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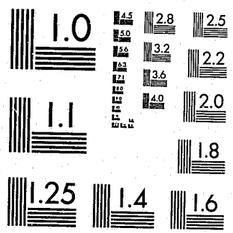

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POLICE TACTICS AGAINST ROBBERY

by

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August 15, 1971

Final Report: Pilot Grant NI 70-065-PG-2
National Institute of Law Enforcement
and Criminal Justice
Law Enforcement Assistance Administration
U.S. Department of Justice

The findings, conclusions, and recommendations presented in this report are those of the Principal Investigator at the time of issuance of the Report. They do not necessarily represent the official views of the Washington Metropolitan Police Department or of the U.S. Department of Justice.

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PREFACE

In 1967 the President's Crime Commission called for increased application of the tools of operations research and systems analysis to improve the use of police resource. Use of such methods has led to greater understanding of the way in which workload, manpower availability, and the pattern of criminal events interact. Major projects dealing with allocation of police resource have been carried out under the sponsorship of the U.S. Department of Justice by the St. Louis Police Department and by the Chicago Police Department.

This project, sponsored by the Law Enforcement Assistance Administration, under its Pilot Grant Program, sought to demonstrate the feasibility of employing coordinated police tactics to combat the serious crime of robbery. In this project we look narrowly at one set of tactics and at the problems and success that the police have in carrying out multi-unit tactical procedures.

In designing tactics, it is essential to become familiar with the various forms that robbery takes and the procedures used by offenders. Thus, this experimental project involved a certain amount of review of records, study of arrest patterns, and so on. These studies were supplemented by direct contact with the police and with members of the community. The police-community action plan suggested in this report results from these studies and contacts.

Acknowledgment is made of the energetic efforts of the Special Operations Division of the Washington Metropolitan Police Department in practicing and executing the experimental tactics. In particular, the enthusiastic support of Deputy Chief Theodore Zanders, Captain Robert Wissman, and Sgt. Mike Carney

is recognized. Also, access to records and data was facilitated by Captain Herbert Miller and his staff in the Operational Planning Division.

I am indebted to Dr. Thomas A. Reppetto of the MIT-Harvard Joint Center for Urban Studies; Mr. James M. Slavin, Director, Northwestern University Traffic Institute; and Dr. Gustave J. Rath, Professor of Industrial Engineering and Director of the Design Center, Northwestern University for suggestions criticism, and technical review. Mr. Paul B. Coggins assisted in the data gathering phases of the project.

Finally, I wish to express my thanks to the National Institute for Law Enforcement and Criminal Justice for providing me the opportunity to carry out this project and to Dr. Philip Cheilik, Miss Sheila Perlaky, and Mr. Ken Masterson for their advice and assistance with reports.

Albert M. Pottoms
Monument Beach, Massachusetts 02553
August 15, 1971

SUMMARY

This project demonstrates that the coordinated pounce tactics for police to use against robbery are feasible of execution, require a minimum of specialized training for the police, and the dedication of relatively few resources. In cities where radio "air time" is critical, the use of a separate tactical net like that maintained by the Special Operations Division of the Washington Metropolitan Police Department facilitates the execution of the tactics.

The coordinated pounce tactics have the greatest potential in incidents where police are promptly notified and an operationally adequate description of offender (lookout) is obtained. Extension of the tactical procedures to incidents involving offender use of motor vehicles is possible but not demonstrated during this project. Pounce tactics are potentially applicable in any situation involving a direct personal confrontation--serious assault, robbery, rape, assault on a police officer, or political assassinations.

Indications are that use of pounce tactics can increase arrests connected with robberies by 200-300% over present experience. Improvement in arrests in robbery incidents of that magnitude is expected to have a deterrent effect on individuals planning to commit robbery.

Use of pounce tactics to combat robbery appears to be cost-competitive with practices that include massive use of overtime. Each pounce unit requires about 8 two-man units per watch. These pounce units are deployed in areas of high robbery incidence--areas that generally have high incidence of other street crime. Objectives of preventive patrol are thus maintained while permitting some emphasis in the use of police resource against robbery.

Not all operational elements in robbery and the police response are under the control of the police. In Washington, a re-examination of patrol deployment practice is indicated as a means of reducing the time-lag until a lookout is broadcast. There are approaches that can be made through educational and public information programs that can make the public more aware of how their actions in prompt reporting and in giving adequate descriptions can assist the police and enhance the potential for success in the pounce tactics.

Despite the efforts of the Washington Metropolitan Police Department to control crime, robbery continues to increase.. This Report concludes with a suggested plan for action against robbery in Washington that involves the police, other departments of the City Government, and the people in the community at large--particularly in the 5 high robbery incidence areas. This active plan consists of 5 tasks as follows:

Task 1 - Establish a Robbery Control Task Force consisting of heads of major city agencies in the Office of the Mayor. Staff for evaluation and analysis should be provided to this Task Force.

Task 2 - Establish S.O.D. Pounce Units in as many high-robbery incidence areas as feasible. A total of 5 such units working during appropriate robbery hours is suggested. A Pounce Unit consists of up to 8 motorized units specially trained in execution of coordinated tactics.

Task 3 - Institute Revised Procedures for Allocating Patrol Resources to carrying out Response to Citizens' Calls for Service. The purpose of this task is to increase the availability of street resources to respond to an emergency such as a robbery complaint.

Rapid response is essential to providing aid to the victim and to obtaining identifying information on offender or stolen property. The revised procedures suggested in the Pilot Grant Report have been street tested by the Chicago Police Department. These procedures were developed by the Pilot Project Director. This task focusses police effort on reducing time to obtain useful lookout.

Task 4 - Develop and implement Public Information and Education Programs in Washington. The purpose of this task is to win community support in the campaign against robbery. Essential to the success of police tactics are immediate reports that a robbery has taken place and adequate description of offender for broadcast of the lookout. This step is totally in the control of the victim. The education program should be all media city-wide with special emphasis on the robbery problems in the pounce unit area.

Task 5 - Form a "Robbery Watch" in each of the high robbery incidence areas of the City. Procedures will be developed by the police who will dedicate special telephone numbers for reporting. Manning sources are city employees and volunteers recruited through Citizens' and Business Men's Groups. Information from Robbery Watch participants assists the Pounce Units in focussing search for an offender. Publicity concerning the existence of a Robbery Watch may have strong deterrent effect. Desired level of participation is 100-200 persons per square mile of high robbery incidence area. Each Pounce area is about 3 square miles.

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I. INTRODUCTION

This is the final report on Pilot Grant NI 70-065-PG-2, "Police Tactics Against Robbery". This was a demonstration project carried out with the assistance of the Special Operations Division of the Washington Metropolitan Police Department for the purpose of developing and evaluating the efficacy of coordinated police tactics to combat robbery.

This project is a direct outgrowth of work done by the Operations Research Task Force in the Chicago Police Department in 1968 and 1969.[1] Background work for the project was carried out in the summer of 1970 in Washington with the assistance of the Planning and Development Division of the Washington Metropolitan Police Department. The field test phase during which the experimental coordinated tactics were tested, refined, and evaluated occurred during the period September 1970 - May 1971.

Robbery - A Crime of Personal Confrontation

Crimes against the person--homicide, rape, serious assault, and robbery--are major targets of police crime-control activities. Robbery is the taking of personal possessions by force or through threat of use of force. It is a crime all too frequently accompanied by injury or death. Except for major operations such as bank robberies, robbery is an opportunistic crime. The victim is unlikely to know his assailant. In areas where high incidence of robbery exists, fear becomes an important factor. Every stranger is a potential threat. Freedom to move safely and with coincidence in the streets--or even in private or public buildings, or on transportation systems--is curtailed.

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1. Bottoms, A. M., Resource Allocation in the Chicago Police Department, Final Report, Chapter V. This report is in printing (August 1971) and can be obtained from the National Institute of Law Enforcement and Criminal Justice, Law Enforcement Assistance Administration, U.S. Department of Justice.

The economic effects of crime, in general, and robbery, in particular, exceed the value of money and possessions taken. Shopping and labor patterns change and businesses in high crime areas are severely affected. The curtailment of evening shopping hours in the Chicago Loop during the pre-Christmas shopping season in 1968 was directly attributed by police to fear of robbery and assault.

It is not economic loss, however, that lends urgency to the development of methods to control the robbery problem. In the core city, one frequently finds the poor robbing the poor. A robbery may yield a few pennies, a watch, the proceeds from a welfare check or a paper route--minor losses in absolute terms. The important thing is that each such event is accompanied by the distinct possibility that the victim will suffer injury or death at the hands of his assailant whether for major or petty sums. There is little question that the American people place priority on all criminal justice measures designed to protect life.

Police as a Deterrent Force

The police are only one component in the campaign against robbery. In addition to the public-at-large, the Courts and Correctional Systems take part in the campaign. The social and economic causative factors that are said to underly robbery are usually unaffected by police actions or the use of police resources. Given an environment where robbery is widespread, the police resources are devoted to apprehension of offenders and to deterrence of potential offenders. Deterrence is accomplished, in part, by sure and swift apprehension and the meting of justice to an offender. Although the visible presence of police is supposed to lead to swift response and punishment, it is all too clear that mere visibility of police is inadequate to control criminal. In the effort to make the police--uniformed or otherwise--

an effective tool for robbery control, this project has investigated alternative uses of police resources.

II. PURPOSES OF PROJECT

The overall goal of this project is to develop and test improved measures for containing robbery. These measures must be feasible from the standpoint of demands for police resources and acceptable in concept and execution to the police and to the community that is being served.

To the extent that the tactics developed are implemented and the implementation results in increased apprehensions of robbers, and consequently, in increased perception on the part of potential offenders that the risks of arrest and subsequent punishment have increased these tactics are executed in the long run to enhance the deterrent posture of the police and to increase public confidence in the capability of the police to manage the robbery problem. Isolation of the degree of contribution that is made by the one tactical factor is not readily accomplished. It is realistic, however, to assess the relative efficiencies and effort involved in employing new coordinated tactics versus existing methods used to respond to robbery and other street crimes.

As an action project to develop, test, and evaluate improved patrol procedures, this project also serves the purpose of demonstrating to the Special Operations Division of the Washington Metropolitan Police Department the use of the techniques of operations research in designing the tactics to be tested and of administrative experiment in carrying out the field phases. Through contact with applied research, it is believed that law enforcement agencies throughout the country will become increasingly aware of the potential assistance to the police that exists in the disciplines of operation research and systems analysis.

Finally, a purpose of this project is to deepen understanding of the operational factors that exist in the robbery environment. To this end the city-wide distribution of robbery is examined, modus operandi of a sample of offenders are studied, and a victimization study based on arrest and complaint records is made.

III. BACKGROUND OF PROJECT

During the examination of the robbery problem in Chicago that was carried out by the Operations Research Task Force in the Chicago Police Department,[2] the investigation reviewed tactics that were employed by St. Louis, Cincinnati, Philadelphia, as well as those that had been tried and abandoned by the Chicago Police Department. Philadelphia calimed success against bank robbers and at public transportation stations using a "stake out" procedure. This procedure resulted in at least one shoot-out with injury and loss of life to the would-be offender. The Police Commissioner pointed to the decline in bank robberies after the incident as proof of the deterrent value of a high-force position.

The other cities had various forms of response plans that had the common aim of containing the offender in an area sufficiently small that street-by-street search for an offender of known description was possible with the police manpower that is normally available. The Cincinnati Police Department calls the plan a "sector plan". St. Louis initiated such plans in the early sixties, enjoyed success at the start, but gradually abandoned the technique due to poor results. Informal conversation with Professor Victor Strecher,

2. See footnote 1 on page 1.

Michigan State University indicated that loss in effectiveness resulted in part from development of counter-tactics by the criminals and in part from decrease in available response units on the street as St. Louis experienced rise in demand for police service

Operational Experience with BLUE FENCE in Chicago

The Operations Research Task Force of the Chicago Police Department developed with complementary plans "BLUE FENCE" and "BLUE SHIELD" that were designed respectively to minimize the area containing the offender after a robbery incident, and to provide for the systematic search of that area. An ellipse confines the area within which the offender is contained. The size of the ellipse grows with the passage of time from the robbery event. Analytical relationships are shown in Appendix A.

Attempts to apply the BLUE FENCE concept in exercise situations in the 18th Police District (near North side of the Chicago Loop) failed repeatedly due primarily to lack of available street resources. A secondary reason for failure was inadequacy of communications. In Chicago the elliptical templates representing various times-late were given to the zone dispatcher in the Police Communications Center. He determined the time-late from the time of the event, time of complaint receipt, and his estimate of how long it would require the units to respond to his call and position themselves at the points (intersection of ellipse with outlined streets) to which he would assign them. In several of the tests, the "offender", a police lieutenant, passed the ellipse boundary before units were positioned. Lack of availability of police resource due to prior commitment to other police services prevented erection of a tight pattern in a timely manner.

Special Capabilities of the Washington Metropolitan Police Department

The potential advantages resulting from containing the area that must be searched after a robbery are substantially great. The Principal Investigator requested Pilot Grant support to see if the tactical concepts could be made to work under conditions that provided better communications and greater availability of tactical manpower than existed in Chicago during the time of the first tests.

The Washington Metropolitan Police Department has a tactical unit called the Special Operations Division (S.O.D.) of over 200 men. This force is used in saturation patrol in high crime areas and provides the manpower base for control of civil disorders and for special details such as arise with visits of important foreign personages or during political demonstrations. The unit has extensive special training. The unit operates with its own communications. The S.O.D. base station monitors the broadcasts from the central communications station at police headquarters. S.O.D. units do not normally respond to radio runs.

Since the S.O.D. resembles in organization, capability and method of employment the Task Force of tactical patrol forces that exist in other major city police departments, it is apparent that lessons concerning anti-robbery tactics that result from working with this group are transferable to other police departments.

Another major factor in the choice of Washington as the site for a continuation of the study of anti-robbery tactics was the fact that street robbery had increased sharply during 1968-1970 in Washington. The robbery problem is discussed in greater detail in Section VI of this report.

IV. SYSTEMS ANALYSIS OF THE ROBBERY CONTROL PROBLEM

The scope of this project is very limited. It is confined to field testing the feasibility and effectiveness of a set of tactical procedures that show promise in enhancing police capability to respond to street or commercial robbery. The development of a set of tactics is not a panacea for the prevention or control of the robbery problem. A project of this kind contributes to understanding how police resources can be allocated tactically.

Conceptual Systems Analysis

The relationship of police activities in countering robbery to the overall role of the police in their community are better understood from the standpoint of the conceptual model of the police that was developed by the Chicago Police Department Operations Research Task Force.[3] Use of the systems approach assists in structuring analysis problems--particularly as they refer to resource allocations--and protects against improper or unknowing sub-optimizations.[4]

The Chicago Task Force defines the police as a system lying within the larger system of criminal justice and of society as a whole. Within the Police System there are sub-systems such as district law enforcement forces, the detective division, and the Special Operations Division. Within the S.O.D.

3. Nilsson, E., and W. Gersch, Chicago Operations Research Task Force Report Two: The Program Budget, January 1969.

4. Sub-optimization refers to achieving efficiency with respect to a portion of a problem or with respect to the objectives of only one component--the police--in studies of this kind. A larger view may show that a solution efficient for the police is detrimental or counter-productive when viewed from the broader, community level. Thus, the need to be aware of sub-optimization. Not all sub-optimizations are bad; but one is required to make sure that strategies or policies at the police level are not detrimental to the administration of criminal justice as a whole.

there are the old clothes unit, the Canine Patrol and the Tactical Unit. The foregoing is the hierarchal structure of the problem.

The starting point is to define the objectives of the system. These objectives express what the system is trying to achieve, and to what end resources should be applied. Equally important are measures of performance. Such measures permit evaluation of how well the objective is being achieved. In fact, an objective should be defined in such a way that an observable quantitative measure of performance is possible.

A system is delineated by specifying what is in the environment, i.e., not part of the system. The environment influences the performance of the system, but is not subject to its control. It may be considered as a constraining set of variables. Specifying the environment determines what set of variables can be considered in analyzing the system.

The resources are part of the system. These are means available to accomplish objectives, such as manpower, money, machines, and skills. Resources are usually measured in monetary terms but could be measured in physical units.

Components are subsystems of the system. For resource allocation analysis these subsystems are a set of mission-oriented (output oriented) subsystems. These subsystems are usually called programs, and the cost structure of the system, with respect to the given programs, is called The Program Budget.

The analyst tries to select a set of subsystems which:

1. are as independent as possible.
2. have operational objectives and measures of performances.
3. facilitate cost-effectiveness analysis.

The police administrator has to deal with the formulation of plans for the system; i.e., consideration of the factors discussed, the overall goals, the environment, the utilization of resources, and the components. To the

above approach is applied the term Planning-Programming-Budgeting System. It includes the organizational structure and the methodology for setting long-term and short-term goals, reviewing objectives and programs and allocating resources.

The viewpoint taken in this project concerning the police posture towards robbery--a view that is equally applicable to the police posture in the control of any crime--stems from the conceptual systems model developed by the Chicago group.

The S.O.D. is primarily associated with the departmental objective of crime control and maintenance of public peace. In the pursuit of the crime control objectives, the S.O.D. has both a crime preventive role and a response or reactive role. The major objectives for the police that result from the conceptual systems model are:

1. Crime Control
2. Quasi-Criminal Control
3. Maintenance of Public Peace and Order
4. Regulation of Traffic
5. Rendering Public Service
6. Developing Community Support--Police Community Relations
7. Internal Police Administration

The above objectives form the basis for program areas.[5] Under the program objective of crime control, there is a sub-heading--robbery. One result of studies like this demonstration project is to permit some estimate of how police resources, when allocated in specific ways, contribute to the attainment of goals that are implied in the program headings.

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5. The Conceptual Systems Model and a sample Resource Allocation Budget for a major city police department is given in the ORTF Final Report (See Footnote 1 on page 1).

Partial Measure of Effectiveness Related to Robbery Control

A partial measure of effectiveness is a concept that defines the degree to which some crime control objective is being met. For example, the ratio of robbery cases cleared by arrest to total reported robberies is a partial measure of the capability of the police to apprehend offenders. There is no single, overall measurable quantity that in itself gives the status of the campaign against street crime in general and against robbery in particular. The nearest thing to an absolute measure is the total number of incidents or the ratio of such incidents compared to the population. Rate is a good measure when population changes are also taking place between times of comparison. There is no way of achieving accuracy in the overall measure of effectiveness because a varying and unknown fraction of actual crimes are never reported to the police.

Experience in Chicago indicates that variations in the fraction of crimes of a given type reported to the police are larger than positive effects of crime suppression or deterrence that result from such police policies as saturation patrol.[6]

Consequently, it is almost impossible to ascribe reductions in reported crime solely to the efficiacy of police policies. Thus, the contribution of police tactics to deterrence remains an intuitively reasonable concept but one that cannot be quantitatively demonstrated without recourse to elaborate survey research techniques that are far beyond the scope of this project.

Tactical effectiveness index - The Operations Research Task Force defined an operation index that appeared to have potential value in assessing patrol effectiveness.

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6. See, for example, discussions in Chapters IV and V, Resource Allocation in the Chicago Police Department (cited in Footnote 1 on page 1). Higher police presence resulted in more crime reports.

Assessment of tactical effectiveness that, in principal, can be subjected to comparison and to statistical analysis is carried out with the aid of the following formula:

$$T.E. = CA/NT$$

where T. E. = Tactical effectiveness index

C = Number of on-view arrests[7]

A = Area patrolled (no. of miles of streets and alleys)

T = Total time spent on preventive patrol during period under study

Note that these quantities are all potentially measurable directly by the police. The tactical effectiveness index applies to any patrol operation embodying preventive or reactive roles.

In evaluating the tactical effectiveness, a computation should be made for each felony separately and for total felonies. Also in tactical deployment in a fixed area there is no necessity to compute A and the formula can be simplified to C/NT. If comparison of tactical effectiveness between operations in different parts of the city is desired, A must be included. Relative value of one tactic over another is measured by the increase in T. E. If a tactical procedure produces a decrease in the index, it should be abandoned.

The sporadic use of the tactical procedures--of any set of consistent procedures and resources--during the period of field evaluation prevented use of this operational measure of patrol in this project.

