 67	42	29	13	72	36		8 71	57	48	9	69	62
11 67	48	29	19	46	33		9 71	54	40	14	119	53
12 67	65	43	22	57	48		10 71	70	47	23	88	60
1 68	34	20	14	56	33		11 71	68	47	21	69	59
2 68	47	25	22	55	33		12 71	44	31	13	64	41
3 68	46	32	14	67	40		1 72	67	40	27	56	38
4 68	53	34	19	79	34		2 72*	45	25	20	64	30
5 68	45	30	15	77	50		3 72*	56	39	17	60	30
6 68	61	46	15	74	54		4 72*	62	40	22	61	35
7 68	65	42	23	96	47		5 72*	48	33	15	62	35
8 68	53	39	14	64	39		6 72*	59	38	21	64	51
9 68	50	37	13	58	38		7 72*	71	47	24	68	47
10 68	65	43	22	94	49		8 72*	78	50	28	62	49
11 68	54	24	20	78	33		9 72*	85	59	26	68	51
12 68	60	38	22	91	42		10 72*	58	47	11	75	55
1 69	52	34	18	82	40		11 72*	63	42	21	57	74
2 69	59	39	20	74	39		12 72*	63	45	18	41	31
3 69	63	39	24	72	43							
4 69	77	41	36	75	26							
5 69	67	46	21	92	37							
6 69	64	52	12	109	40							
7 69	81	65	16	71	52							
8 69	89	69	20	92	56							
9 69	97	76	21	80	57							
10 69	83	64	19	93	62							
11 69	60	46	14	57	46							
12 69	51	38	13	82	41							

*Period covered by project operations
(Data Source: St. Louis Police Department)

MONTHLY CRIME DATA FOR ST. LOUIS PILOT FOOT PATROL PROJECT

CITYWIDE CRIME/HOURS OF PATROL

	MURDER	RAPE	ASSAULT	ROBBERY	BURGLARY
3 66	8	14	112	84	246
4 66	4	1C	1C8	91	346
5 66	8	13	86	59	284
6 66	9	15	81	61	247
7 66	10	14	119	87	324
8 66	10	14	122	76	286
9 66	9	5	92	111	232
10 66	5	15	111	123	2C9
11 66	10	13	87	1C6	266
12 66	7	5	92	1C2	340
1 67	11	8	75	94	282
2 67	9	4	75	99	244
3 67	13	11	75	111	329
4 67	8	7	1C7	110	3C8
5 67	9	14	116	99	329
6 67	20	5	129	1C4	341
7 67	13	14	163	137	353
8 67	16	19	145	131	377
9 67	11	8	129	130	346
1C 67	15	11	1C0	128	218
11 67	15	16	93	129	357
12 67	8	15	83	162	383
1 68	10	23	1C3	12C	329
2 68	5	16	94	127	324
3 68	14	13	132	155	397
4 68	15	19	152	135	452
5 68	13	22	141	144	484
6 68	19	14	139	129	389
7 68	9	28	140	152	450
8 68	8	28	146	163	451
9 68	14	29	1C7	167	417
10 68	11	20	1C9	204	465
11 68	15	2C	1C8	177	353
12 68	19	24	96	187	434
1 69	13	24	99	177	442
2 69	12	24	1C9	157	370
3 69	16	17	152	135	447
4 69	14	28	163	221	528
5 69	16	27	212	169	476
6 69	11	26	182	150	515
7 69	14	32	195	165	621
8 69	13	21	2C7	166	569
9 69	14	18	2C3	190	485
10 69	20	22	139	216	5C5
11 69	9	15	146	176	488
12 69	12	18	119	171	447

	MURDER	RAPE	ASSAULT	ROBBERY	BURGLARY
1 7C	18	18	111	170	456
2 7C	4	15	122	149	4C6
3 7C	13	22	113	19C	5C6
4 7C	15	24	131	177	485
5 7C	14	24	164	209	477
6 7C	14	23	156	173	448
7 7C	11	27	190	167	468
8 7C	22	17	179	156	448
9 70	16	23	169	178	451
10 7C	16	21	129	211	494
11 7C	7	15	132	2C9	463
12 7C	18	21	1C8	2C9	545
1 71	21	24	12C	184	521
2 71	14	18	1C1	137	413
3 71	9	25	119	182	448
4 71	16	17	149	174	45C
5 71	22	21	156	154	452
6 71	11	9	147	18C	356
7 71	17	16	195	174	539
8 71	5	25	149	169	449
9 71	11	17	173	18C	492
10 71	16	23	163	221	511
11 71	11	21	124	213	424
12 71	15	15	131	198	517
1 72	15	19	92	160	359
2 72	10	18	1C9	129	393
3 72	7	21	128	122	462
4 72	15	21	127	151	436
5 72	8	22	146	152	4C4
6 72	10	10	160	185	384
7 72*	16	21	2C3	161	435
8 72*	12	19	161	178	458
9 72*	12	18	141	220	456
10 72*	12	2C	157	198	482
11 72*	9	14	109	182	417
12 72**	9	10	121	186	413

*Period covered by project operations
(Data Source: St. Louis Police Department)