Preventive patrol - Space-Time coincidence - The probability of a space-time coincidence--an event that could result in an on-view arrest-- is

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7. See, for example, D. G. Olson, Chapter V, Chicago Police Department ORTF Report cited in Footnote 1 on page 1.

given by:

$$P = 1 - \exp(-KST/BA)$$

where symbols have the following meanings:

P = probability of space-time coincidence

K = number of preventive patrol units assigned

S = actual speed for patrol units (miles per hour)

T = the duration of time that a given criminal event is detectable by a patrolling unit. Detectability implies that the patrol unit sees evidence of a criminal event (hours).

B = number of miles of streets and alleys per square mile in the area of interest.

A = size of area of interest in square miles.

The fomulation of the preventive patrol operation in terms of random encounters by patrol units with events that are detectable for only a short period of time were made simultaneously by J. F. Eliot of the General Electric Company and by A. Blumstein and R. C. Larson.[8] Robbery is a crime that can quickly be executed--often in less than one minute. Consequently, there is low probability that a patrolling unit will actually be within visual range of a robbery when it is committed. The probability of detection of the event while it is being commited is further reduced by the capability of the criminal to counter-detect the police unit--usually at considerably greater distance than the patrol can detect and identify an individual as engaged in an illegal act. The criminal can thus forestall action by the police by the simple expedient of waiting until the patrol has passed.

8. Blumstein, A. and Richard C. Larson, "Crime and Criminal Justice", Operations Research for Public Systems, Philip M. Morse, Editor, The MIT Press, Cambridge, Massachusetts 1967.

A member of the Chicago ORTF calculated that the most efficient deployment of all available manpower in Chicago Second Police District would result in less than one percent probability of a space-time coincidence with a street robbery.[9]

Police have intuitively recognized the futility of patrol against street robbery and have used plain-clothes men in high crime areas--a practice that reduces the ability of the criminal to forestall (counter-detect the police). They also have used stake-outs and physical techniques to harden robbery targets like banks, currency exchanges, and the like.

The ideas of ratio of covered area to total area as a measure of the probability of detection of a criminal event have utility in designing the detailed procedures that should be used by uniformed and plain-clothes patrols alike. These ideas underly the tactical procedures that were field tested in the project. Some analytical details are presented in Appendix A.

Reaction Time-Late apprehension and recovery of stolen property - Once a robbery is committed and complaint is made to the police, actions are taken to apprehend the offender and recover the stolen property. There are indications that fast police response to the scene of a robbery correlates with high probability of subsequent apprehension of the offender. The best known documentation of this fact is that presented by Blumstein,[10] concerning the Los Angeles Police Department experiences with high rate of apprehensions when response was four minutes and less and rather low rates of more than 6 minutes has passed.[11]

9. See Footnote 1 on page 1.

10. Blumstein, A., Science and Technology Task Force Report to the National Commission for the Administration of Criminal Justice (President's Crime Commission) 1967.

11. O. W. Wilson, when Superintendent of the Chicago Police Department, established the objective of police response to any emergency call of 5 minutes or less. In 1968 and 1969 that objective was still being approached even though demands for police services had more than doubled in the period 1964-1969.

The Chicago ORTF found in their study of robbery in the Second District[12] that a correlation existed between short response time and apprehension of offenders. Short response time improved the probability of an arrest at or near the scene of the crime. It also enabled the responding unit to question witnesses and obtain clues that were later helpful to the detective who often apprehended the offender several hours or days later. Sgt. D. Clem of the Chicago Police Department ORTF held the view that one could use response records as indication of the motivation of the police officers involved since he found correlation between short response time and high quality case reports.[13]

Time-late appears to have so many operational implications to the problem of robbery control that it is appropriate to identify the component times and indicate what actions can be taken to reduce them. This discussion also serves as a rationale for the experimental tactics that were investigated in this project and will be referenced to in the section on description of tactics.

Important component times are the following:

1. Time elapsed between incident and victim complaint to police. This component is not under police control. It may be influenced to a degree by public education programs on what to do in case of robbery, increased availability of no-toll pay phones for emergency, etc. The public may be generally unaware of the crucial importance of timely call for police assistance.

2. Time between victim complaint and "lookout" message broadcast. Description of salient features, method and direction of escape, etc., is needed

12. Resource Allocation in the Chicago Police Department, Chapter VI (see Footnote 1 on page 1).

13. Informal discussion--Sgt. Don Clem, Chicago Police Department. Sgt. Clem assisted in the Study of Robbery in the Second District carried out by the ORTF, January-June 1969.

before any steps to apprehend can be taken. Ideally, the dispatcher who takes the complaint can hold the victim on the telephone long enough to get a working lookout and should be encouraged to do so.[14]

If the dispatcher cannot obtain sufficient information for the lookout, that message must await the arrival of the unit dispatched to respond by the dispatchers.

3. Time between receipt of complaint by police and arrival of responding unit. This is one of the fundamental police operational problems in Washington and in nearly every city in the United States. The mathematical analyses and computer simulations carried out by the Chicago Project[15] show that response time is critically dependent upon the availability of patrol units to accept and proceed to an assignment. Improvement of patrol units to accept and proceed to an assignment. Improvement of patrol unit availability is an objective of resource allocation projects like that in Chicago. Such an effort was beyond the scope of this project to carry out in Washington but is needed if the police are to bring this component of the robbery control problem under control.[16]

4. Time for responding unit to generate lookout or amplifying report. It is essential to remember that the victim who has been through the unnerving experience of being robbed may be injured, incoherent, or unsure. The fact that

14. Chief J. V. Wilson gave substantial cash bonuses to dispatchers who carried out such procedures.

15. Resource Allocation in the Chicago Police Department, Chapter V (see Footnote 1 on page 1).

16. The basis for the statement of need for resource allocation study on a departmental-wide basis for the Washington Metropolitan Police Department is the observation by the project group of that district. Units receive multiple radio runs, a practice that results in low availability.

a lookout message may have been generated by the dispatcher does not reduce the importance of the prompt and accurate amplifying report on arrival of the responding unit. This step is under police control. Efforts must continue to define and streamline procedures and to motivate the patrol forces to carry them out.

5. Time to render police service. This is the total time that the responding unit(s) are "down" due to commitment to the incident. It is measured from time assignment is made to the time the units report that police service has been completed and the unit is "up" and available for another assignment. Service time is one of the major factors that the Police Administrator can use for control of resource allocation. Appendix B discusses one resource allocation approach that can be implemented by any police department with minimal cost in consultant and computer support.

The objective for the police is to minimize each of the above time components provided that the time expended is consistent with performance of police duties.

Apprehension of offenders and recovery of stolen property are visible and recognized measures of police productivity. Arrest implies or should imply to the offender that swift justice will result. It is from this that the concept of the deterrent power of the police derives. With respect to robbery arrests, it is important to note that such arrests must be "valid". By valid arrest is meant an arrest and its accompanying case preparation that results in prosecution for the offense as charged or for a lesser offense.

Improvement in the above listed response time components may have the direct effect of increasing the robbery arrest rate.

Other Measures That May Affect Robbery Rates

Installation of devices such as lock boxes and institution of policies like that of requiring exact change on most metropolitan transportation units acts to harden the target or to reduce the gain that may result if the robbery is committed. Apprehension may be assisted through use of hidden cameras or other devices in banks, money exchanges, and the like.

Education of the public concerning the crime of robbery may enable individuals to take precautions like avoiding enticement, carrying as little currency and valuables as possible, and, most important, knowing what to do if a robbery occurs.

Alternative Uses of Police Resources

The foregoing discussion of measures of effectiveness has indicated that there may be different ways to employ police resources to control the robbery problem. Resources may be expended in public education, in hardening certain targets, or in improving police tactics in preventive patrol and response. This project concerns specifically the latter. It tested feasibility, effectiveness, and cost of one set of robbery countermeasures.

Relationship to Overall Resource Allocation in a Police Department

The Resource Analysis Budget or Program Budget identifies the manner in which police department manpower, equipment, and financial resources are allocated among the various program elements that relate to the major objectives. Since most police departments and municipalities use a line-item budget--x dollars for cars, y dollars for axe-handles, etc.--that is not oriented towards organizational objectives; the first step is to carry out a systems analysis to obtain the departmental objectives. The second step is to allocate the current expenditures against these objectives by examining distribution of

of workload records, interviews, and selected special data collection. The ORTF Report of the Chicago Police Department[17] shows how this step was done in Chicago.

Obtaining more efficient allocation of resources among the program and program elements depends upon the development of production functions; i.e., of rules that are based on experience and that relate resource expenditure to achievement of some kind of measurable results. As such understandings evolve, the police department finds itself in possession of a planning, programming, budgeting system (PPBS).

This project provides some experimental measurement on which to base judgments as to potential productivity of police resources if they are used in the manner prescribed here to control robbery. It is necessary to other potential uses, and to measure productivity and costs, in order to say that the experimental tactics tested herein are optimal or the most effective, or the best use of police resources in attaining the overall goals of street crime control.

V. MANPOWER USES AND CONSTRAINTS IN THE WASHINGTON METROPOLITAN POLICE DEPARTMENT

The Washington Metropolitan Police Department consists of nearly 5,000 uniformed officers. In 1969 the geographical command structure was changed from 15 Precincts to 6 Police Districts. The former precinct stations became either district headquarters or district sub-stations. The 6th District that occupies all the District of Columbia east of the Anacostia River appears disproportionally large and will probably be made into 2 districts in the near future.

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17. See Footnote 1 on page 1.

Each district has a complement of scout cars that are assigned to motorized beats plus several one-man scooters used by uniformed officers in residential patrol. These latter units respond to radio runs as assigned. Generally, the radio runs are of a type that is not dangerous in the judgment of the dispatcher. At the beginning of the project not all districts had scooter patrol nor were communications of equivalent quality throughout the city so the mechanics and quality of response to radio runs were changing parameters throughout the field-test phases of the project.

District forces also include specialized units such as narcotics units, community relation specialists, etc. On occasion, district forces are requested by units of the Special Operations Division, Narcotics Units, and others from central police headquarters.

Demand - Response Practice

To the maximum feasible extent the Washington Metropolitan Police Department carries out a policy of dispatching a response unit to all requests for police service. At certain times of the day--particularly during the third watch--this policy can lead to the formation of queues of calls that are awaiting action by response units. Officers interviewed by project staff said that during the summer of 1970, it was commonplace for a unit to report completion of an assignment and receive three or four more radio runs. Priorities among these runs are established by the dispatcher based upon the time-urgency and severity of the complaint as determined during the initial call for police service.

During July 1970 special data collection efforts were carried out for the Pilot Project by personnel in the Sixth Police District and in the Third Police District. The purpose of the data collection was to obtain information on the

allocation of on-duty time among the functions of response, preventive patrol, and administrative or traffic law enforcement duties. This special sample confirmed the interview results--the motorized beats were approaching saturation with radio runs.

This finding is of significance to this project because it means that little reliance can be placed on the district law enforcement units for prompt response. The existence of conditions approaching saturation at certain times and in certain areas also make it highly unlikely that the district law enforcement forces are able to carry out aggressive preventive patrol activities like stake-outs or surveillance of suspicious actions.

This project relied upon a study made by the Operational Planning Division in the spring of 1970 for estimates of response time and of service time. Captain Herbert Miller, the Head of the Operational Planning Unit, indicated that a study of robbery response times showed that the time from receipt of citizen complaint to the time "lookout" message was broadcast by responding unit ranged from about 15 minutes to over one-half hour. No figures were available on the time actually elapsed before police arrived at the scene. Captain Miller also reported that on a city-wide basis and averaged over all types of calls and times of day, the average time to complete police service was about 40 minutes. This time is measured from the time unit is dispatched until the time the unit reports itself "up" and available to take another assignment or to report to preventive patrol. Interestingly enough, this service time includes a time component related to preparation of the case report--a component whose duration could vary from 3 to 15 minutes.

Procedural changes that might ease response times - Chapter V of the Final Report of the Chicago Police Department Resource Allocation Project describes a technique for forecasting demands for police service and for their using this forecast workload to assist in allocating police resources to handle calls for service. Since the need for such forecast and scheduling is continuous, the technique has been mechanized for use on a computer. The computer program is in the public domain.

A simple method called the hand-graphical method for designing a response force was developed by A. M. Bottoms and R. Wagner.[18, 19] The material is difficult to obtain. By following the method as illustrated in the discussion in Appendix B, it would be possible to reduce response time, increase effort applied to preventive patrol, and thus improve the overall quality of police service.

Unfortunately, the demonstration of the potential utility of this method was beyond the scope of this Pilot Project.

One purpose in introducing the hand-graphical method for design of the response force is to draw the reader's attention to the relationships among the rate at which calls for service are received, the mean service time and the street resources required to insure high availability, hence capability to respond promptly. Note on Figure 1 of Appendix B, "Number of Cars to Limit the Average Wait for an Available Car to 0.10 Minutes", that a reduction of ten minutes in the mean service time--a reduction that might be obtained by a combination of measures such as improved motivation of the officers and

18. Bottoms, A. M. and Sgt. R. Wagner, CPD, "Hand Graphical Method for Designing Police Response Force", Appendix C to Fourth Quarterly Progress Report, Chicago Police Department Resource Allocation Report, 1968.

19. Bottoms, A. M. and E. K. Nilsson, "Operations Research, Management Sciences, and Law Enforcement: The Results of the Chicago Demonstration Project", The Police Chief, May 1970.

elimination of the case report completion step while out of service--could reduce street resources required by about 30%.

If the constraint is applied that police district manpower levels must be constant, it is likely that reduction to practice in Washington of the method discussed in Appendix C would require some redistribution of manpower among the watches.

Evidence concerning the importance of having available manpower - A study prepared by the Washington Metropolitan Police Department graphically shows the beneficial effects of manpower availability. A peak of 514 mandays per day of overtime reached during April 1970 represented approximately a 15% increase in effective manpower that was applied during peak crime hours.[20] This is an increase of 25-50% based on the third watch.

Note that use of the split-force method of St. Louis that was applied in Chicago 14th District,[21] together with changes in procedures regarding calls not involving police emergency, can yield an effective saving of manpower equivalent to or greater than that achieved through use of overtime.

VI. THE ROBBERY PROBLEM IN WASHINGTON

Overall Assessment

This section provides some statistical information on the robbery problem in Washington as it has developed over the past several years and as it is distributed throughout the six Police Districts during the period of this project.

20. During that period authorized strength of the WMPD was about 4,700--actual strength is about 4,500.

21. Resource Allocation in the Chicago Police Department, Chapter V (see Footnote 1 on page 1).

Table I (Crime in the District of Columbia)[22] shows the growth of Index Crime in Washington since 1958. Table II (Crime Index Offenses)[23] compares index crime in Washington with index crime in other cities of comparable size.[24] Note that Washington leads in this class of cities in both rate and actual number of robberies. Figure 1 (Armed Robbery in the District of Columbia, 1 Jan 1968 through 31 Dec 1969) shows the monthly trend in the class of robbery known as armed robbery. The peak shown during the latter part of 1969 was reflected in all robberies and in the other index crimes except homicide.

Index robberies do not tell the complete story about robbery in Washington. There are classes of robbery such as theft from an auto when the occupant is present, where some elements of the personal confrontation exist, but these classes are not reported as Part I (Index Crimes). These non-index robberies account for approximately 20% of the total robbery-like incidents. Monthly and yearly totals for index robbery, non-index robbery, and total index crime by Police Districts is shown on Table III.

Geographical Distribution of Robbery

Table III[25] shows the distribution of total index crime, index robbery, and non-index robbery during the project period. Note that on the given basis of the Police District, the First, Third, and Fifth Districts have the most serious problems. All of these districts are in what could be called the core city. The Sixth District--that includes all of Washington east of the

22. Source: Washington Metropolitan Police Department

23. Ibid.

24. The dates are derived from FBI reports as compiled by the Washington Metropolitan Police Department

25. Source: Washington Metropolitan Police Department

TABLE I

CRIME IN THE DISTRICT OF COLUMBIA

OFFENSE	January thru December - Calendar Year			
	1958	1962	1966	1969
Homicide	79	91	144	289
Forcible Rape	65	82	134	336
Robbery	709	1,572	3,703	12,423
Aggravated Assault	2,535	3,005	3,177	3,621
Burglary	3,642	5,022	10,267	22,992
Larceny ($50 & over)	1,683	2,666	5,261	11,548
Auto Theft	1,899	2,581	6,565	11,366
TOTALS	10,612	15,019	29,251	62,575

TABLE II

CRIME INDEX OFFENSES - JANUARY THRU JUNE 1969

Cities 500,00 to 1,000,000 Population

City	Population	Total Offenses	Murder	Rape	Robbery	Agg. Assault	Burglary	Larceny	Auto Theft
Baltimore	939,024	31,259	118	303	4,451	5,210	9,909	6,136	5,127
Boston	697,197	17,147	46	107	1,408	758	4,632	3,008	7,188
Buffalo	532,759	7,054	17	67	406	336	2,477	2,113	1,638
Cincinnati	502,550	6,020	28	80	390	335	2,447	1,918	822
Cleveland	876,050	23,306	117	137	2,327	964	5,542	3,712	10,507
Dallas	679,684	18,139	101	155	910	1,993	8,672	2,836	3,471
Houston	938,219	26,388	118	185	2,101	1,395	11,827	5,715	5,046
Milwaukee	741,324	8,309	18	37	254	330	2,006	3,541	2,123
New Orleans	627,525	13,742	35	160	1,217	1,175	4,065	4,184	2,906
Pittsburgh	604,332	16,208	20	101	1,427	826	4,719	4,126	4,989
St. Louis	750,026	21,824	125	303	2,273	1,651	9,093	1,961	6,413
San Antonio	587,718	12,847	46	67	436	1,011	5,509	3,289	2,489
San Diego	573,224	9,095	19	74	307	361	2,421	4,274	1,639
San Francisco	740,316	26,006	73	241	3,184	1,471	9,339	2,842	8,856
Washington D.C.	763,956	26,831	126	150	5,096	1,725	10,107	4,954	4,673
Rank Order of Washington									
Actual Number		2nd	1st	7th	1st	3rd	2nd	3rd	8th
Rate per 1000 Population		2nd	2nd	7th	1st	3rd	1st	5th	6th

Table II

Monthly and Annual Summary of Total Crime, Index Robbery, and Non-Index Robbery

Washington, D.C. July 1970 - April 1971

(Underlining Indicates Primary Areas for SOD Deployment)

Source: Derived from Monthly Carney Block Report of the WMPD

DIST	Total for Calendar Year 1970			Jul 70			Aug 70			Sep 70			Oct 70			Nov 70			Dec 70			Jan 71			Feb 71			Mar 71			Apr 71		
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
I	20075	3372	1092	1814	318	92	1023	298	105	1410	242	62	1674	303	81	1539	286	88	1465	251	128	1403	260	119	1373	245	85	1337	238	85	1219	165	83
II	13306	1410	489	1134	114	30	1111	125	35	988	99	30	1176	150	48	1074	130	60	881	99	60	929	83	53	893	75	37	1007	93	49	926	64	54
III	16462	2739	693	1346	240	46	1409	228	58	1177	202	50	1351	271	54	1279	230	78	1105	231	82	1258	211	79[1]	1130	151	67	1070	159	49	944	110	49
IV	11890	2161	565	1009	156	23	1052	120	48	1023	159	45	1107	239	36	1154	264	73	855	206	63	829	163	69[1]	852	153	51	782	129	60	694	93	51
V	15220	2786	687	1421	246	61	1440	205	58	1148	194	43	1366	268	62	1133	225	63	1147	208	79	1132	211	80	984	186	55	1089	184	58	917	143	56
VI	14736	2428	575	1263	231	42	1212	192	32	990	139	36	1144	218	40	1156	229	68	1185	235	83	1162	202	81	1019	203	67	1140	203	62	1014	152	58

A - Total Index Crime

B - Index Robbery

C - Other Robbery (Purse Snatch, etc.)

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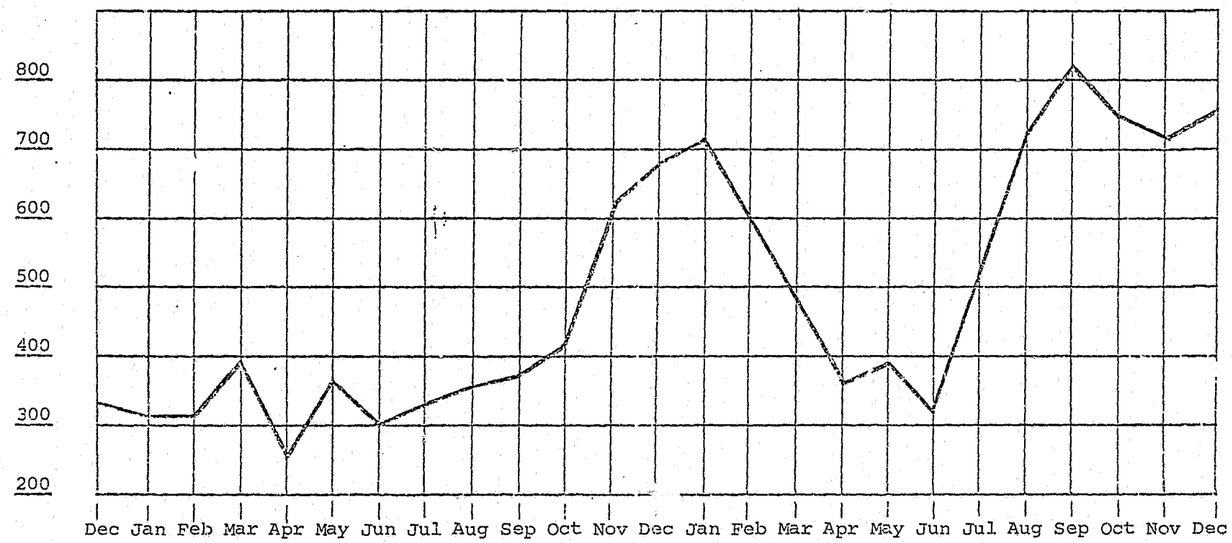
1. SOD Assets distributed between 3rd and 4th Police Districts in Jan 1971.

FIGURE 1

ARMED ROBBERY IN THE DISTRICT OF COLUMBIA

Jan 1, 1968 thru Dec 31, 1969



Anacostia River--is a close 4th; however, the Sixth District is large--about 15 square miles--and contains nearly 1/3 of the population of Washington. The Fourth District is largely residential, and the Second District comprises the business and residential section of the part of Washington known as Northwest.

Clustering of robbery - The Chicago Police Department Operations Research Task Force had found that street crimes, robberies, burglaries, and auto theft tended to cluster. The clusters in Chicago were small--within a city block or so. Examination of the robbery data from the Washington Metropolitan Police Department reveals that there is a tendency for robbery to cluster in Washington also; however, with the current reporting system, it is not feasible to pinpoint the events with higher resolution than is possible within the extent of a reporting area, known in Washington as Carney Block.[26]

The Carney Blocks[27] in Washington vary in size from a few square blocks in the high crime areas to about one square mile in residential areas. Like the Pauley Blocks in St. Louis, there Carney Blocks represent areas of more or less equal level of demand for police service and thus represent heuristic attempts to distribute police workloads.

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26. Hand-tally of actual addresses from the complaint forms is possible, but impractical in view of the large numbers. The project had hoped to use some of the computer graphics techniques and actual programs developed in Chicago to provide operational guidance in deploying police resources but no up-to-date address to geographical location conversion programs exists and the thousands of records are not maintained in machine retrievable form. See the Chicago Report referenced in Footnote 1 on page 1.

27. Sgt. Mike D. Carney, WMPD, applied the concept of the reporting area to Washington in the early sixties--before resource allocation concepts and methodologies were known to or applied by Law Enforcement agencies. Carney in Washington, and Pauley in St. Louis, are pathfinders in the quest for methods to improve Law Enforcement practice.

Washington Police officials expressed, at the outset of the project, doubt as to whether robberies did cluster in Washington. In fact, at a meeting with LT Watson of the S.O.D. in the winter of 1969, the Principal Investigator was shown data indicating that clustering was not observed in Washington. Prior to the Pilot Project the practice had been to use weekly robbery summaries but not to cumulate them. The combination of relatively short time and large areas tended to make such compilations patternless.

Use of larger time intervals revealed the clustering tendency. Monthly incidents (index) by Carney Blocks during June and July 1970 in the Sixth District and for July 1970 in the Third are shown in Table IV. These data are taken from the daily District reports (PD 93 Forms) and do not reflect reports later unfounded.

Appendix C summarizes the monthly index crime, non-index robbery, and index robbery by Carney Block July 1970 to April 1971. The contention that clusters of robbery exist and persist is borne out by examination of this data. The detailed record is presented in this report primarily to assist future analysts who may seek a benchmark in a city that is rapidly changing. It is suggested that the Washington Metropolitan Police Department maintain comparable future records so that secular trends can be established and interpreted.

Operational implications of the clustering effect - The immediate result of recognizing that clustering exists is that the high incidence areas should and do receive priority in deployed preventive patrol resources.

During the spring of 1971, the policy for deployment of S.O.D. resources changed from district saturation--as outlined on Table IV, Monthly Summary--to a more selective policy of assigning these resources to the highest Carney Blocks. Data are not yet available to show the effectiveness of this policy of more selective and concentrated assignment.

TABLE IV

Clustering of Robbery in Districts 6 and 3

June - July 1970

Source: PD 93 Forms, WMPD

SIXTH DISTRICT

Carney Block	June	July	Total	Carney Block	June	July	Total
801	19	11	30	826	0	1	1
802	3	3	6	827	2	2	4
803	3	4	7	828	2	1	3
804	3	2	5	829	8	7	15
805	3	0	3	830	3	3	6
806	2	6	8	831	4	3	7
807	7	13	20	832	4	4	8
808	5	3	8	833	1	3	4
809	5	7	12	834	0	1	1
810	2	6	8	835	0	1	1
811	2	0	2	836	0	0	0
812	2	4	6	837	0	1	1
813	3	7	10	838	2	4	6
814	1	8	9	839	0	3	3
815	3	1	4	840	0	2	2
816	1	0	1	841	1	6	7
817	6	6	12	842	0	0	0
818	0	2	2	843	0	1	0
819	3	6	9	844	0	0	0
820	2	3	5	845	2	3	5
821	1	5	6	846	4	1	5
822	2	2	4	847	2	4	6
823	1	1	2	848	2	2	4
824	0	6	6	849	3	0	3
825	0	3	3				
				Totals	118	144	

TABLE IV

SIXTH DISTRICT

900 Series Carney Blocks

Carney Block	June	July	Total	Carney Block	June	July	Total
901	0	0	0	919	5	3	8
902	5	3	8	920	1	4	5
903	4	10	14	921	2	2	4
904	2	6	8	922	5	7	12
905	0	2	2	923	5	7	12
906	3	1	4	924	0	1	1
907	0	1	1	925	1	3	4
908	1	8	9	926	1	2	3
909	2	3	5	927	2	6	8
910	3	1	4	928	5	7	12
911	0	1	1	929	1	4	5
912	1	10	11	930	1	2	3
913	0	0	0	931	1	1	2
914	1	5	6	932	0	3	3
915	1	11	12	933	2	3	5
916	1	1	2	934	0	0	0
917	3	6	9	935	0	0	0
918	0	2	2	936	0	0	0
919	5	3	8	937	0	1	1

THIRD DISTRICT
July

Carney Block	Incidents	Carney Block	Incidents
337	17	421	19
338	7	422	14
339	9	423	12
340	20	424	2
341	1	427	1
344	5	428	18
345	14	502	2
		503	6
410	6	504	4
411	4	729	1
412	7	734	1
413	11	630	1
414	1	104	1
415	3		
416	4	Totals	217
417	3		
418	8		
419	5		
420	10		

NOTE: 114 of the 217 robberies occurred in 7 of the 32 Carney Blocks in this Police District

Robbery Threat Definition, Summer 1970

Rising crime trends culminated in 1969 with 12,423 robberies. This intensity continued into the winter of 1970; however, as a result of energetic efforts mounted on a broad scale by the Washington Metropolitan Police Department index crime declined each month since spring relative to the previous month and has been held to levels somewhat below those experienced in the summer of 1969. In view of the national trend of crime increase this was a significant achievement. The robbery component of index crime is continuing to increase through the first half of 1971.

Examination of the PD 93 forms from the 3rd, 5th, and 6th districts for June and July 1970 revealed the following characteristics about the locations, time, and nature of the offense and offenders:

Clustering - In each district reviewed the robberies tended to cluster in certain areas or groups of Carney Blocks. Location with CB is known by police assigned. In each case the clustering appears to be caused by factors that lead to creating a lucrative target--bus station or stop, stores, bars, availability of legal or illegal entertainment, narcotics, etc.

The clustering phenomenon is different in the 6th district, that part of the District of Columbia lying east of the Anacostia River and a largely residential area, than it is in the 1st, 3rd and 5th districts. These latter are characterized by denser housing and commercial establishments.

Time - The spread of time of occurrence reinforces the contention that robbery is opportunistic and correlated with target availability. In the Sixth District--residential--the events tended to occur when people were on the street, waiting for busses, shopping, etc., and when juveniles were more likely to be out. In the other districts there was greater tendency to night-time robbery--

particularly when the robbery was related to victim pursuit of entertainment. One effect of saturation patrol is to increase the daytime criminal activity.

Nature of offense - About 70% of the robberies occur in the streets or in public places accessible to the police. About 50% are armed robberies; the rest, strongarm or robbery through fear. Many, particularly in the Sixth District, are purse snatchers or involve taking a woman's pocketbook from the front seat of a car at an intersection.

Robbery in the Third District is marked by viciousness--beating, shooting, or stabbing. There is also proportionately higher incidences of home invasion where robbery may be accompanied by crimes such as assault and rape.

Offenders - The robberies in District Six are characterized by the fact that they involve groups of male juveniles in a great many of the incidents. This fact suggests the possibility of surveillance as an effective deterrent.

Robbery in District Three are committed by 18-25 year old males operating alone or with 2 or 3 others.

Off-beat robbery - Liquor stores, convenience stores, isolated commercial establishments like dry-cleaning offices or gas stations are most often robbed. With the institution of exact fare and lock-box policies on the busses, bus robbery is reduced. There are no plans to harden taxis or commercial establishments through institution of comparable policies.

VII. ROBBERY CASE STUDIES

Analysis of 38 Robbery Arrests Made by Third District Officers During a Five-Week Period Ending April 3, 1971

An examination was made of reports of 38 robbery arrests made by the Third District officers during the period February 27, 1971 - April 3, 1971.

These are almost all the robbery arrests reported by Third District officers during this period. Information was obtained from WMPD Form 163.

Nature of the offense - The 38 arrests were for 32 district criminal incidents. These 32 incidents included 9 instances of armed robbery (gun or knife displayed, includes 2 attempted robberies), 14 instances of robbery--force and violence (including 1 attempt), 3 instances of robbery--fear (1 attempt), and 6 instances of pocketbook snatching or pickpockets (not index offenses).

Nature of persons arrested - Of the 38 persons arrested, 37 were males; and in all 29 cases where race was listed, race was Negro. The ages of the persons arrested fell into three groups of nearly equal size: 12 persons 25 or over, 13 between ages 21 and 24, and 13 under 21 (including 2 under 16).

Of the 38 persons arrested, 25 were born in D.C. and 23 claimed life-long residence here. Ten of the 38 showed no previous arrest record.

Time lapse between offense and arrest - The great preponderance of the Third District arrests reported occurred soon after the offense: 16 of the arrests were made within 10 minutes after the offense, 9 more were made within one-half hour, 6 more within two hours, and the remaining 7 were made between one and four weeks after the offense. Two hours seemed a distinct breakpoint for prompt arrest in the 38 arrests reported; if no arrest was made within 2 hours, it took at least a week. The delay presumably reflects the workload of the investigative units and the time required to carry out the investigation.

Distances between place of offense, place of arrest and residence of person arrested - The following table summarizes pertinent distance information that may be of interest in assessing Pounce. All 38 arrests are separately entered in the table; no significant qualitative difference would appear if only the data on one arrest for each of the 32 offenses were shown; two arrests for a single offense occurred in four incidents, and three arrests occured in one incident.

TABLE V

TIME-DISTANCE RELATIONSHIPS IN ROBBERY ARRESTS

Time Between Offense and Arrest		D	0-1	2-5	6-10	11-20	21-40	Over 40	Unk.
Very Prompt	0-10 min.	1	15	1	0	0	0	0	0
		2	1	3	3	2	1	5	1
		3	1	3	3	2	1	5	1
Prompt	11-30 min.	1	7	2	0	0	0	0	0
		2	1	2	3	2	1	0	0
		3	0	3	3	2	1	0	0
Fairly Prompt	31 min.- 2 hrs.	1	5	1	0	0	0	0	0
		2	3	2	0	0	0	1	0
		3	3	2	0	0	1	0	0
Deferred	7 days - 25 days	1	2	2	2	1	0	0	0
		2	1	2	2	2	0	0	0
		3	6	0	0	1	0	0	0

Legend:
D = Distance
1 = Distance (in city blocks) between place of Offense and Arrest
2 = Distance (in city blocks) between place of Offense and Residence
3 = Distance (in city blocks) between place of Arrest and Residence

The following comments apply to the above Table:

a. As would be expected, the very prompt arrests (within 10 minutes after the offense) occurred close to the place of the robbery--in no case more than 2 blocks away.

b. Somewhat unexpected, however, is the fact that much the same closeness of offense to arrest is observed in the prompt (11-30 min.) arrests (7 arrests made within one block of the offense, 2 arrests made two to five blocks away, and none farther). It would appear, then, that thosewho were arrested after a moderate delay had not, in fact, used that time to get out of the vicinity of the robbery.

c. Even in the deferred arrest cases, those arrests reported were fairly close to the offense--this, however, may simply reflect the small size

of the Third District--less than 3 square miles--and only about 20 city blocks between most distant points within the district. Information was not readily available relating to the number of cases in which officers from other districts made arrests of robberies taking place in the Third District.

d. It is noteworthy that those very promptly arrested, as well as those arrested after longer delays than 10 minutes, are predominantly residents of the vicinity both of the robbery and the arrest. In some cases, the narrative makes clear that the victim knew who robbed him. Still, it appears significant that over half of those arrested within 30 minutes resided within 10 city blocks (less than a mile) of the offense.

Analysis of 10 Robbery Arrests Made by S.O.D. Feb 27, 1971 - Apr 3, 1971

This is an assessment of 19 robbery arrests made by S.O.D. officers during the period February 27, 1971 - April 3, 1971. These are almost all the arrests (for robbery) reported by S.O.D. officers during this period.

Nature of the offense - The 19 arrests were for 13 district criminal incidents, including: 5 instances of armed robbery (gun or knife displayed), and 1 instance of attempted armed robbery; two instances each of robbery (force and violence), attempted robbery (fear), robbery (pickpocket), and one instance of robbery (pocketbook snatch).

Nature of the persons arrested - Of the 19 persons arrested, all but two were males; in the 18 instances where race was listed, it was Negro. Ten of the persons arrested were 21 or under, (the youngest was 15), and nine of those arrested were 22 or over (the oldest was 33). Sixteen of those arrested were born in and claimed lifelong residence in D.C. (or, in one case, nearby Maryland). Two of the other trhee were from South Carolina, resident in D.C. 8 years and 25 years; one was from Virginia, and resident in D.C. only 1/2 year. Thirteen of the nineteen had prior local arrest records.

Time lapse between offense and arrest - As with the 3rd District robbery arrests, the great preponderance of S.O.D. robbery arrests were made soon after the offense. 11 within 10 minutes, 4 more within one-half hour, and the remaining four 2 or 3 days after the offense. Here, as with the 3rd District officer arrests, a breakpoint for prompt arrest emerged--either the arrest was made within a half hour, or more than a day later.

Distance between place of offense, place of arrest and residence of person arrested - The following table summarizes pertinent distance information in a format similar to that of my prior memo.

TABLE VI

TIME-DISTANCE RELATIONSHIPS IN ROBBERY ARRESTS

Time Between Offense and Arrest	D	0-1	2-5	6-10	11-20	21-40	Over 40	Unk.
0-10 min.	1	6	5	0	0	0	0	
	2	0	2	4	1	2	2	
	3	1	1	4	1	2	2	
11-30 min.	1	1	2	1	0	0	0	
	2	0	0	0	1	1	2	
	3	0	0	0	1	1	2	
2 or 3 days	1	0	0	0	2	2	0	
	2	0	0	0	0	0	2	
	3	1	1	0	0	0	2	

Legend:
D = Distance
1 = Distance (in city blocks) between place of Offense and Arrest
2 = Distance (in city blocks) between place of Offense and Residence
3 = Distance (in city blocks) between place of Arrest and Residence

The following comments are made on this table:

a. For the S.O.D. arrests, as with the Third District arrests, all prompt arrests (within one-half hour of the offense) were made within six city blocks of the offense.

b. In the four deferred arrest cases, S.O.D. arrests were made rather more distant (11 to 40 city blocks--or about 1 to 4 miles) from the

location of the offense than was the case for the Third District arrests. This might be expected given the city-wide scope of the S.O.D.

c. As with the Third District arrests, so in the S.O.D. arrests, most of those arrested resided within 20 city blocks of the offense, though closeness of offense to residence was not so marked in the S.O.D. arrests. In the S.O.D. arrests, median distance between offense and residence was about 19 blocks, whereas in the Third District arrests, it was about 7 blocks perhaps reflecting mainly the smaller city area normally covered by Third District personnel. Still, the general rule holds: most robbery arrests are of residents of the neighborhood of the offense, and most of those arrested are known to the police through prior arrest records. This suggests that Pounce tactics can be made more effective by obtaining closer coordination between Tactical Branch and local District officers. If the robber is more familiar with the neighborhood in which he operates than S.O.D. officers, and has access to residences (his own or friends') in the neighborhood, the effectiveness of the simple Pounce tactic may be limited, and local District officers, likely to be more familiar with the neighborhood may be needed to enhance or exploit the Pounce tactic.

d. The possibility exists that those arrested for robbery may be unrepresentative of the overall population of robbery offenders. These are the unsuccessful or unlucky ones. There is no way of checking the characteristics of the overall population of robbery offenders with respect to the following points: how those successful in avoiding apprehension accomplish this; how far away they live; and how rapidly they exit the locale of the offense.

VIII. DEFINING AND TESTING THE ANTI-ROBBERY TACTICS

Description of the Pounce[27] Tactic

The basic Pounce tactic, as worked up and rehearsed with S.O.D. during the fall of 1970 represents a simplification for Tactical purposes of the geometry of the area of uncertainty.[28] Consider a circle centered on the site of a robbery whose time and location are accurately known. The circle is divided into a number of equal sectors (normally eight) to each of which a squad car is assigned. The radius of the circle is the estimated distance the criminal(s) could have moved away from the robbery as of the time a lookout is broadcast and search begins. Thus, in the case of eight-car deployment, the first car is assigned the sector between radii extending north and northeast of the crime; the second car is assigned the sector between radii extending northeast and east of the crime; and so on for each of the eight cars. On broadcast of the time and location of the crime, and on notification of use of Pounce, each car (except the one car designated to go to the scene of the crime and take the lookout description) proceeds to a position toward the outer edge of his pre-assigned sector, positioning himself with the aid of a specially prepared transparent template and a suitable large-scale map of the Police District in which S.O.D. is currently deployed. The tempolate is centered over the crime location on the map, and, as used by S.O.D., covers a circle of about one mile in radius (suitable for use against on-foot getaway, when search begins within five to ten minutes of the crime). On broadcast of a lookout

27. Pounce combines the barrier features of BLUE FENCE and the search features of BLUE RAKE as defined in the Chicago Police Department ORTF Report.

28. See Appendix A.

description, search begins, with each car moving to a position within his sector which he judges (in view of the time late after the crime of the lookout broadcast) to be the farthest the criminal is likely to have reached, and then working backward toward the scene of the crime, covering as much of the street length within his assigned sector as feasible. The one car detailed to proceed to the crime location, take the report from the victim and promptly broadcast the lookout will preferably be in addition to the eight assigned sector cars. In the event that a later reliable position of the suspect is broadcast, the whole circle of operations can be shifted, and search reinitiated within the revised sector; such a search shift was, in fact, successfully exercised in one of the three rehearsal events.