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MONTHLY CRIME DATA FOR ST. LOUIS PILOT FOOT PATROL PROJECT

CITYWIDE CRIME/HOURS OF PATROL

	PERSON CRIME			BURGLARY	
	TOTAL	SUPP.	NON-SUPP.	SUPP.	NON-SUPP.
:					
5 66	166	97	69	183	101
6 66	166	120	46	155	92
7 66	230	172	58	217	107
8 66	222	165	97	196	90
9 66	217	161	56	163	69
10 66	254	182	72	187	82
11 66	216	140	76	187	79
12 66	206	153	53	229	111
1 67	188	136	52	213	69
2 67	187	128	59	172	72
3 67	210	151	59	253	86
4 67	232	174	58	202	106
5 67	238	190	48	209	120
6 67	258	201	57	208	133
7 67	327	267	60	215	138
8 67	311	240	71	248	129
9 67	278	210	68	224	122
10 67	254	185	69	235	83
11 67	253	179	74	245	112
12 67	268	176	92	287	96
1 68	266	159	107	253	76
2 68	242	166	76	252	72
3 68	314	227	87	309	88
4 68	321	241	80	359	93
5 68	320	253	67	373	111
6 68	301	243	58	281	108
7 68	329	258	71	324	126
8 68	345	261	84	352	99
9 68	317	250	67	305	112
10 68	344	256	88	370	95
11 68	320	242	78	315	78
12 68	326	227	99	328	106
1 69	313	204	109	354	88
2 69	302	222	80	287	83
3 69	320	201	119	355	92
4 69	423	301	122	436	92
5 69	424	327	97	398	78
6 69	369	285	84	414	101
7 69	406	328	78	502	119
8 69	407	329	78	434	135
9 69	425	341	84	372	113
10 69	397	314	83	380	125
11 69	346	262	84	389	99
12 69	320	236	84	340	99

	PERSON CRIME			BURGLARY	
	TOTAL	SUPP.	NON-SUPP.	SUPP.	NON-SUPP.
1 70	317	203	114	351	105
2 70	290	194	96	306	100
3 70	338	247	91	391	115
4 70	347	253	94	388	97
5 70	411	313	98	355	122
6 70	366	290	76	347	101
7 70	395	324	71	364	104
8 70	414	315	99	366	82
9 70	386	291	95	349	102
10 70	377	288	89	401	93
11 70	363	272	91	356	107
12 70	356	252	104	432	113
1 71	349	227	122	416	105
2 71	270	187	83	310	103
3 71	335	251	84	323	125
4 71	356	263	93	356	94
5 71	353	277	76	354	98
6 71	347	268	79	299	97
7 71	402	329	73	403	136
8 71	348	271	77	357	92
9 71	381	296	85	388	104
10 71	423	322	101	397	114
11 71	369	278	91	336	88
12 71	359	275	84	430	87
1 72	286	180	106	313	86
2 72	266	195	71	324	69
3 72	278	192	86	257	105
4 72	324	225	99	338	98
5 72	328	235	93	287	117
6 72	365	269	96	288	96
7 72*	401	293	108	329	106
8 72*	370	270	100	333	125
9 72*	391	279	112	327	129
10 72*	387	302	85	334	148
11 72*	314	198	116	263	154
12 72*	326	222	104	264	149

*Period covered by project operations
(Data Source: St. Louis Police Department)