A brief analytical treatment of the problem of search for a suspect in the vicinity of a crime is given in Appendix A to this report. The purpose of this Appendix is to provide an analytical framework within which gradually refined operational parameters (suspect speed of escape, squad car search speed, suspect recognition distance, and the layout of streets and alleys) can be introduced to give estimates of response times and police manpower required for various levels of probability of success.

Workup: An Outline of the Pounce

Late in September 1970 discussions were held leading up to three rehearsals of Pounce--on Wednesday afternoon, September 30, in the First District; on Friday morning, October 2, in the First District; and on Tuesday night, October 13, in the Sixth District. A narrative and discussion of these events follows:

Event 1 - On Wednesday afternoon, September 30, a pre-exercise briefing was held at Tactical Branch headquarters for participating officers. Eight

two-man squad cars were designated for sector search, one to a sector, and each car was provided with a map of the general locale (First Police District) of the simulated robbery, and an octagonal plastic template marked off into eight sectors, covering a map area of about three square miles. A police cadet, unknown to most or all of the participants was designated the "suspect" and wore casual civilian coat and cap to disguise his uniform. Following the briefing, the eight cars were dispatched to assigned stations ("Carney Blocks") in the general locale of the simulated robbery, whose location was as yet unknown to them. After arrival of all cars on their assigned Stations and readiness of the "suspect" at the designated robbery site, the lieutenant in charge of the exercise allowed the "suspect" about a two-minute headstart corresponding to a two-minute simulated delay in reporting of the robbery and then broadcast the time and location of the "crime" designating one of the eight cars to proceed directly to the robbery site to take a report from the "victim", to broadcast a "lookout" description of the "suspect", and then search his own assigned sector. Immediately on hearing the broadcast of the location of the "robbery", the remaining seven cars took up positions within their assigned sectors as shown by centering the template on the robbery site. Approximately five minutes later, the car designated to take the report broadcast the lookout description of the "suspect" and the sector search began. Fortunately, at the time of the lookout broadcast, one of the participating cars was within sight of the suspect, and made almost immediate apprehension some five blocks from the robbery site. A post-exercise debriefing was held, the entire operation from briefing, exercise, through debriefing moved swiftly and took less than two hours. Communications were generally clear and terse, coordination was excellent, and nearly all cars had been

able to take up position in their assigned sectors by the time the lookout was broadcast. Some dissatisfaction was expressed with the maps provided, and improved maps and templates were subsequently made available. Captain Robert Wissman, as senior officer present, expressed satisfaction with the exercise.

Event 2 - On Friday morning, October 2, the second Pounce exercise was held, with officers of the same platoon participating, including a number who had taken part in the prior exercise. After a short briefing, eight participating two-man cars were again dispatched to assigned stations and the "suspect", a casual clothed officer unfamiliar to all participants was taken to the "robbery" site, the 400 block of E Street, S.E. (Marion Park within the First Police District). The exercise commenced with the "suspect's" departure from the site at 10:32 a.m.; at 10:34 the location and time of the "robbery" were broadcast, and a separate car (not one of the eight sector cars) was directed to go to the site, take the "victim's" report and broadcast the lookout description of the "suspect". This car arrived at the site at 10:37 and broadcast the lookout at 10:40, by which time six cars had reported on station within their assigned (template determined) sectors. Thus, eight minutes elapsed from the "robbery" until the broadcast of the lookout and simultaneous beginning of search. After some ten minutes of search, at 10:51, a directed shift of search center (to 8th and I Streets, S.E.) was broadcast (simulating a reliable sighting of the "suspect" at a new location). While this shift was in progress, however, the "suspect" was sighted at 10:52 (20 minutes after the robbery) and apprehended at 3rd and L Streets, S.E. Verification of apprehension was broadcast at 10:54 and the exercise terminated at 10:56 with the recall of all cars to S.O.D. headquarters. Deputy Chief Theodore Zanders was present through the exercise and debriefing and commended participating officers.

Event 3 - On Tuesday evening, October 13, the third Pounce exercise was held. This exercise differed from the prior to in that:

a. This was the first nighttime exercise.

b. The locale was shifted to the Sixth District (to a site in the vicinity of Minnesota Avenue and Good Hope Road, S.E.).

c. Twelve squad cars were available, in addition to the car designated to take the report and broadcast the lookout; eight cars were assigned one to a sector, and the remaining four cars were assigned supplementary coverage in two sectors each.

d. A different platoon participated; the squad cars were manned by officers who had not taken part in the previous exercises.

e. Improved templates were available and used.

Again, a casual clothes officer unknown to participants played the "suspect", and again, apprehension was made. The lookout broadcast was made 12 minutes after the robbery and apprehension was made after approximately 20 minutes search during which the "suspect" had covered about 10 blocks on foot.

Operational Experience

This section discusses S.O.D. Tactical Branch activity during January to June 1971, based chiefly on Project staff review of the Operation Pounce Log Book. The Log Book has been maintained by Tactical Branch personnel, as activity warranted, from December 10, 1970 to May 31, 1971.

On completion of the fall of 1970 exercises of Pounce tactics, and after discussion of results with Tactical Branch personnel, limited scale operational use of Pounce tactics commenced on December 10, 1970. One squad (normally eight two-man Police cruisers plus the Sergeant's cruiser) on each of two daily shifts was provided with large-scale maps of the assigned areas and with improved templates to be centered on the last known position of the suspects.

"Operation Pounce" records - The format and content of entries in the log were left to the discretion of Tactical Branch Headquarters personnel.

The original format listed the following items:

Patrol Area: (Fourth District throughout December,
Third and Fourth Districts throughout January,
Fifth District throughout February)

Tour of Duty: (Early shift 0800-1600, 1000-1800, or 1100-1900
Late shift 1400-2200, 1600-2400, or 1700-0100)

Activity: (Category and location of crime-principally robbery; time of radio call initiating Pounce deployment; cruiser numbers and time of reporting on sector station; lookout descriptions; time, cruiser number, and location of suspect pick-ups, if any; comment on results of activity; time of radio call terminating Pounce.)

The above was the general format followed in reporting the nine valid incidents (excluding false alarms) in which Pounce as fully activated during the period December 10, 1970 through February 17, 1971. On several other occasions, Pounce was activated, but cancelled as false or accidental alarms prior to the cruisers reaching assigned stations. On three occasions Pounce was activated, but fewer than four cruisers were available for prompt deployment; these incidents were not considered full activations. One critical item was omitted from the nine valid incident reports: time of occurrence of the crime (which may not have been available); in only two of the nine incidents was the time of lookout broadcast recorded (this should have been available in each instance).

On February 18, a change in format was instituted, correcting the two omissions noted above. This new format listed:

Time of offense

Location of offense

Time plan put into effect

Time lookout flashed

Lookout: (suspect descriptions)

Time units arrived in areas (i.e., in assigned sectors)

Time plan terminated

This format was effectively followed for five of the six valid incidents of Pounce activation between February 18 and 28; only those incidents in which the time of offense was recorded can be effectively analyzed. The table below summarizes the Log Book recorded entries:

	Dec 10-31	Jan 1-31	Feb 1-28	Entire period
Total Shifts:	44	62	56	162
Shifts with no entry recorded:	27	40	26	93
Shifts reporting no usable situation:	8	14	11	33
Shifts reporting radio or cruiser availability problem which forestalled Pounce activations:	4	2	6	12
Shifts reporting only on Pounce activation by false alarm:	0	1	6	7
Shifts reporting only partial activation:	0	2	0	2
Shifts reporting full activation:	5	3	7	15
Shifts reporting suspects picked up:	1	1	4	7
Shifts reporting arrests made by Tactical Branch:	0*	0	0	1

* In one of the five December activations, Fourth District Tactical Force officers made an arrest. On two other instances, a suspect was detained but victim refused to make positive identification--possibly due to fear of reprisal.

Full activation of Pounce was reported on 15 shifts, or about one-tenth of the shifts equipped for Pounce deployment during this period. On no shift was full activation reported more than once, although one shift did report both a false alarm activation and a valid activation. The analysis of operational experience experience with Pounce is based primarily on the five valid incidents for which time of offense was recorded, and secondarily on those other ten valid activations for which time of offense was not recorded. Whether the number of Pounce activations was more or less than should have been expected cannot be determined.

Analysis of Pounce operations experiences - Five February incidents yielded complete time data that is summarized in Table VII:

TABLE VII

POUNCE EXPERIENCE WITH COMPLETE TIME DATA

Date	Offense	Time of Offense	Time of Lookout	Cr. Part	Time Late	Ser. Dura	Est. Prb. of Success
Feb 19	Unspecified	1020	1040	8	22'	62'	20%
20	Robbery (Fear)	2140	not given	8	10'	85'	30%
23	Pocketbook Snatch	2130	2155	4	25'	35'	10%
26	Unspecified	1940	1905	8	5'	29'	50%
27	Unspecified	2050	2100	8	15'	?	20%

Time Late refers to time lapse from time of offense to time of lookout or to median time of cruisers reporting on station, whichever is later. It is an approximation to the time delay from start of getaway to start of search.

This last column gives the approximate predicted probability of suspect apprehension, based on the analysis in the Appendix A. While these are very crude estimates, they at least suggest that in only one of the five incidents

was success probable. In another two of the five incidents there was a significant possibility of success. It is worth noting that in all three of these incidents, where estimated success probability was 20% or greater, suspects were located, and in at least one case (where the suspect escaped into an apartment complex) the suspect so located may have been, in fact, the offender. These three incidents all took place after dark. Pounce seems more likely to be successful during daylight hours. Based on the analysis cited above, about one success might reasonably have been expected among the five incidents statiscally. The failure to make arrests cannot be considered unusual or surprising--merely disappointing.

Since the times of offense in the other 10 valid Pounce activations are not available, no similar estimate of success probability can be made. However, a lower limit on time late can be based on the delay between activation of Pounce and the median time of the cruisers' reporting on station. Table VIII summarizes this data.

Most of these are after-dark incidents. The failure to turn up valid suspects may be either surprising or expected, depending on the unknown time delay between the offense and activation of Pounce. Even if that delay is as little as 5 minutes, on the average, in only one of the eight incidents for which activation time was recorded would time late between offense and search start be under ten minutes. The lack of information on time of offense and time of lookout precludes more refined analysis. The median reporting time delays after Pounce activation may be considered reasonably encouraging, but still not good enough for high probability of success with eight-car deployment.

TABLE VIII

VALID POUNCE WITH DATA LACKING

Date	Offense	Time Pounce Activated	Med. Time Delay Rep on Station	Dura. of Oper.	Suspect
Dec 11	Unspecified	2246	6'	52'	4-neg.
Dec 12	Robbery-Holdup	2020	8'	22'	4th arrest
Dec 13	Att. Robbery	1848	10'	29'	none
Dec 18	Holdup-Shooting Car Getaway	not recorded	?	?	none
Dec 19	Shooting	2002	1'(!)	42'	none
Jan 6	Robbery F&V	1807	8'	53'	2-neg.
Jan 6	Robbery-Holdup	2027	10'	26'	none
Jan 8	Assault-Gun Car Getaway	1703	14'	37'	none
Feb 14	Robbery-Holdup	not recorded	?	?	2 cars stopped
Feb 18	Robbery Joke	2217	?(8' delay till lookout)	40'	none

Additional Factors Influencing Success of "Pounce Tactics"

A. Duration of Exposure to Police

Implicit in the decision to use pounce-type tactics to facilitate search of an area in the immediate vicinity of the crime is the assumption that the offender will be on the streets or in some public place that is, in principle at least, accessible to the police. At a meeting with Deputy Chief Zanders on 16 March 1971 this assumption was called into question as a result of the poor success in the operational trials. Arrest reports indicate that the offenders are working closer to home[29] than might be expected or that they are being aided by non-involved persons because of a generally poor state of police -

29. See previous section.

community relations in certain parts of the city. Cooperation with the police is notoriously poor in high crime areas in every major city. Thus exposure may be less than 20 minutes.

B. Quality of Lookout

Victims subjected to the terrifying experience of confrontation with a robbery will understandably be less proficient in giving an accurate description than will be a trained police officer. The quality of the lookout is of prime importance in the hot search phase that occurs immediately after a robbery and before the offender has an opportunity to alter his appearance. The operational lookouts have been of uniformly lower quality than those used in the exercises.

Suggestion: Police efforts to teach the public techniques for identification should be intensified with emphasis on training shopkeepers, service station operators, and managers and personnel of food store. In addition to assisting these specific individuals, the importance of prompt reporting must be stressed to the entire public.

C. Use of Plain Clothes Detail

There is no question that the marked units participating in Pounce are highly visible. This visibility possibly enables the offender to forestall detection of him by the police in a variety of ways. When sufficient communication equipment becomes available, Pounce tactics with unmarked units is suggested as an alternative policy.

Discussion of Field Trials

The experimental tactics were invoked at least 15 times where data was recorded by the S.C.D. and in several more unrecorded events where reduced force availability or other special factors caused the police officer in charge of

the log to exclude the event from the record. There were no demonstrated successes, but there were at least two events where a suspect was stopped, but the victim refused (or could not make) positive identification. In both cases, the police who stopped the suspect were "fairly sure" that they had the right person.

Further Development of Pounce Tactics

Parallel with the practical street experience, however, it is apparent that further study of the characteristics of robbery in Washington will lead to techniques for deployment of both S.O.D. and Patrol Division forces with enhanced effectiveness from the standpoint both of deterrence and of apprehension. S.O.D. Tactical branch forces, properly instructed and deployed, substantially enhance the efforts of local patrol forces responding to robbery and other street crimes. Pounce tactics should be developed to take into account the cooperative (though not necessarily jointly coordinated) efforts of S.O.D. and the Patrol Division in coverage of a District and in response to specific crimes.

Specific areas of future Pounce tactical development that have been discussed with S.O.D. officials include:

1. Measures for combined blocking against vehicular escape and search for suspect's escaping on foot.

2. Possible use of both marked and unmarked cars in Pounce search.

3. The phasing in of helicopter search, when available, as a particularly promising counter to vehicular escape.

4. Improved pre-planning of the role of Tactical Branch forces and local District forces in response to robbery (or other crime) in which Pounce is used.

Examination of the recorded events showed that less than half were invoked within 5 minutes of the committing of the robbery. The delay was due to the

victim being unable to report. In some cases the trail was cold for more than half an hour. Since it usually takes 8-10 minutes to enact BLUE FENCE, it is clear that the tactics had little possibility of paying off in these instances.

The probability of success if the criminal steps on the street and if the other conditions of "random search" are fulfilled is about .3 for search beginning 10 minutes after the event. This figure is discussed in Appendix A. Considering each trial as a Bernoulli Trial in the statistical sense (an independent trial in a series for which the probability of success does not change), the modal number would be 3.

The results of a theoretical calculation[30] of how various outcomes would occur illustrates the point that some deviation from the anticipated outcome will occur. Consider an experiment in which the probability of success is 1/3 and 12 independent trials are made.

Number of Successes	Frequency with Which That Number Would be Observed	Number of Successes in 12 Tries (Rounded Off)
0	.008	0
1	.046	0
2	.127	1
3	.211	2
4	.238	3
5	.191	2
6	.111	1
7	.047	1
8	.014	0
9	.003	0
10	.0005	0
11	.00005	0
12	.00002	0

30. Weldon's Dice Data, An Introduction to Probability Theory and Its Applications, William Feller, John Wiley 1950.

Notice that some probability exists of getting 0 or 1 successes at the low end and of getting more than 5 successes.

If the two suspects that were picked up but not formally charged are counted as successes, the experiment consisting of the ten or so valid applications of the technique must be viewed as confirming that the underlying assumptions were representative of the actual situation. That claim, however, cannot be made with any statistical confidence until many more trials are run.

Significance to Washington, D.C.

If, as the theoretical design of the Pounce Tactics suggest, the probability of success (arrest) is .3 on these events when Pounce can be invoked, it is possible to estimate some arrest projections on a city-wide basis. During 1970 robberies occurred at a rate of about 30 per day. Clearance by arrest varies, but in one two-month period in the Sixth District there were about 20 arrests for robbery. Close to 400 robberies occurred in that District during June and July 1970. This is an arrest rate of .05.

Compare that with the potential shown by the experimental BLUE FENCE tactics. Concede that something like half of the events will not, in practice, have the attributes that permit invocation of Pounce. Actually, all robberies are theoretically suitable for Pounce since the elements of victim identification and an estimate of time of commission are potentially always there. Concede also that police availability to enact the pattern is a some time capability unless specific efforts to achieve the capability are made by Police Command.

If half of the 30 per day, 15, were handled by Pounce, 5-6 successes, or a success rate of about .15 based on all robberies would be expected. This is three times the success rate achieved without Pounce. Furthermore, it may be

that the arrests that result from Pounce may be in addition to the arrests that result from usual police work and the actions of informers.

What does the potential increase in rate of arrests for robbery signify to the professional robber, the recividist? With an arrest rate of .05, the robber can expect to commit 20 offenses without apprehension. There is a finite probability that he could commit many more. When the arrest rate is .2, on the other hand, he can expect to commit only 5 offenses before arrest.

The deterrent effect of improved tactics is expected to result from the increased perception, on the part of the potential or practicing criminal, that the odds are against success. The deterrent effect can be heightened by skillful use of a psychological campaign that might, among other approaches, dramatize the risks of a long jail sentence as compared with the benefits of the usually small "take" from the average robbery. The "take" has been estimated to be $5-$10.

Costs

The preceding section outlines the potential effectiveness of the Pounce Tactics in controlling the robbery problem. What are the costs? Costs should be assessed from the basis of whether resources already exist or not. In Washington, D.C. and in other cities that have specially identified Task Forces or Tactical Forces, it can be argued that the Pounce Tactics come as an essentially free capability since the sources exist and are deployed in high crime areas. Furthermore, the Pounce capability does not detract from most of the other preventive patrol roles that such resources normally have.

If, on the other hand, no such dedicated patrol force exists and must be created, the manpower costs are significant. Each Pounce Unit consists of up to 8 two-man motorized components. Using the rule of thumb that says "five

police officers are required to maintain 3 on the street--24 hours a day" (this allows for days off, court, etc.), 80 highly trained police officers would support 3 Pounce Units. The annual operation cost (salary) for 3 such Pounce Units would approach $1 million dollars or about $300,000 per Pounce Unit per year or $100,000 per watch.

A Pounce Unit cannot cover a large area and still be able to have its components in position in that vital few minutes after the crime is committed and reported. An outside extent of the area that such a unit could handle would be a 5 minute (travel time) square. The size of such "travel time" squares will vary depending upon the residential, industrial, or business nature of the high crime area. In the Sixth District, largely residential, a Pounce Unit might command a 6.25 square mile area. This is, in effect, a square 2.5 miles on a side. The assumed effective speed of response is 30 mph. In the core city, it would be more realistic to deploy a Pounce Unit in 3-4 square miles.

For the City of Washington a possible Pounce force requirement based on the above would be 2 units in the Sixth District, and 1 in each of the First, Third, and Fifth. The high crime part of the Fourth District is contiguous with Three and Five and could be covered by one of the other Pounce Units. This makes a total of 5 Pounce Units to deal with robbery in the high crime areas of Washington. The areas mentioned include the location of about 70% of the total robberies in Washington.

On a basis of deploying the 5 units 24 hours a day costs that could be assigned to the effort are approximately $1.5 million per year. One shift operation could reduce the cost to $.5 million per year to provide the coverage suggested.

During a part of the spring of 1970, some 500 man-days per day were employed. At time and a half (not usually given in Police Departments) this rate of policing amounted to 750 manyears of effort. Little was accomplished during that period against robbery.

Deployment of Pounce Units to 5 high crime areas on a one-shift basis can be accomplished at about 20% of the annual rate of usage of manpower (133 compared with 750).

The significance of that last comparison is that establishment of a Pounce Force within the S.O.D. is cost-competitive with measures that have laready been taken in the past. Such an action has some definite effectiveness and advantages.

Operational Problem Areas in Creating a Robbery Pounce Force in Washington

The Metropolitan Washington Police Department has official U.S. Governmental demands placed upon it that are approached only by those placed upon the New York City Police Department. During most of the six months when the project was in the field experimentation phase, the resources of the WMPD and of S.O.D, in particular, were pre-empted for service during state visits of important foreign individuals, political demonstrations of every conceivable kind, and nearly 6 weeks of riot duty. Demonstrations and riots leave an impact of reduced strength due to court appearances, participation by officer in various aspects of departmental investigation and disciplinary processes, and the taking of "time due".

In Washington the S.O.D. is specially trained in the activities of crowd control and the management of civil disorders. Thus, the burden of national unrest falls automatically on this segment of the WMPD. The problem of keeping specialized units like the Pounce Units applied to the mission is experienced

in other major city police departments. In Chicago the Patrol Task Force and the District Tactical Unit are "fair game" for assignment to everything from parades to the control of violence inthe schools.

Pre-emption of crime control assignments by other functions is part of the explanation for the seemingly desultory attempts to evaluate the Pounce Tactics in field use. With robbery occurring at the rate of 30 per day, there have to be other reasons for trying experimental tactics only about 15-20 times in six months. These reasons are:

a. Initial inadequacy of radio communication equipment.

b. Poor radio reception capability where S.O.D. deployed for at least 2 of the 6 months.

c. Limited number of units trained in BLUE FENCE procedures (about 20 men total).

d. Pre-emption of S.O.D. resources for other crime control activities like bank stake-outs, narcotics raids, etc.

In some proportion, these difficulties will arise if the Pounce Unit idea is implemented or if some other city attempts to apply these concepts. Then difficulties result from the basic fact that the resources that are available to a police administrator are scarce resources. The application of these resources in response to the various demands that are placed upon the department--any department--results in a "juggling act". That response to stimulus, wherever initiated, is the rule rather than the exception in police management casts doubt or suggests caution in making predictions about the potential contributions to crime control that may result from creation of specialized units like the Pounce Units.

Assessments

From the standpoint of the project staff, the foregoing discussion has indicated the promise of coordinated tactics to respond to robbery complaints.

This promise and feasibility of the Pounce Tactics is also recognized by those charged with its execution. The tactical approach has recognized utility even in the face of competing demands. Appendix D, a letter from the Commander of the S.O.D. Tactical Branch, outlines both resource management problems and operational interest.

Short Patterns

The full pattern for the Pounce Tactics calls for 8 motorized units--one in each octant centered on the point where the crime was committed. The effectiveness of the tactics is degraded in an approximately linear manner as the number of available units decreases from 8. Two options exist. Available manpower can be spread uniformly so that each of 6 units, for example, would take a 60° sector and 4 would cover a quadrant (90° sector).

If there is any information about direction of flight or knowledge by the officer in charge of the Pounce Unit that there might be a preferred axis of flight--leading perhaps to some kind of sanctuary; then the available manpower should be concentrated in the escape sector.

Use of short patterns was not specifically experienced in the workup period--a fact that may account for some of the failures to use the experimental tactics when less than the full squad was available.

Countering the Countermeasure of "Holing Up" Close to the Scene of the Crime

The premise underlying BLUE FENCE was that the robber would operate in a neighborhood in which he was not known since otherwise a complaint by the victim would bring prompt arrest. It is surprising, therefore, tofind in the sample of robbery arrests several in which the offender lived within a few

blocks of the scene of his crime. The fact that in other instances the robber sought refuge in a close-by store, bar, public building or event private residence is to be expected--particularly if the offender believes that someone may have described him for the police.

Street search by the Pounce Unit alone cannot counter the "hole-up" tactic. In the great majority of events premise by premise search is neither feasible from the standpoint of manpower availability or acceptable to the great majority of citizens who passionately wish to avoid becoming involved or who, for a variety of complex reasons, may be actually hostile to the police.

If this problem is viewed as a pure police problem about all that can be done is search of bars, bus station, and other public or semi-public areas. However, it is precisely at this point that the departmental efforts to win Community support--one of the "program packages" listed in the resource analysis budget--can provide assistance to the police. The reason that the police can expect assistance in many cases is that all segments of the population have a common desire for peace and order. Crimes against persons and property are more prevalent in the "core" city but are no more condoned by the majority of residents than they would be by residents in more affluent sections or in the suburbs.

This desire for the freedom to live without fear of crime has been documented by social researchers--the most extensive being that conducted by the National Opinion Research Center of the University of Chicago for the President's Crime Commission. There is no question that the majority want to help--not hinder--the police.[31]

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31. Project members met with citizen groups in the Sixth District and heard repeated pleas for more police presence or a method of reducing robbery and drug abuse.

Community support programs or programs that are designed to explain police problems and needs to the public and to gain from the people whom the police serve both moral support and direct aid. Such programs can be far more specific than the stereotyped "policeman is your friend" type that forms the core of most police community programs in major city police departments. In the enlisting of public assistance in controlling the robbery problem, the needs of the police can be made quite explicit. For example, on a neighborhood-by-neighborhood basis the robbery problem should be explained. The distinction between the daytime purse snatcher in the Sixth District and the night-time violent robberies in the Third District should be explained to the citizen. The assistance the public can give is varied. First, the must be a prompt notification of the police. The importance of time must be stressed. Second, the cardinal points in obtaining a workable description of the assailant. The difficulty of this is recognized. Trained police officers in a classroom setting can have great difficulty in describing an individual seen fleetingly. The difficulty is obviously compounded by fear, excitement, and perhaps other circumstances. Nevertheless, this step--the initial description--is vital to the police and for the most part is in the hands of the victim.

A third point to stress is the description of any unique item--uniqueness is defined in relation to the circumstance. A "newsboy" who engineered a purse snatch may be differentiated from others if he possesses a $10 bill.

A further point to stress is that the police need the information about "unusual" happenings. There is a substantial likelihood that a street occurrence or a sudden, furtive moment by an individual in the street will be observed by one or more persons. Such individuals must be encouraged to volunteer this information, either directly to a cruising unit or by telephone on a specially

listed (and advertised) "hot-line". The telephone would avoid some of the problems of retaliation that exist if an individual is seen talking to the police. Again, the importance of time must be stressed.

Both Washington and Chicago Police officials responded that public education programs have been tried and usually do not work. The project staff agrees and advances some reasons:

a. Lack of presistence.

b. Fizziness of message.

c. Failure to pinpoint target audience.

d. Reliance on "Public Service" spots in the media--spots that occur after the late-late show or at dawn.

e. Loss of impact through dull repetition. An example of the point is the droning statistics about weekend traffic accidents put forth by the National Safety Bureau. Yet, the U.S. still experiences 60,000 highway deaths per year.

Public Eyes for the police - The point of the above is not to attach previous programs like "Operation Crime Stop" in Chicago but rather to call attention to the need to communicate with and receive the benefits from participation by the community in the general crime control campaign and specifically that directed against robbery.

If such a program were successful, the effect would be to provide the police with vastly expanded "eyes". The potential contribution of these "eyes" can be discussed in analytical terms. The purpose of such a discussion is to provide some assessment of the potential benefits to the police that might result from the community support program costs.

Suppose, as a result of the community support program activities, and a police program specifically oriented to educating the public about robbery in

their neighborhoods, there came into existence n "observer" in a given area, A. Now, there is no way of assuring that the "observer" will be distributed in the neighborhood in any orderly fashion. There may be 2 in one block, none in another, 3 in the third, and so on. There is no assurance either at any given time which of the "observers" will be "on-duty", physically present and observing the street with an acuteness of observation that arises from the community support program sponsored by the police.

One of these observers, if he is actually on or near the street (or alley) commands a length, 1, of the part of the street in front of him. This length, of course, will vary for different observers depending upon his location with respect to the street or alley he views. In the discussion, 1 is an average distance.[32]

Some fraction, f, of the n, observers, will be available--purely by accident probably[33]--and will command fnl distance. Designate the total distance of streets and alleys in the high crime areas of interest as L. The fraction $\frac{fnl}{L}$ is the probability that some event for which the detection range is 1 will be observed if it occurs in the region where total distance is L. Strictly speaking, this formula assumes non-overlapping coverage. No meaning attacks to probabilities in excess of 1.

Some Examples of How a Robbery Watch Works

Peak robbery hours generally lie in the 1800-2400 time period. Other peaks occur in shopping areas around closing time. Convenience food stores

32. The distance, 1, can be experimentally verified.

33. An "observer" becomes available when, for example, he goes out on the porch for a smoke. This discussion emphasizes the chance nature of participation by the "observer".

and gas stations present special problems since they become targets when other opportunities are denied.

Assume that the availability of concerned participants in the Robbery Watch is about .5 and that they can command a sweep of 2 blocks (.25 miles) from their vantage points--one block on either side. (Project staff verified that a white-shirted individual walking fast was clearly visible for 2 city blocks at dusk.) Except for short sprints a robber escaping on foot can be expected to have a speed of about 4 miles per hour. (The scouts' pace, 50 steps walking and 50 running, gives one a speed of 5 miles per hour.) If a time of 15 minutes is chosen, the criminal could travel one mile from the scene of the event. In a square mile of city there are about 16 linear miles of numbered and lettered streets and an additional 8 miles of alley. So in this example, estimate 75 miles for the value of L, in the circle of radius 1 mile from the event.

The following table shows the probability that at least one member of the robbery watch will have the opportunity to sight the robber calculated as the number of participants is varied.

Probability That at Least One Member of the Robbery Watch will have Opportunity to Sight Robber Escaping on Foot as a Function of Members of Observers in Area

Number, n	Probability
1	.002
3	.005
10	.02
30	.05
100	.2
300	.5

Now there are 600 blocks in 75 miles of city streets so 300 participants (half actually available) is a density of only about 1 in every other block.

This density is comparable with the volunteer "block mother" program in which residents place a sign in a window to indicate to school children that an adult is home and available if needed. In many neighborhoods in Chicago there are several participating families in each block.[34]

If participation in the robbery watch reached levels of one per block (or higher percentage availability than was assumed in the example) the probability of at least one additional sighting of the offender would be a new certainty.

Operational exploitation of information from the Robbery Watch - There are several ways in which the information derived from the Robbery Watch might be implemented by the police. Examples of the informational potential are given here. It remains for the actual development of the "Robbery Watch" concept to show which of several alternative means of communication would be most effective.

A distributed "watch" has the potential to help establish a track on an individual. This results from a series of sighting reports. Use of the track will help the police refine the area for intensive search for the offender. Negative reports are also of some utility. If no suspicious activity or sighting occurred after a robbery in an area covered by a robbery watch, it can be suspected that the assailant "holed up" nearby and intensive search should be carried out in likely refuges near the scene of the crime.

This Pilot Grant Project has concentrated on the problem of catching robbers who escape on foot. Obviously, a robbery watch has the potential for

34. The simplest scheme is to provide a special police telephone number to which Robbery Watch volunteers would give information. Visible police activity in a neighborhood would serve as a stimulus for the volunteer to contact the number to report suspicious activity or to receive lookout information. Other ideas include one of single frequency radios (2-way) from which the watch received information and from which it transmits back.

yielding description of the escape vehicle, if one is used and the initial direction of flight. Blocking action on the ground and assignment of helicopter surveillance from the air on the basis of the descriptive information should enhance the probability of apprehension.

Covert versus Overt Robbery Watch - If participation by citizens in a high robbery incidence neighborhood does come about, one of the factors to consider is whether the programs should be overt or covert. Covertness protects the participating individuals and, until compromised, may enhance the visibility of offender actions. Overtness, on the other hand, may have a greater deterrent effect. If the robbery watch participant had a window card to display, a would-be robber noticing the frequency with which he encountered the signs should be led to an assessment that street robbery, at least, can be risky.

IX. A PLAN OF ACTION TO COMBAT ROBBERY IN WASHINGTON

In summary of the foregoing discussion, the following action plan is proposed. In view of the seriousness of the robbery problem--over 1,000 robberies per month--this action plan should be given urgent consideration. Portions of the plan, those directly involving police resources, can be implemented immediately. The portions of the plan that are based on community participation require additional staff development and detailed planning but could be initiated within about one month from the "go ahead" date.

The major steps in this plan and the principal participating agencies are listed below:

Task 1 - Establish a robbery control task force

This agency under the immediate supervision of the Mayor or Deputy Mayor should bring together the resources of Public Safety, Police and Fire, plus other city departments, communications facilities, training facilities,

and most important, information media available to the city. This agency will coordinate all operation aspects of the campaign against robbery. The principal components of the robbery campaign are public information and education, community support activities (like the "robbery watch" program), and programs to improve the use of police resource in apprehending offenders. This Robbery Control Task Force should also undertake to identify feasible longer range activities that will reduce the robbery problem. Admittedly, this action plan is oriented to the immediate relief of a situation approaching crisis proportions and is, therefore, directed at the symptoms and only peripherally at causes.

It is a matter of administrative convenience as to where the Robbery Control Task Force should be located. The Police Department has the major operational responsibility, but the Office of the Mayor has greater resources to apply to public information, public education, and to the recruitment of community support.

Membership of the Robbery Control Task Force would, for example, consist of the Deputy Mayor, the Chief of Police, the Head of the Department of Corrections, a representative from the Court, a senior individual from the school system, and a prominent citizen representative from each of the neighborhoods identified as having acute robbery problems. The working staff of the Robbery Control Task Force would consist of the Project Director; community liaison agent; representatives of the S.O.D., Patrol Division, Crime Analysis Section and Robbery Section of the Police Department; and a staff analyst.

The function of the staff is to develop and suggest detailed plans and approaches, to supervise the development of the community support programs, and to evaluate progress. Variation in procedure or tactics will be recommended on the basis of concurrent analysis of progress.

Task 2 - Police Department establish S.O.D. Pounce units in as many high robbery incidence areas as feasible

This report identifies 5 high robbery incidence areas. Discussions with Deputy Chief Theodore Zanders indicates that it may not be feasible to dedicate 5 Pounce units but that a lesser number is practical. Priority should be established by up-to-date incidence analysis. The 14th Precinct area is one in which strong community support may exist.

Task 3 - Police Department institute revised procedures for allocating District manpower to the response function

There are several alternative approaches to improving availability of units during the hours of high robbery incidence. Application of the Chicago ORTF hand-geographical method of resource allocation [35] is believed to be feasible in Washington. An alternative is to use additional (overtime) resources in a dedicated mission application. Whichever approach is taken, the goal is to reduce the response time in the robbery event. Increased availability is the key to such reduction.

Task 4 - Police Department develop Public Education and Information Programs concerning robbery in Washington

Lead in developing the program rests with the Police Department. The point of public contact should probably be the Community Relations Officers in the districts. Staff support should be furnished by the Crime Analysis Section, the S.O.D. Command, and the Robbery Bureau. Cooperation of radio and television media could be arranged through the Press section of the District Government.

The content of the public information and education program should be specified to each of the robbery pounce unit areas. To the maximum extent

35. See Appendix C.

possible the nature of the robbery problem should be explained. Point out who the victims are, what was taken, the extent of injuries to the victims, the circumstances of the cases. List do's and don't's. Arrange, possibly with the help of television media, a method for sharpening the observational skills of potential victims.[36] Disseminate simple lookout forms that can be used for the initial flash message. Stress the importance of quickly summoning police assistance.

Task 5 - Police Department develop, recruit for, and implement robbery watch programs in the areas to be covered by Pounce units

The various potential contributions to borh deterrence and apprehension of robbers are described in this report. The Robbery Watch Program is conceived as consisting of city employees and volunteers. Again, the neighborhood lead responsibility rests with the district community relations officer who is in a position to contact local civic groups. Through the Office of the Mayor contact can be made with city employees who may participate.

It is expected that the degree of citizens' cooperation and willingness to become involved will vary among the 5 initial target areas. On the basis of some direct contact, the Principal Investigator would expect a fair degree of cooperation in the old 14th Precinct Area, perhaps somewhat less in old 11. It may be advisable to implement the Robbery Watch serially in the respective areas, so as to learn the problems of working with casual resources.

Side benefits of the robbery watch program - It is expected that the Robbery Watch Program will also yield increased accuracy in reporting of burglary, auto theft, and other street assaults. However, in order to obtain

36. As discussed earlier in this report, the success of the police tactics depends heavily on timely and accurate lookout information.

forces and to win maximum support in the community from the people who are the potential robbery victims, it is suggested that the major emphasis on citizen participation be in connection with robbery.

X. CONCLUSIONS

Coordinated police tactics of the Pounce (BLUE FENCE) type against robbery are operationally feasible using standard police communications procedures and equipment.

The success of coordinated anti-robbery tactics depends critically on the prompt (within a few minutes) execution of the pattern after a robbery is committed and on the quality of the description of the offender.

Every effort should continue to obtain a preliminary descriptive lookout at the time of the initial complaint by the victim; however, prompt response to the scene by a patrol unit continues to be important in the use of coordinated tactics for the obtaining of better information, description of stolen property, the rendering of aid to the victim if required, and in obtaining positive identification of the offender if he is picked up by the other tactical elements that are mobilized for the event.

In Washington present deployments and workloads for the regional units preclude prompt response to a robbery complaint. A suggested revised procedure that should be effective and feasible in Washington is given in this report.

The potential increase in robbery cleared by arrest is 300-400% of current experience at no increase in costs. Actual costs associated with the creation of designated Pounce Units in the high robbery centers in Washington are 10-20% of the costs incurred by the WMPD in its massive overtime program of spring 1970.

In support of the campaign to control robbery there are some actions that can be taken under the Police Community Support Program. A robbery education program for the citizen in neighborhoods plagued with robbery should stress the importance of prompt reporting, identification and observational procedures, and the kind of information needed by the police in search for an offender.

This education program should be continuing, specific, and simple, and should use all media but make particular use of face-to-face discussions with groups in the community.

Consideration should be given to establishing a "robbery watch" in the 5 high robbery areas in the city. This "robbery watch" would consist of volunteer residents in the community who would assist the police by reporting unusual activity or the sighting of a fleeing suspect. Such reports would enhance search for the suspect trapped within the Pounce area. Computations show that good coverage can be obtained with the support of a comparatively small number of people.

Another approach is to install surveillance equipment in high robbery incidence areas. As little as 50% coverage of streets and alleys could give high probabilities of detection of events that can be correlated with victim complaints as a means of focusing the search by the police. Mixed volunteer and technological approaches should be further explored.

XI. RECOMMENDATIONS

The following steps should be considered and tested vigorously for at least six months:

1. Establish at least one robbery Pounce Unit--8 cars--in each of the 5 high robbery incidence areas in the District of Columbia. These areas are in the First, Third and Fifth Districts plus two separate centers in the Sixth District that correspond roughly to the old Fourteenth and Eleventh Precinct areas. The Sixth District units should work mid-afternoon to sunset; the other from 1800 to 0200.

2. Develop and execute a specially oriented robbery education program for the public in each of the Pounce Unit areas. Every effort should be made to secure meighborhood cooperation with the police and to use neighborhood pressure on the offenders or potential offenders.

3. Develop a pilot "robbery watch" program and test it in the Fourteenth Precinct area and in one of the core city Pounce Unit areas in conjunction with the education program.

REFERENCES

1. Blumstein, A., Science and Technology Task Force Report to the National Commission for the Administration of Criminal Justice, 1967.

2. Bottoms, A. M., and Nilsson, E. K., "Operations Research Management Science and Law Enforcement: The Results of the Chicago Demonstations Project", The Police Chief, May 1970.

3. Bottoms, A. M., Nilsson, E. K., Olson, D., et al, "Resources Allocation in the Chicago Police Department", Final Report of Operations Research Task Force, Chicago Police Department, October 1969.

4. Nilsson, E., and Gersch, W., Chicago Operations Research Task Force Report Two: The Program Budget, January 1969.

5. "Crime and Criminal Justice", Operations Research for Public Systems, Philip M. Morse, Editor, The MIT Press, Cambridge, Mass. 1967.

BIBLIOGRAPHY

1. Bottoms, A. M., Nilsson, E., and Olson, D., "Operations Research in a City Police Department", Technology Review, June 1970.

2. Churchman, C. West, The Systems Approach, Delacorte Press, New York 1968.

3. Heller, Dr. Nelson, and the St. Louis Police Department, Various Reports.

4. Larson, R., et al, Various Reports from the New York Rand Institute.

5. Zwick, Charles, Systems Analysis and Urban Planning, Rand Corporation 1963.

6. Final Report, St. Louis Resource Allocation Project, St. Louis Police Department, 1969.

Memorandum for the Distribution List

Subject: Coordinated Trapping Procedures - Appendix A
Final Report "Police Tactics Against Robbery"
by A. M. Bottoms.