MONTHLY CRIME DATA FOR ST. LOUIS PILOT FOOT PATROL PROJECT

CITYWIDE CRIME/NON-PATROL HOURS

	MURDER	RAPE	ASSAULT	ROBBERY	BURGLARY			MURDER	RAPE	ASSAULT	ROBBERY	BURGLARY
3 66	7	12	93	90	566		1 70	19	21	1C8	256	883
4 66	7	9	81	113	582		2 7C	17	28	97	21D	769
5 66	8	16	89	89	617		3 7C	21	21	113	227	890
6 66	7	18	1C3	86	647		4 7C	12	28	133	190	743
7 66	1?	16	1C9	124	697		5 7C	17	33	165	226	943
8 66	7	26	1C6	141	626		6 7C	17	25	141	246	913
9 66	10	12	87	134	565		7 7C	18	32	158	297	923
1C 66	10	16	99	138	548		8 7C	20	32	142	333	861
11 66	10	12	65	137	6C9		9 7C	27	27	158	273	985
12 66	14	9	79	126	6C3		1C 7C	12	33	122	259	1C15
1 67	18	16	60	127	572		11 7C	12	13	1C2	256	1C11
2 67	4	8	74	102	513		12 7C	20	2C	1C9	3C6	1C53
3 67	12	14	86	1C1	551		1 71	21	16	112	255	973
4 67	17	15	86	100	583		2 71	12	21	98	292	820
5 67	18	13	96	125	649		3 71	25	27	1C8	197	927
6 67	6	14	1C8	168	678		4 71	13	18	148	186	814
7 67	9	25	131	190	757		5 71	10	30	127	223	878
8 67	7	25	94	2C9	787		6 71	8	34	152	2C1	860
9 67	7	16	1C8	164	713		7 71	18	23	155	237	9C1
1C 67	12	17	90	167	783		8 71	11	25	136	247	930
11 67	10	17	80	141	666		9 71	14	29	142	242	1023
12 67	10	22	76	2C6	726		1C 71	13	28	144	284	1C22
1 68	10	20	75	158	754		11 71	15	17	117	257	918
2 68	6	11	90	138	7C9		12 71	12	14	112	274	946
3 68	1C	15	1C1	154	745		1 72	16	22	99	158	756
4 68	13	16	1C6	162	790		2 72	11	21	1C5	2C2	752
5 68	8	15	86	179	777		3 72	9	18	127	197	758
6 68	15	27	96	205	791		4 72	12	31	148	185	781
7 68	16	23	123	245	913		5 72	20	33	122	2C0	889
8 68	11	19	117	220	781		6 72	17	27	136	199	797
9 68	12	20	1C6	163	847		7 72*	20	33	163	255	857
1C 68	21	37	116	223	984		8 72*	18	30	164	266	916
11 68	2C	?1	85	256	849		9 72*	15	30	153	275	884
12 68	19	20	85	243	892		1C 72*	13	29	163	275	986
1 69	25	29	103	237	953		11 72*	17	31	107	313	944
2 69	16	27	82	195	816		12 72*	11	21	113	264	8CC
3 69	24	26	133	2C2	852							
4 69	16	25	144	222	886							
5 69	15	43	154	210	869							
6 69	16	40	140	2C6	912							
7 69	18	39	153	248	1CC1							
8 69	15	29	169	282	964							
9 69	14	33	173	264	885							
1? 69	26	?3	125	3C6	1C18							
11 69	27	26	139	275	881							
12 69	14	27	84	243								

*Period covered by project operations.

(Data Source: St. Louis Police Department)

MONTHLY CRIME DATA FOR ST. LOUIS PILOT FOOT PATROL PROJECT

CITYWIDE CRIME/NON-PATROL HOURS

	PERSON CRIME TOTAL	SUPP.	NON-SUPP.	BURGLARY SUPP.	NON-SUPP.
5 66	202	139	63	344	273
6 66	214	132	82	391	266
7 66	259	161	98	441	256
8 66	280	176	104	389	237
9 66	243	155	88	377	188
10 66	263	184	79	365	183
11 66	224	126	98	407	202
12 66	228	139	89	399	204
1 67	221	125	96	399	173
2 67	189	122	67	338	175
3 67	213	131	82	334	217
4 67	218	139	79	313	270
5 67	252	143	109	404	245
6 67	296	199	97	406	272
7 67	355	235	120	433	324
8 67	335	226	109	487	300
9 67	295	194	101	442	271
10 67	286	202	84	540	243
11 67	248	163	85	465	201
12 67	314	180	134	454	272
1 68	263	154	109	504	250
2 68	245	153	92	479	230
3 68	280	190	90	495	250
4 68	297	200	97	532	258
5 68	288	200	88	501	276
6 68	343	251	92	486	305
7 68	407	270	137	584	326
8 68	367	253	114	512	269
9 68	301	216	85	572	275
10 68	397	279	118	657	327
11 68	392	255	137	591	258
12 68	367	235	132	617	275
1 69	394	257	137	691	262
2 69	320	210	110	574	242
3 69	385	239	146	596	256
4 69	407	256	151	620	266
5 69	422	299	123	611	258
6 69	402	272	130	656	256
7 69	458	338	120	679	322
8 69	495	375	120	645	319
9 69	484	355	129	589	296
10 69	490	344	146	667	351
11 69	467	310	157	602	279
12 69	368	248	120	592	253

	PERSON CRIME TOTAL	SUPP.	NON-SUPP.	BURGLARY SUPP.	NON-SUPP.
1 70	404	249	155	601	282
2 70	352	231	121	516	253
3 70	382	237	145	599	291
4 70	363	240	123	480	263
5 70	441	319	122	617	326
6 70	429	306	123	606	307
7 70	505	352	153	644	279
8 70	527	378	149	627	234
9 70	485	349	136	726	259
10 70	417	283	134	698	317
11 70	383	253	130	705	306
12 70	455	282	173	751	302
1 71	404	270	124	680	293
2 71	333	216	117	571	249
3 71	357	246	111	639	288
4 71	365	248	117	563	251
5 71	390	280	110	619	259
6 71	395	279	116	562	298
7 71	433	324	109	651	250
8 71	419	318	101	645	285
9 71	427	302	125	729	294
10 71	469	334	135	701	321
11 71	406	297	109	649	269
12 71	412	286	126	699	247
1 72	325	220	115	532	224
2 72	339	222	117	561	191
3 72	351	239	112	555	199
4 72	376	244	132	566	215
5 72	375	239	136	615	274
6 72	379	252	127	540	257
7 72*	471	308	163	601	296
8 72*	478	334	144	605	311
9 72*	473	324	149	616	268
10 72*	480	352	128	659	327
11 72*	468	304	164	560	384
12 72*	409	286	123	510	290

*Period covered by project operations
(Data Source: St. Louis Police Department)

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