The author is indebted to Mr. Joseph Kauffmann of the Northwestern University Traffic Institute for calling attention to an error in the formulation of the trapping geometry as applied to escape along intersecting streets and alleys. The locus of points that can be reached in a given time by an escapee travelling at constant speed is a square that is oriented so that its diagonal lies along a cardinal direction of escape; e.g. north or east.

The equation x+y=c describes the constant speed escape situation in two dimensions. The graph of the equation is a straight line intersecting the x and y axes respectively at c. It is symmetrical in all four quadrants.

Sectors such as are used in the Pounce Tactics are obtained by drawing the 45 (NE,NW) lines from the center of the square. These lines bisect the sides of the square.

Please delete the portions of Appendix A that discuss the ellipses and the discussions of the construction of the elliptical templates.

In the tactics tested the additional area searched, because the circular templates rather than square templates were used, is $\pi r^2 - 2r^2$
This is a potentially important decrease in the area requiring close search.

Recommendations to replace the circular template with a square one for use in the Pounce Tactics are being made.

Albert M. Bottoms

APPENDIX A

COORDINATED TRAPPING PROCEDURES

Introduction

The probability of arrest is strongly related to the elapsed time between a criminal event and the arrival of police at the scene (time late). The probability of arrest dropped significantly in a study made in the Los Angeles area when time late increased from 4 to 6 minutes. Everyday traffic congestion alone increases the difficulty of reducing time late to as little as 4 minutes.

The number of units required to contain an offender in an area and institute methodical search can be estimated by use of analytical relationships. Quantities can be verified by actual test. A knowledge of absolute force requirements is a prerequisite to cost-benefit analyses and the allocation of resources among competing alternatives.

Most Police Departments employ cooperative tactics, based on voluntary response, for "lookout" or "flash" messages. This involves the patrol of quadrants to seal the scene of a crime rather than having all units proceed to the scene by the most expeditious route.

This tactic has the advantage of minimizing radio traffic, thus enabling a zone dispatcher to handle other calls for service. A disadvantage is that the assigned beat car and his supervisor does not know the extent to which containment has been effected by the dispatcher.

In 1960 the St. Louis Police Department experimented with coordinated tactics known as the "St. Louis 100 Plan". This plan employed the use of hexagonal templates based on elapsed time to position blocking units. Experiments showed better than 60% success in apprehending individuals attempting to elude the police.

Methodology

Area of Uncertainty - If the criminal is not constrained to follow streets, the area of uncertainty is the area of a circle whose origin is the scene of the criminal event and whose radius is given by the produce of the velocity with which the criminal can flee and the time-late. In this somewhat abstract case, the area of uncertainty, A, is given by

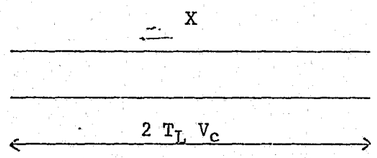
$$A = \pi (T_L V_c)^2$$

where T_L = Time Late

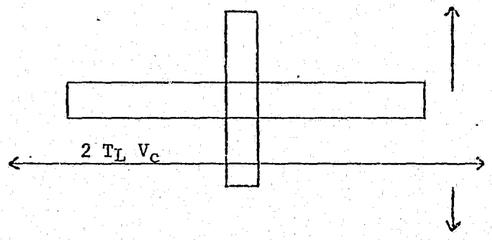
V_c = Velocity of the criminal.

This case might approximate the situation where a criminal having familiarity with a region can flee in almost any direction using gang-ways, basements, and rooftops as well as streets.

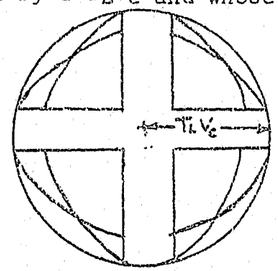
When the fleeing criminal is contrained to streets and alleys the geometry of the area of uncertainty becomes more complex. Along a single road, the area of uncertainty is a rectangle having as its long asix the distance equal to twice the product of time-late and the criminal escape velocity.



At or near an intersection, the geometry and distances are depicted below:



It can be shown that use of a zig-zag pattern along perpendicular intersections, streets and alleys at constant speed leads to area of uncertainty whose shape is the area enclosed inside two intersecting ellipses whose major axes are given by 2 $T_L V_c$ and whose minor axes are given by $T_L V_c$.



The circle whose radius is $T_L V_c$ encloses both ellipses. One idea is to place a blocking or barrier element at each intersection representing the maximum time late distance and the streets. Slightly less area would be included if a template using the intersecting ellipses were prepared.

When initial direction of flight is known, this area of uncertainty can be approximated by a single ellipse* whose major axis is oriented to the direction of flight. The area of the uncertainty ellipse is given by:

$$A = \pi (T_L V_c)^2 / 2$$

Knowledge of the entire area involved is of great importance in "hot search" tactics.

If criminal flight is not constrained to streets and alleys, blocking force requirements will be determined by the perimeter of a circle or

$$C = \pi d = 2 \pi T_L V_c$$

The perimeter is the important parameter in this case because escape can be made at any point of the perimeter, and the blocking units must be positioned uniformly around the circle.

* Strictly speaking if quadrant of flight is known the area of uncertainty is the area enclosed by two quarter ellipses that intersect at right angles.

A case of practical importance occurs when flight is constrained to streets and alleys and the blocking positions are the intersections of streets and alleys with the parameter of the area of uncertainty. The geometrical problems can be further reduced if information exists about the quadrant and dominant direction of flight.

Some Theoretical Considerations - The outcome of a search of an area for suspects is described in terms of the probability of arrest. This probability is the result of the joint occurrence that the subject is detected by a searching unit, that the subject is identified as the individual being sought, and that a physical arrest is made. In order to make use of the probabilistic concepts in estimating how many searching units are necessary to yield acceptable probabilities of success, it is necessary to state the probabilistic events in terms of quantities that are physically measurable.

Let P be the probability of successful search, identification, and arrest of a suspect:

Pd = conditional probability of detection given search in a suspect probability area, SPA.

Pi = conditional probability that the suspect will be identified if detected

Pa = conditional probability of physical arrest given identification

These conditional probabilities can be computed as follows:

(a) Pa

It is assumed that the conditional probability of physical arrest given identification is nearly unity. Some possibility exists that the subject will break free or that one or more subjects will escape in a multiple arrest situation.

(b) Pd

This quantity is related to the detection law that governs a policeman detecting an individual in his immediate vicinity. In general the eye is the detection device although on occasion aids such as dogs or night vision devices may be used. The most common situation, unaided visual detection, may be described to a first approximation as following a definite range law.

The definite range law states that all targets existing within range X of the detecting unit will be detected; none beyond range x will be detected.

Studies of the process of visual detection have produced empirical methods for estimating detection range in terms of contract between target and background, relative elevation of search and target, and extent to which smoke and haze are present. For street application it is important to know contrast and whether the search is a daytime search or at night.

Each searcher will be able to search area of $2xrt + \pi x^2$ where X is the effective detection range.

T is the duration of search

r is the rate of search

A single search unit, searching for time T will search a fraction of the total SPA, A, given by

$$\frac{2xrt + \pi x^2}{A} = \begin{cases} Pd & (2xrt + \pi x^2) < A \\ 1 & (2xrT + \pi x^2) \geq A \end{cases}$$

Assuming the definite range law, the above is also the probability of detection for a suspect that may be located anywhere in the area. When n units are searching and under the assumption that there is no appreciable overlap in their search the Pd is estimated by

$$\frac{n(2xr\ t + \Pi\ x^2)}{A} = \begin{cases} Pd \text{ when } n\ (2xr\ t + \Pi x^2\ \ A \\ 1 \text{ when } n\ (2xr\ T + \Pi x^2\ \ A \end{cases}$$

Forestalling - The same relationships hold if the problem is considered from the standpoint of the criminal and if he uses his detection range of the police to avoid contact. If X', the criminal detection range for the police, is greater than X, the police detection range for the criminal, the criminal can avoid detection unless the searching units are coordinated so that it is impossible for the criminal to stay outside any of the police detection circles.

It should also be pointed out that criminal attempts to use radical evasive actions may serve to call attention to his presence, thus effectively increasing the value of the police detection range, X.

Identification, P_I - The probability of identification of a suspect depends critically on the nature of the information. It is particularly important that distinguishing information be obtained. A person in bizarre dress or employing a distinctive automobile for escape may be identified simultaneously upon entering the detection circle. In other situations identification may only be possible by searching the individual. This act requires the searching unit to approach the suspect and expend some time in the search. Time expended in approaching and interrogating suspects is time lost from the basic search so the formulae in the preceding section must be corrected to account for the delays due to "false" targets.

Let tf be the time expended in search of m non-productive street stops. The effective coverage then becomes

$$\frac{n\ 2xr\ (t - m\ t_f) + \Pi\ x^2}{A} = P_d$$

CONTINUED

1 OF 2

if all searching units are similarly deployed. This correction is valid if m t_f is smaller than t.

When the total of m t_f approaches t the searching unit becomes immobilized and they can investigate only a fraction of the targets detected.

Directions for Construction of Templates

1. Determine scale of base map (inches per 1,000 ft.)
2. Locate foci on major X axis of ellipse.
3. Cut string 2 at length.
4. Attach ends at foci of ellipse.
5. With pencil in bight of string stretched tight, trace ellipse.
6. Use ellipse as pattern to cut out acetate template.

Template for Operation Blue Fence

A. Escape by Foot

Assume 3 mi/hr. for inconspicuous escape

5 mi/hr. for running escape

3 mi/hr

Time Late	Semi-major axis (a)		Semi-miner axis (b
		a	b
5 min.	$\frac{5280 \times 3}{12}$ = 1.320 ft. =	2.64	660 ft.
15 min.	$\frac{5280 \times 3}{4}$ = 3.960 =		1980
30 min.	$\frac{52801.3}{2}$ = 7.920		3960

5 mi/hr

5 min	2200	1100
15 min	6620	3300
30 min	13200	6600

B. Vehicular Escape

Assume 10/hr. for inconspicuous escape

15/hr for uncluttered streets

10 mph	(a)	(b)
5 min	4.400	2200
15	13.200	6600
30	26.400	13200
15 mph	6.600	3300
5	19.800	9900
35	39.600	19800

Calculation of Location of Foci of Escape Ellipses

Foot escape	a^2	$-b^2$	$a^2 - b^2 \times 10^6$	$a^2 - b^2 \times 10^3$
3 mph	1.74×10^6	$.434 \times 10^6$	1	1.15
	15.65×10^6	3.92×10^6	11.75	3.43
	12.5×10^6	15.65×10^6	46.85	6.85
5 mph	4.84×10^6	3.68×10^6	4.68	1.92
	43.5×10^6	10.9×10^6	32.6	5.72
	174.0×10^6	43.4×10^6	130.6	11.45
Vehicle escape				
10 mph	19.36×10^6	4.84×10^6	14.52	3.81
	174.6×10^6	43.6×10^6	130.6	11.45
	696.0×10^6	174.0×10^6	522.	22.8
15 mph	43.6×10^6	10.89×10^6	32.71	5.72
	394×10^6	98×10^6	296	17.25

Police Search for a Suspect in the Vicinity of a Crime

The purpose of this discussion is to apply some elements of search theory to the special problem of police search for a suspect in the vicinity of a crime. The problem is deliberately simplified for clarity in showing the importance of quick response times and of the availability of adequate search effort at the very outset of the search.

Suppose a crime is known to have taken place at an accurately known time and location, within a city whose streets are laid out on a square grid of a fixed number of blocks to the mile. Suppose further that the criminal leaves the scene of the crime at a speed no greater than U (measured in city blocks per minute), and can randomly choose an escape route along the city streets. Then at time t after the crime, the criminal may be anywhere within a square of diagonal 2Ut centered on the crime, and this square contains $4U^2t^2$ linear blocks of streets to be searched. (The effect of diagonal streets in the city grid, and of alleys and open areas, can be taken into account as a refinement of this analysis.) If N search units arrive in the vicinity of the crime at a time T (in minutes) after the crime, and begin their search of the "localization square" at an effective speed V (city blocks per minute), then the application of random search theory gives the probability P(x) that the suspect will be apprehended within x minutes of the time the search begins:

$$P(x) = 1 - \exp(-C(x)) \qquad (1)$$

where C(x), the "coverage factor" for search time x is given by:

$$C(x) = (NV/4U^2)(1/T - 1/(T+x)) \qquad (2)$$

Equation (2) shows that, for prolonged search, the value of C(x) can rise no higher than a value C* given by:

$$C^* = NV / 4U^2T \qquad (3)$$

Equation (3) shows the effect of number of search units available and of time late in arriving in the vicinity of the crime. The corresponding maximum probability of detection P* is given by:

$$P^* = 1 - \exp(-C^*). \qquad (4)$$

Note that the term "effective" search speed V taken into account both the actual speed V* of the search unit and the probability p that the suspect will be identified by a search unit moving at speed V*, so that V = pV*.

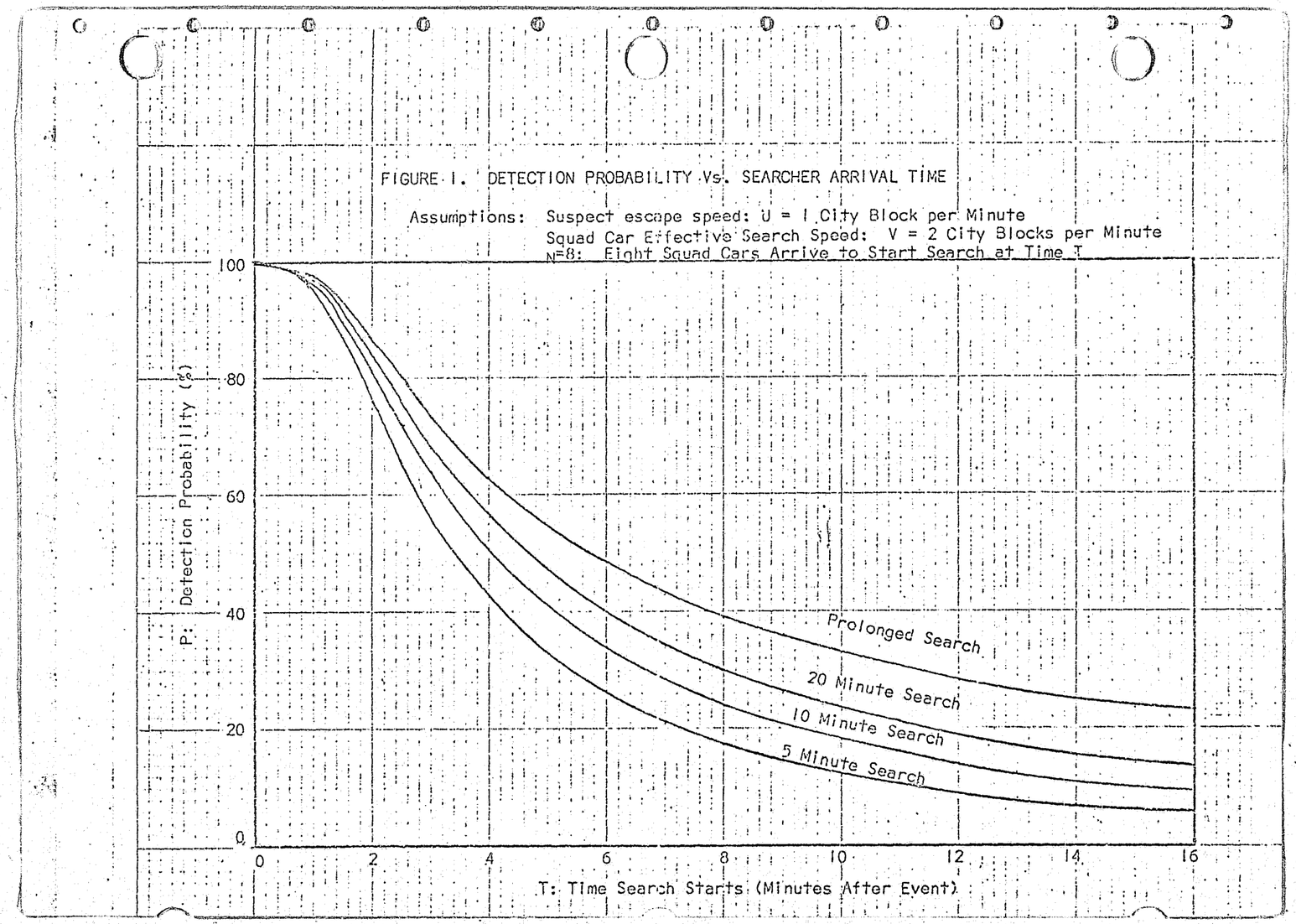
An Example

Suppose we have N squad cars arriving in the vicinity of a crime at a time T after the crime occurred, and starting their search of the streets within the "localization square" at this time. For purposes of the following calculation we assume N = 8 cars, and we assume the suspect's escape speed is U = 1 block per minute. (Similar calculations could as easily be made for any other values of N, U, and V.)

The attached graph shows maximum detection probability P* as a function of arrival time late T after the crime, and also the expected results of 5, 10, and 20 minutes search, to illustrate the fact that the first few minutes of search are likely to be the most productive.

FIGURE 1. DETECTION PROBABILITY Vs. SEARCHER ARRIVAL TIME

Assumptions: Suspect escape speed: U = 1 City Block per Minute
Squad Car Effective Search Speed: V = 2 City Blocks per Minute
N=8: Eight Squad Cars Arrive to Start Search at Time T



APPENDIX B

HAND-GRAPHICAL METHOD FOR DESIGNING RESPONSE FORCE

This Appendix presents a method for estimating numbers of response units needed. This method can be applied without access to computer.

Method

A strong seasonal character of calls for service for the city as a whole is likely to exist in each Police District also. It is possible to employ a linear predictor to estimate calls for service. It is assumed that the calls for service on each day occur in a nearly unvarying pattern. Thus, it is possible to estimate expected calls for service per hour for each hour of the day and each day of the week.

The Chicago ORTF presented the methodology for applying queuing theory to estimate Response Force required units. Figure 1 is a graph of the results obtained by computer where the inputs were rate of arrival of calls for service per hour, service time, and number of units. This graph provides for a service level based on the criteria that an incoming call will have to wait less than five minutes before a unit is free to provide service. Plots are also provided for lesser average waits.

The constraint of minimum travel time is met by creating square beats (within limitations imposed by topography) in which the expected travel time does not exceed 3 minutes.

The "no-wait" case is illustrated as an example.

INSTRUCTIONS FOR USE OF BEAT

CAR ASSIGNMENT GROUPS

1. Enter at left with number representing calls for service expected.
2. Proceed to curve that represents district experience at time of day.
3. Draw line to intersection with bottom scale. This tells number of cars needed.

Ex. Calls for service = 5/ hour

Service time = 20 min.

Cars needed = 6

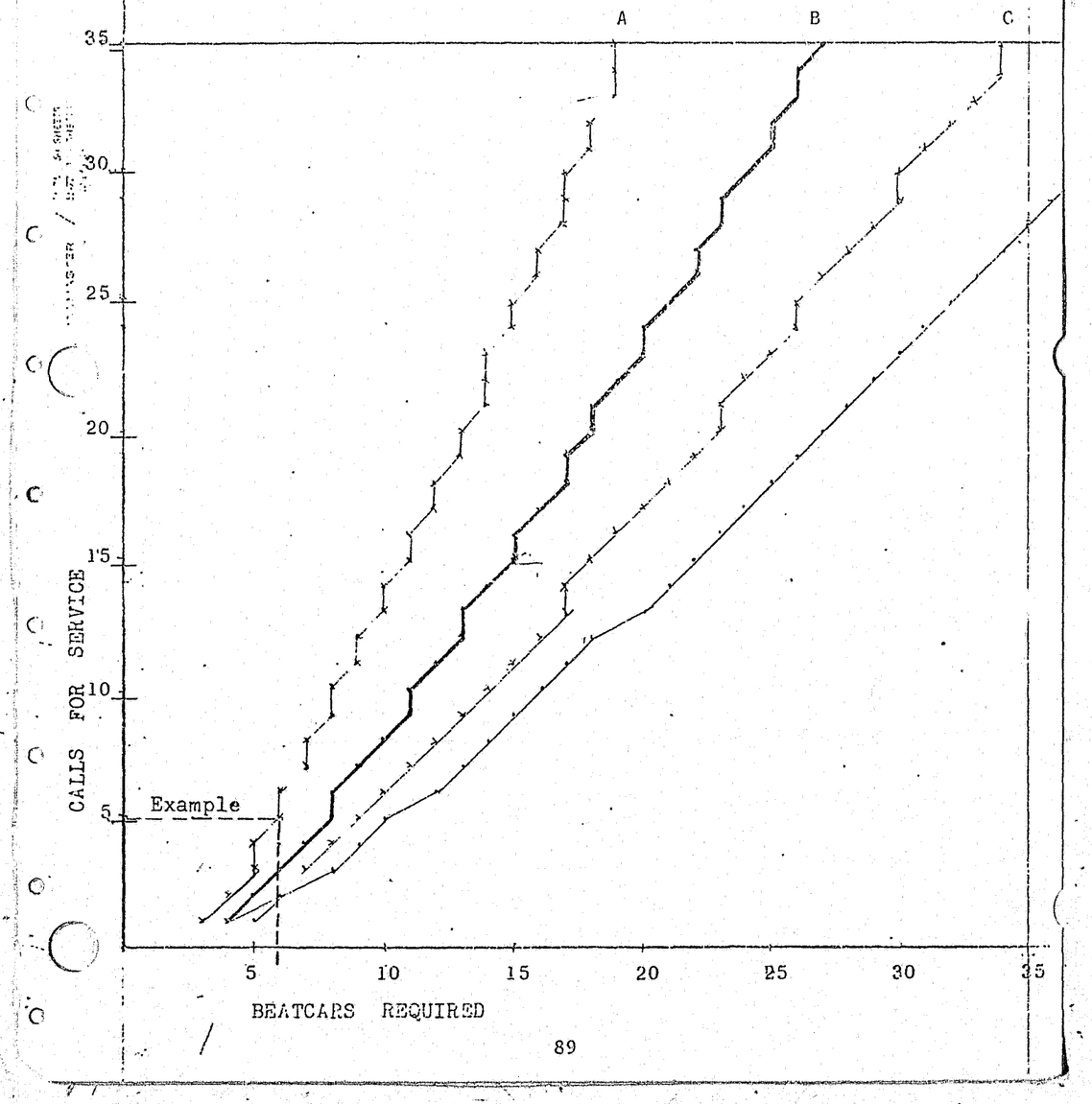
For average wait of an available car less than 6 seconds

FIGURE 1

NUMBER OF CARS TO LIMIT THE AVERAGE WAIT FOR AN AVAILABLE CAR TO 0.10 MINUTES (6 seconds)

A= 20 minute
B= 30 minute
C= 40 minute
D= 50 minute

MEAN SERVICE TIME



APPENDIX C

SUMMARY OF INDEX CRIME, INDEX ROBBERY, AND NON-INDEX ROBBERY BY REPORTING AREA

July 1970 - April 1971

This summary of data was obtained from the Washington Metropolitan Police Department and is included herein for future analytical and statistical purposes.

APPENDIX D

FIRST DISTRICT

"A" - Total Index Crime
B - Index Robbery
C - Other Robbery (Purse Snatching, etc.)

	Cal. Yr. '70			Jul '70			Aug '70			Sep '70			Oct '70			Nov '70			Dec '70			Jan '71			Feb '71			Mar '71			Apr '71			CB
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	
**	352	86	26	30	7	2	30	4	3	20	7	2	28	7	0	25	6	1	26	4	1	13	6	1	23	8	2	16	4	0	19	7	0	424
	389	93	24	26	10	1	35	13	2	45	10	4	35	8	1	23	5	0	22	2	0	16	2	2	30	3	2	15	3	2	18	5	1	
	530	58	15	55	5	1	48	6	0	37	4	2	34	3	1	62	0	2	31	2	3	23	3	3	44	4	0	30	7	2	30	2	3	
**	508	113	30	56	9	1	58	19	4	30	5	0	29	7	0	47	14	3	35	8	2	27	5	2	35	11	2	37	10	1	17	4	0	427
**	286	169	34	64	15	1	71	18	4	54	11	2	69	16	3	74	15	5	43	17	3	59	25	0	54	14	4	43	11	2	61	11	7	
	289	20	7	28	0	1	26	1	1	21	2	0	24	1	0	27	4	0	15	3	1	22	9	0	13	2	2	11	0	0	23	1	0	
	239	105	32	79	12	3	69	8	1	53	9	4	71	14	2	52	5	4	49	8	4	50	8	3	50	7	3	46	4	1	55	1	4	
	883	154	131	77	18	10	68	16	12	78	10	10	79	17	17	69	5	15	46	5	9	61	7	8	41	6	2	55	19	3	40	6	5	
	354	70	29	33	5	3	21	5	0	19	8	0	31	6	1	24	7	2	28	8	5	24	8	2	21	2	4	26	5	2	17	2	2	
	182	21	12	23	1	1	14	2	2	15	2	1	17	2	1	12	1	2	13	6	0	16	4	0	26	3	2	13	2	0	10	1	0	507
	159	16	10	15	3	1	8	0	0	7	1	0	13	0	0	13	2	1	15	3	2	9	1	0	7	0	1	12	2	2	7	2	0	
	334	42	14	36	3	3	26	1	1	21	0	0	33	4	2	27	5	0	26	3	1	35	3	2	39	5	1	26	0	3	29	1	1	
	213	49	11	28	8	2	17	3	1	10	2	0	11	1	0	9	3	0	19	4	3	12	4	0	8	0	0	18	1	1	11	1	0	
	328	81	10	32	11	1	25	5	0	30	4	1	19	3	0	16	2	2	17	6	4	24	7	2	19	6	0	12	3	1	11	1	0	
	398	83	19	23	5	1	37	5	3	33	4	0	36	8	2	36	10	2	31	3	1	20	2	1	29	10	0	16	3	0	26	4	0	
	285	54	16	23	2	2	17	0	1	25	6	0	29	6	2	26	3	3	28	4	1	33	4	4	18	6	0	12	1	2	36	7	1	513
	428	72	51	33	5	5	39	3	6	42	8	1	49	8	7	25	8	1	46	8	5	34	5	4	28	2	1	23	0	5	22	4	7	
	737	124	43	63	16	4	55	11	2	41	8	0	55	12	5	70	20	1	62	11	9	43	0	8	44	4	4	34	11	5	41	8	5	
	221	51	16	23	9	4	21	8	1	16	3	1	14	4	0	16	3	2	21	5	2	12	5	1	14	6	0	9	1	1	12	2	0	
	503	78	23	46	9	3	41	4	4	48	11	1	31	5	3	27	7	2	26	3	1	27	6	5	21	3	4	29	4	2	17	4	0	
	49	3	0	4	0	0	4	0	0	4	0	0	2	0	0	3	0	0	1	0	0	1	0	1	3	1	0	3	1	0	1	0	0	
	20	4	1	0	0	0	2	0	0	1	0	0	2	2	0	1	0	0	1	0	0	1	0	0	2	0	0	4	0	0	2	0	0	519
	197	6	5	13	0	0	9	4	0	15	0	1	15	0	0	20	0	0	24	0	0	15	1	0	13	0	2	18	11	1	15	1	0	
	1030	133	47	71	5	4	76	11	4	80	10	5	64	8	2	87	18	6	88	11	10	75	9	6	75	13	4	61	7	4	55	6	3	
	872	101	54	62	11	3	82	12	8	59	4	5	96	6	3	70	3	5	90	12	7	83	8	11	77	9	7	69	4	3	67	2	3	
**	991	144	78	74	8	6	87	19	7	75	11	2	76	14	9	83	10	6	70	8	8	78	8	6	80	10	6	100	15	7	95	11	9	
**	549	68	40	40	5	3	34	3	3	40	4	3	63	7	2	55	9	5	23	3	1	30	2	4	35	6	2	44	7	4	32	3	6	
	43	3	1	3	1	0	6	0	0	4	0	0	6	1	0	1	0	0	0	0	0	9	0	0	8	0	0	3	0	0	1	0	0	
	33	2	0	2	0	0	1	0	0	2	0	0	2	0	0	2	0	0	3	0	0	3	0	0	1	0	0	1	0	1	1	0	0	
	50	0	2	3	0	1	5	0	0	5	0	0	3	0	0	2	0	1	2	0	0	6	0	0	3	1	0	2	0	0	3	0	0	
	68	1	0	10	0	0	3	0	0	1	0	0	4	0	0	7	0	0	4	0	0	5	0	0	8	0	0	6	0	0	2	0	0	536

FIRST DISTRICT (Cont'd.)

A - Total Index Crime
B - Index Robbery
C - Other Robbery (Purse Snatching, etc.)

	Cal. Yr. '70			Jul '70			Aug '70			Sep '70			Oct '70			Nov '70			Dec '70			Jan '71			Feb '71			Mar '71			Apr '71			CB
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	
	46	3	1	4	0	0	2	0	0	4	0	0	1	0	0	2	0	0	7	0	0	4	0	0	3	1	0	8	0	0	6	0	1	537
	195	15	3	20	2	0	14	1	1	11	0	0	19	2	0	20	1	1	8	0	0	9	1	2	8	3	0	9	0	0	6	0	0	
	331	37	10	32	4	2	20	2	0	17	2	2	24	3	1	27	4	1	37	5	3	16	6	0	25	4	0	20	4	1	18	3	1	
	250	26	13	10	4	1	15	0	0	19	2	2	16	2	0	19	4	0	29	3	3	21	2	1	18	1	1	16	6	2	10	1	1	
	97	6	2	5	0	1	10	0	0	6	0	0	10	1	0	5	0	0	4	1	0	6	1	1	7	2	0	11	0	1	7	0	0	
	138	16	4	16	2	1	11	0	1	9	2	0	10	2	0	8	0	0	11	0	1	8	1	1	5	1	0	7	0	0	3	2	0	
	114	7	5	9	1	0	10	1	0	5	1	0	8	0	0	5	0	0	5	0	1	9	0	0	8	0	0	6	0	1	8	0	0	
	85	3	9	6	1	2	8	0	2	5	1	0	9	0	1	3	0	0	3	0	1	3	1	2	5	1	2	1	0	0	7	0	0	
	188	9	1	21	0	0	16	0	0	10	0	0	23	1	0	9	1	0	9	2	0	6	3	0	13	0	0	5	1	0	2	0	1	
	177	17	5	13	0	0	16	0	1	16	3	1	22	1	0	9	2	0	17	1	1	20	8	1	18	2	2	11	2	0	13	1	0	
	54	2	1	3	0	0	4	0	0	2	0	0	4	0	0	5	0	0	2	0	0	7	0	0	2	0	0	3	0	0	3	0	0	
	19	1	0	1	0	0	0	0	0	3	0	0	2	0	0	3	0	0	1	0	0	1	0	1	1	0	0	4	0	0	5	0	0	
**	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	383	48	10	32	2	0	18	2	1	25	1	0	35	5	0	31	8	1	30	4	2	22	0	1	37	10	3	32	5	2	8	1	0	
	294	38	6	27	1	0	15	2	0	15	1	1	22	6	0	22	2	0	22	3	0	23	3	1	24	4	0	23	6	1	18	5	2	
	100	19	2	4	1	0	11	2	0	9	0	0	8	4	0	3	0	0	5	0	0	6	3	0	8	4	0	14	4	0	4	1	0	
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	14	0	1	0	0	0	2	0	0	1	0	1	0	0	0	1	0	0	2	0	0	3	0	0	1	0	0	2	1	0	2	0	0	
	112	9	5	11	1	2	7	0	0	9	0	0	6	1	0	5	1	0	6	1	0	8	0	2	5	0	2	11	3	0	7	0	0	
	519	135	30	52	12	3	47	10	2	33	14	0	43	15	1	46	14	3	35	8	4	45	15	3	37	17	2	30	9	3	23	10	2	
	404	66	21	49	7	2	39	8	4	27	2	0	36	4	1	24	4	1	27	3	2	22	4	0	36	5	1	32	7	2	30	11	4	
1**	361	62	13	33	5	0	29	9	1	13	2	0	29	6	1	26	2	0	22	6	2	30	4	2	24	2	0	31	4	3	29	3	1	
2**	362	230	92	112	32	3	76	18	4	57	25	2	59	20	2	72	30	4	66	15	3	61	12	4	46	11	3	64	28	4	46	11	1	
6**	656	173	24	70	17	3	63	22	3	60	12	2	62	15	2	47	18	0	56	16	10	56	15	7	33	5	2	45	3	2	40	0	2	
7**	474	105	20	48	12	2	24	5	2	25	8	3	51	15	3	43	12	1	44	6	4	54	13	1	44	9	2	58	9	5	50	5	0	
8	371	67	14	34	6	0	21	3	2	29	4	0	42	7	1	18	2	0	30	6	2	28	2	7	18	3	1	19	3	1	30	0	1	
9	415	121	21	42	15	0	37	12	2	23	6	3	35	9	1	32	8	3	23	9	2	23	6	1	24	7	2	20	6	0	17	8	4	
0	209	24	8	28	3	0	17	4	1	11	1	0	15	3	1	9	0	1	20	4	2	12	1	1	18	3	3	16	4	0	17	2	2	
1	257	33	10	30	0	0	13	5	1	25	4	0	23	4	0	14	3	0	23	1	1	17	2	2	13	1	2	21	2	1	17	0	1	
4	324	46	30	38	7	3	42	11	7	20	7	0	18	7	3	19	3	1	25	10	1	17	5	2	22	7	2	20	4	1	15	4	2	
TAL	20075	3372	1092	1814	318	92	1623	298	105	1410	242	62	1674	303	81	1539	285	88	1465	251	128	1403	260	119	1373	245	85	1337	238	85	1219	165	83	

SECOND DISTRICT

A - Total Index Crime
B - Index Robbery
C - Other Robbery (Purse Snatching, etc.)

Cal. Yr. '70			Jul '70			Aug '70			Sep '70			Oct '70			Nov '70			Dec '70			Jan '71			Feb '71			Mar '71			Apr '71			CB
A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	101
11	0	0	1	0	0	1	0	0	1	0	0	3	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2
26	1	0	1	0	0	1	0	0	5	0	0	3	0	0	2	0	0	1	0	0	1	1	0	1	0	0	1	0	0	3	0	1	3
69	5	1	6	1	0	5	0	0	4	0	0	17	2	1	3	0	0	4	1	0	9	1	0	6	0	0	13	1	1	7	0	0	104
70	8	1	4	0	0	11	1	0	8	1	0	3	0	0	7	0	0	4	1	0	4	0	0	7	0	1	2	0	0	3	0	0	105
99	2	2	11	0	0	7	0	0	7	0	0	8	0	0	11	0	1	12	0	0	9	1	2	5	0	0	15	1	0	9	0	0	6
15	4	0	1	0	0	2	0	0	1	0	0	0	0	0	2	1	0	1	1	0	1	0	0	1	0	0	2	0	1	1	1	0	7
248	34	10	27	5	1	19	5	0	11	0	0	27	6	2	14	2	1	13	2	1	23	3	3	18	2	1	12	2	1	19	3	1	8
186	45	4	17	2	0	18	6	0	16	5	1	13	3	0	22	5	2	18	7	0	7	2	0	13	0	1	12	0	2	20	3	0	9
149	18	5	12	0	0	15	2	0	8	0	0	14	2	2	10	3	0	10	0	1	13	0	0	8	1	0	10	0	0	15	0	0	10
283	21	10	26	0	1	30	0	1	15	1	0	30	4	0	25	2	0	21	1	4	32	3	1	22	2	0	34	2	1	22	2	5	111
172	20	3	14	2	0	18	5	0	10	1	1	21	1	0	21	2	0	14	2	0	13	2	1	15	1	1	14	2	0	22	1	1	112
161	15	4	7	1	1	12	2	0	8	0	0	15	3	0	24	0	1	13	0	1	7	0	0	12	1	0	12	2	0	8	0	1	113
119	2	0	19	0	0	12	0	0	6	0	0	9	0	0	16	1	0	4	0	0	7	0	0	7	0	0	9	1	0	12	1	0	114
35	3	0	3	0	0	6	0	0	2	0	0	6	2	0	1	0	0	1	0	0	0	0	0	2	1	0	4	0	0	3	0	0	115
9	0	2	0	0	0	1	0	0	1	0	0	1	0	0	1	0	0	0	0	0	2	0	0	0	0	0	1	0	0	1	1	0	116
12	1	0	0	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	117
18	1	1	0	0	0	3	0	0	2	0	0	3	0	0	2	0	0	2	0	0	0	0	0	1	0	0	2	0	0	1	0	0	18
8	0	0	1	0	0	1	0	0	1	0	0	0	0	0	1	0	0	2	0	0	1	0	0	0	0	0	0	0	0	1	0	0	19
26	1	0	6	0	0	2	0	0	2	0	0	1	0	0	1	0	0	1	0	0	0	0	0	3	0	0	1	0	0	2	0	1	20
16	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	1	0	0	0	0	0	3	0	0	1	0	1	0	0	0	21
9	0	0	0	0	0	0	0	0	3	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	0	0	0	0	2	0	0	122
32	0	2	2	0	0	2	0	0	1	0	0	1	0	0	5	0	2	1	0	0	5	0	1	2	0	1	6	1	1	3	0	0	123
64	7	0	9	1	0	8	0	0	4	0	0	4	0	0	5	3	0	4	0	0	4	1	0	3	0	0	3	0	0	4	0	1	124
120	0	1	13	0	0	14	1	0	15	2	0	14	0	1	12	0	0	6	0	0	16	0	0	11	0	1	17	2	0	11	0	0	25
28	2	2	3	0	0	3	0	0	1	0	1	3	0	0	2	0	0	2	0	0	1	0	0	1	0	0	5	0	0	4	0	0	26
0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27
20	1	1	1	0	0	4	1	0	2	0	0	2	0	0	0	0	0	3	0	1	1	0	0	3	0	0	3	0	0	0	0	0	128
11	0	0	0	0	0	3	0	0	1	0	0	2	0	0	0	0	0	1	0	0	1	0	0	2	0	0	1	0	0	1	0	0	129
10	0	0	0	0	0	1	0	0	1	0	0	2	0	0	1	0	0	3	0	0	1	0	0	2	0	0	2	0	0	0	0	0	130

SECOND DISTFICT (Cont'd.)

A -- Total Index Crime
B - Index Robbery
C - Other Robbery (Purse Snatching, etc.)

	Cal. Yr. '70			Jul '70			Aug '70			Sep '70			Oct '70			Nov '70			Dec '70			Jan '71			Feb '71			Mar '71			Apr '71			CB
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	
9	102	11	2	9	0	0	11	1	0	13	0	1	5	1	0	4	2	0	11	1	0	1	0	0	5	3	0	4	0	0	9	1	0	209
0	79	6	1	9	2	0	5	1	0	14	0	0	4	1	0	4	1	0	6	0	0	8	0	0	7	0	1	4	0	0	5	0	1	
1	58	7	3	4	1	0	10	2	0	5	0	1	4	2	0	7	0	1	2	1	0	5	0	2	5	0	2	8	0	1	3	0	0	
2	47	6	1	4	0	0	8	0	0	10	3	0	3	0	0	2	0	0	3	1	0	4	1	0	4	2	0	2	0	0	4	0	0	212
7	51	4	1	4	0	0	1	0	0	3	0	0	10	1	0	6	0	0	5	1	1	6	0	0	8	1	0	4	0	1	7	0	0	
3	128	7	3	6	0	0	0	0	0	16	2	3	21	0	1	18	0	0	12	0	0	8	1	0	4	0	0	11	0	1	7	0	0	
9	145	6	9	12	1	0	8	0	0	11	0	1	13	1	0	10	0	2	20	1	2	7	0	1	8	0	0	8	2	0	2	0	1	
0	20	2	0	1	0	0	1	0	0	2	0	0	1	0	0	1	0	0	5	0	0	0	0	0	2	0	0	2	0	0	2	0	0	
1	13	0	2	1	0	0	0	0	0	3	0	1	1	0	0	1	0	1	1	0	0	1	0	0	1	0	0	0	0	0	0	0	0	
2	34	4	1	2	0	0	3	1	0	3	0	0	3	1	0	1	0	0	1	1	0	0	0	0	4	0	0	3	0	0	1	0	0	222
3	54	3	3	3	1	0	7	1	0	5	0	0	6	0	1	4	1	1	5	0	1	0	0	0	1	0	0	6	0	0	9	0	3	223
8	58	6	1	10	1	0	3	0	0	8	0	0	3	1	0	4	0	0	6	3	0	4	0	1	2	0	0	5	2	0	2	0	0	
5	59	5	3	1	0	0	8	1	1	5	0	0	8	2	0	5	0	1	3	0	1	4	0	0	4	0	0	5	0	0	4	0	0	
0	51	9	2	3	0	0	7	0	0	5	0	1	6	2	0	4	0	0	2	0	0	2	0	0	6	2	0	5	0	0	2	0	0	
1	43	2	0	7	0	0	4	0	0	5	0	0	3	0	0	5	0	0	4	1	0	5	1	0	1	0	0	4	0	0	1	0	0	
2	251	22	14	15	0	0	14	1	3	22	0	1	26	1	0	24	4	1	27	4	1	16	1	0	20	2	1	12	4	1	12	1	2	232
3	5	0	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	2	0	0	2	0	0	5	0	0	1	0	0	233
4	24	5	1	0	0	0	4	2	0	2	0	0	1	0	1	2	1	0	2	0	0	2	0	0	3	0	0	2	0	0	0	0	0	
5	79	7	1	9	2	0	8	0	0	8	1	0	7	0	0	5	0	0	4	1	0	3	1	0	5	1	0	4	0	0	6	0	0	
6	97	8	4	11	1	0	11	0	2	14	2	1	9	0	0	8	0	0	4	2	1	3	0	1	4	0	0	7	1	0	15	1	2	236

SECOND DISTRICT (Cont'd.)

A - Total Index Crime
B - Index Robbery
C - Other Robbery (Purse Snatching, etc.)

	Cal. Yr. '70			Jul '70			Aug '70			Sep '70			Oct '70			Nov '70			Dec '70			Jan '71			Feb '71			Mar '71			Apr '71			CB
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	
*	90	12	6	6	1	0	10	1	0	11	3	0	9	2	0	4	2	0	7	0	1	7	0	0	8	1	0	5	1	1	4	1	1	237
	297	27	9	31	2	0	26	2	1	21	1	0	26	7	2	19	3	2	17	0	2	18	2	1	17	4	1	21	1	1	24	2	0	
	130	6	1	15	2	0	7	1	0	4	0	0	22	1	0	5	0	0	5	0	0	2	0	0	8	3	0	7	0	0	7	1	0	
—	27	2	0	4	0	0	1	0	0	3	1	0	2	0	0	0	0	0	2	0	0	1	0	0	1	0	0	1	0	0	3	1	1	240
—	22	2	0	6	0	0	0	0	0	0	0	0	2	0	0	2	1	0	0	0	0	2	0	0	2	0	0	3	0	0	4	0	0	241
*	794	213	47	4	18	4	45	10	0	41	10	3	75	23	3	77	29	9	52	20	8	51	12	7	48	8	0	51	7	4	35	5	1	337
*	540	82	10	41	7	0	42	5	2	42	9	2	35	10	3	42	11	5	36	6	1	48	5	9	36	5	2	32	10	2	22	1	1	
*	467	57	12	38	3	0	47	7	3	24	6	0	37	5	2	26	2	0	27	0	1	40	5	3	30	3	1	23	1	1	33	2	2	
	29	4	0	2	0	0	4	1	0	3	1	0	3	1	0	0	0	0	2	0	0	1	1	0	5	0	0	2	0	0	3	0	0	
—	82	17	1	8	1	0	9	2	0	7	4	0	3	2	0	6	1	0	0	0	0	4	1	0	6	0	0	6	0	0	2	0	0	343
*	510	68	13	44	7	2	53	4	0	47	8	1	35	4	0	34	7	1	35	4	4	40	3	2	34	2	2	42	7	2	40	2	2	
*	285	21	7	36	1	0	32	3	0	26	2	1	17	1	1	23	3	1	10	1	0	12	2	1	14	0	0	17	2	1	21	3	0	
*	798	61	23	69	6	2	76	8	2	52	2	1	60	0	4	54	6	1	49	2	2	65	2	2	57	1	2	77	3	4	49	3	1	
*	664	54	10	50	4	3	46	5	0	44	1	0	36	3	1	50	3	1	35	2	2	37	2	2	40	0	2	42	4	1	38	1	0	
*	839	105	32	79	12	3	69	8	1	53	9	4	71	14	2	52	5	4	49	8	4	50	8	3	50	7	3	46	4	1	55	1	4	
*	991	144	78	74	8	6	87	19	7	75	11	2	76	14	9	83	10	6	70	8	8	78	8	6	80	10	6	100	15	7	95	11	9	523
—	81	7	5	4	0	0	7	0	1	4	1	0	3	0	0	2	0	0	6	2	0	3	0	0	4	1	0	4	0	1	7	0	0	524
	498	22	17	47	3	2	44	1	2	40	1	0	49	1	0	46	4	2	32	2	3	34	2	3	30	1	1	49	0	3	32	2	2	
	1000	47	23	84	4	1	68	4	4	74	4	0	106	5	4	88	1	3	63	4	1	103	1	3	69	2	2	75	3	3	76	5	3	
	310	21	8	22	3	0	27	5	0	25	0	0	22	0	1	31	1	0	25	0	2	14	0	1	14	0	0	17	2	0	19	3	0	
	277	21	8	26	2	0	21	1	1	30	3	0	28	3	2	23	1	2	17	0	1	16	3	0	29	1	1	14	1	1	20	0	0	
—	420	22	19	31	2	1	27	2	1	27	0	0	43	3	3	38	3	4	32	4	1	25	4	2	21	1	2	34	2	0	27	2	0	529
—	128	7	3	12	0	0	13	0	0	4	0	0	9	1	0	5	0	0	14	1	2	4	1	0	8	0	0	11	0	0	6	0	0	530
	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
**	549	68	40	40	5	3	34	3	3	40	4	3	63	7	2	55	9	5	23	3	1	30	2	4	35	6	2	44	7	4	32	3	6	
	51	3	1	3	1	0	3	0	0	1	0	0	5	0	0	3	0	0	5	0	1	4	0	0	1	0	0	0	0	0	7	0	0	
**	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	550
TL	13306	1410	489	1134	114	30	1111	125	35	998	99	30	1176	150	48	1074	130	60	881	99	60	929	83	53	893	75	37	1007	93	49	926	64	54	TOT

THIRD DISTRICT

A - Total Index Crime
B - Index Robbery
C - Other Robbery (Purse Snatching, etc.)

	Cal. Yr. '70			Jul '70			Aug '70			Sep '70			Oct '70			Nov '70			Dec '70			Jan '71			Feb '71			Mar '71			Apr '71			CB
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	
**	794	213	47	64	18	4	45	10	0	41	10	3	75	23	3	77	29	9	52	20	8	51	12	7	48	8	0	51	7	4	35	5	1	337
**	540	82	19	41	7	0	42	5	2	42	9	2	35	10	3	42	11	5	36	6	1	48	3	0	36	5	2	32	10	2	22	1	1	
	418	40	16	37	4	0	47	5	4	36	3	4	40	5	2	32	7	3	42	7	2	38	8	4	26	4	3	30	8	0	26	1	2	
	727	123	42	64	11	3	58	16	0	48	9	5	51	16	1	58	8	7	61	7	8	70	10	9	71	8	3	53	7	4	48	3	5	
**	467	57	12	38	3	0	47	7	3	24	6	0	37	5	2	26	2	0	27	0	1	40	5	3	30	3	1	23	1	1	33	2	2	341
	510	68	13	44	7	2	53	4	0	47	8	1	35	4	0	34	7	1	35	4	4	40	3	2	34	2	2	42	7	2	40	2	2	
	821	150	16	63	12	0	77	14	3	56	15	0	65	14	3	46	10	0	55	15	2	58	6	4	66	4	6	46	8	3	50	7	1	
	156	45	20	16	7	0	7	1	0	5	1	0	15	2	2	13	3	1	11	2	1	22	7	3	8	1	1	9	2	0	7	3	0	
**	357	68	31	28	7	2	26	1	7	29	4	0	38	10	2	39	7	4	21	8	5	26	4	3	23	0	4	23	3	2	13	1	2	
**	879	183	40	76	18	2	71	11	2	61	10	9	80	25	2	85	18	5	69	17	5	67	16	3	82	8	5	72	10	6	40	9	2	
	612	117	35	38	12	0	43	7	3	59	8	3	48	13	1	48	11	7	41	17	8	45	14	3	49	11	4	40	7	1	29	4	1	413
	505	90	17	41	3	3	34	4	0	35	3	1	36	9	2	51	13	2	39	15	3	44	11	4	42	3	2	32	3	1	29	5	1	
	116	31	5	12	1	1	9	2	0	8	0	1	12	0	0	5	3	0	4	2	0	7	2	1	5	0	0	8	2	0	9	3	0	
	188	31	10	10	2	1	14	1	1	18	3	1	22	4	1	15	1	0	18	4	2	22	4	2	9	0	1	11	2	1	7	1	0	
	382	57	23	25	2	0	38	3	1	29	1	1	28	5	1	30	6	2	25	6	2	36	6	1	16	2	1	22	3	1	25	4	1	
	664	69	27	59	5	4	56	5	3	40	2	1	45	7	0	60	3	2	45	9	2	52	10	1	45	5	2	36	4	0	30	2	1	
	435	76	25	30	7	1	44	8	3	40	11	2	34	1	2	33	2	1	37	7	2	33	5	5	29	9	1	21	2	0	24	3	1	419
	540	108	21	55	11	2	51	5	2	40	9	1	42	8	2	39	6	1	35	10	1	37	3	0	28	4	2	45	3	3	28	7	2	
	982	190	34	99	24	2	98	14	0	81	28	1	92	21	4	53	9	2	50	4	6	70	6	4	57	6	3	55	13	2	62	5	5	
	815	196	41	58	13	5	71	26	5	85	16	4	74	21	4	62	17	3	57	13	4	58	16	4	51	11	5	43	8	2	32	4	3	
	585	109	21	36	9	1	60	13	1	46	9	1	48	7	3	41	4	5	45	13	0	40	9	3	47	14	2	40	10	2	40	6	1	
**	352	86	26	30	7	2	30	4	3	20	7	2	28	7	0	25	6	1	26	4	1	13	6	1	23	8	2	16	4	0	19	7	0	
**	508	113	30	36	9	1	58	19	4	30	5	0	29	7	0	47	14	3	35	8	2	27	5	2	35	11	2	37	10	1	17	4	0	427
**	786	169	34	64	15	1	71	18	4	54	11	2	69	16	3	74	15	5	43	17	3	59	25	0	54	14	4	43	11	2	61	11	7	
**	798	61	23	69	6	2	76	8	2	52	2	1	60	9	4	54	6	1	49	2	2	65	2	2	57	1	2	77	3	4	49	3	1	
**	664	54	10	55	4	3	46	5	0	44	1	0	36	3	1	50	3	1	35	2	2	37	2	2	40	0	2	42	4	1	38	1	0	
**	839	105	32	79	12	3	69	8	1	53	9	4	71	14	2	52	5	4	49	8	4	50	8	3	50	7	3	46	4	1	55	1	4	
**	1000	47	23	84	4	1	68	4	4	74	4	0	106	5	4	88	1	3	63	4	1	103	1	3	69	2	2	75	3	3	76	5	3	526
AL	16462	2739	693	1346	240	46	1409	228	58	1177	202	50	1351	271	54	1279	230	78	1105	231	82	1258	211	79	1130	151	67	1070	159	49	944	110	49	TOT

FOURTH DISTRICT

A - Total Index Crime
B - Index Robbery
C - Other Robbery (Purse Snatching, etc.)

	Cal. Yr. '70			Jul '70			Aug '70			Sep '70			Oct '70			Nov '70			Dec '70			Jan '71			Feb '71			Mar '71			Apr '71			CB
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	
	11	0	0	1	0	0	2	0	0	3	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	201
	23	0	0	1	0	0	2	0	0	3	0	0	4	0	0	1	0	0	2	0	0	1	0	0	3	0	0	0	0	0	2	0	0	
	14	0	0	1	0	0	3	0	0	3	0	0	0	0	0	0	0	0	1	0	0	2	0	0	1	0	0	3	0	0	1	0	0	
	28	0	0	7	0	0	1	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2	0	0	0	0	0	5	0	0	
	58	8	0	5	0	0	5	1	0	1	0	0	4	0	0	4	1	0	2	1	0	3	0	0	2	0	0	2	1	0	5	0	0	205
	16	0	0	2	0	0	1	0	0	1	0	0	2	0	0	2	0	0	1	0	0	0	0	0	0	0	0	2	0	0	1	0	0	6
	15	4	0	0	0	0	2	0	0	0	0	0	2	0	0	5	3	0	0	0	0	1	0	0	1	0	0	1	0	0	1	0	0	7
	61	11	1	8	2	0	8	0	0	3	1	0	3	1	0	4	1	0	3	1	0	6	1	1	2	1	0	4	2	0	7	0	0	8
	55	5	1	3	0	0	6	1	0	6	1	0	7	1	0	2	0	1	2	0	0	2	0	0	2	0	0	4	1	0	4	0	0	13
	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	14
	10	0	0	0	0	0	2	0	0	1	0	0	1	0	0	1	0	0	1	0	0	1	0	0	1	0	0	0	0	0	0	0	0	215
	115	8	2	20	1	0	18	1	0	11	1	0	11	1	0	3	0	1	5	1	0	7	0	1	9	3	1	6	0	0	16	2	0	16
	43	4	1	3	0	0	1	0	0	1	0	0	4	2	0	8	1	0	2	0	0	2	0	0	1	0	0	2	0	0	3	0	0	26
	11	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27
	29	3	1	5	0	0	2	0	0	2	0	0	3	0	0	3	1	0	4	0	1	0	0	0	2	1	0	1	0	0	0	0	0	28
	35	9	1	4	0	0	6	1	0	3	1	0	1	0	0	1	0	0	3	0	1	2	2	0	1	1	0	1	0	0	1	0	0	29
**	90	12	6	6	1	0	10	1	0	11	3	0	9	2	0	4	2	0	7	0	1	7	0	0	8	1	0	5	1	1	4	1	0	237
	36	2	0	2	0	0	3	0	0	2	0	0	2	1	0	4	1	0	3	0	0	1	0	0	2	0	0	1	0	0	4	0	0	301
	91	11	4	6	1	0	4	2	0	4	0	1	7	2	0	7	1	0	13	1	0	5	1	1	3	0	0	6	1	0	6	0	0	302
	155	20	9	10	2	0	21	2	1	8	1	0	20	0	2	16	1	2	9	2	0	13	3	6	14	5	1	3	1	1	10	1	1	303
	113	19	8	8	1	0	7	0	0	6	0	0	12	1	0	14	2	1	5	2	0	7	0	2	7	1	0	6	2	0	6	1	1	304
	69	14	5	8	0	0	7	0	0	8	0	1	4	1	1	12	3	0	5	1	0	4	1	0	5	1	1	2	1	0	4	0	1	305
	138	13	2	14	1	0	7	0	0	18	0	0	19	1	0	11	2	0	12	2	1	7	0	1	5	0	0	1	0	0	7	0	0	306
	139	21	4	8	0	0	10	0	0	15	1	0	12	3	0	15	4	0	10	1	0	8	1	1	8	2	0	8	0	1	10	0	1	7
	89	16	1	4	1	0	7	0	0	9	1	1	8	2	0	10	4	0	4	1	0	5	2	0	6	3	0	4	1	0	3	0	0	8
	102	13	5	9	2	0	6	0	0	7	0	2	17	1	0	8	4	0	10	3	1	4	0	0	7	1	2	8	1	1	8	2	0	9
	96	12	4	11	2	0	13	1	1	12	1	2	7	0	0	8	2	0	8	3	0	11	0	0	10	4	1	8	3	0	7	2	0	10
	94	13	2	10	1	1	12	0	0	7	0	0	11	2	0	4	2	0	8	0	0	15	2	0	11	1	0	10	4	0	5	0	0	11

FOURTH DISTRICT (Cont'd.)

A - Total Index Crime
B - Index Robbery
C - Other Robbery (Purse Snatching, etc.

B	Cal. Yr. '70			Jul '70			Aug '70			Sep '70			Oct '70			Nov '70			Dec '70			Jan '71			Feb '71			Mar '71			Apr '71			CB
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	
2	121	6	2	6	1	0	7	0	0	9	0	0	16	1	0	16	1	0	8	0	0	6	1	1	9	1	0	5	0	0	10	0	0	312
3	84	12	0	14	1	0	8	0	0	11	1	0	6	1	0	11	5	0	9	1	0	5	0	0	3	0	0	2	0	0	7	0	0	
4	20	2	1	1	0	0	0	0	0	5	1	0	2	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	0	2	0	0	
5	15	3	0	0	0	0	3	1	0	2	0	0	0	0	0	1	0	0	2	1	0	1	1	0	0	0	0	0	0	0	1	0	0	
6	229	35	20	16	2	0	22	1	4	22	3	0	24	3	2	21	7	3	25	4	6	19	2	1	18	6	2	14	3	1	15	0	1	
7	196	41	18	20	4	0	18	6	0	9	3	1	13	3	2	17	1	1	8	1	2	10	2	0	12	4	1	10	1	0	11	1	2	317
8	133	24	8	11	1	0	6	1	0	10	5	0	12	4	0	10	2	1	14	3	2	14	6	1	19	4	1	9	1	0	6	2	1	316
9	107	14	2	13	0	1	10	1	0	6	0	0	6	0	0	12	3	0	10	2	1	4	2	0	10	1	0	9	3	1	11	0	0	
0	195	35	13	19	0	1	13	1	0	14	4	1	14	2	1	25	4	2	14	5	1	15	4	2	16	5	2	13	4	1	5	1	1	
1	200	31	10	12	3	0	9	1	0	13	1	0	19	3	0	35	8	3	17	1	2	23	2	0	19	2	0	20	2	1	11	2	0	
2	252	40	9	29	2	0	27	6	0	22	2	1	15	1	1	27	0	0	12	6	1	7	3	0	13	2	0	9	1	0	9	2	0	
3	215	31	16	16	0	0	16	1	0	18	2	1	20	8	0	20	2	0	13	2	2	14	2	2	15	8	1	17	3	3	10	1	1	323
4	52	5	2	3	0	0	3	0	0	1	0	0	4	1	0	3	1	0	3	1	0	1	0	0	3	0	0	2	0	0	2	0	0	324
5	160	33	8	13	4	0	12	1	0	16	6	1	16	1	0	22	8	0	14	4	1	12	2	1	6	0	0	13	4	2	6	2	0	
6	232	54	20	28	7	1	27	3	3	13	0	3	19	8	2	16	4	2	18	6	0	12	3	0	9	2	0	26	10	3	19	9	1	
7	164	36	3	19	4	0	17	0	0	17	2	0	27	3	0	29	6	1	6	1	0	12	2	1	20	2	0	10	4	2	12	2	1	
8	250	46	16	19	2	1	27	1	2	14	2	0	24	7	0	24	5	1	23	5	1	25	5	2	12	3	0	19	5	3	13	2	2	
9	78	12	0	7	2	0	5	0	0	9	1	0	8	0	0	11	1	0	8	2	0	7	2	1	4	0	0	7	1	0	5	0	0	329
0	120	29	2	4	1	0	10	2	2	12	1	0	18	1	0	17	5	0	14	7	0	5	1	0	13	3	1	10	1	0	4	1	0	330
1	151	28	6	11	3	0	10	0	0	24	2	1	14	3	0	23	6	1	8	2	1	9	4	1	6	0	1	7	1	0	10	2	2	
2	300	47	16	34	2	1	16	0	1	30	4	1	44	5	1	40	10	2	20	6	2	21	3	1	18	3	4	13	1	1	11	4	1	
3	68	17	1	11	2	0	2	0	0	10	3	0	11	0	1	22	4	0	3	0	0	4	1	0	6	4	0	6	2	0	4	1	0	333

FOURTH DISTRICT (Cont'd.)

A - Total Index Crime
B - Index Robbery
C - Other Robbery (Purse Snatching, etc.)

Cal. Yr. '70			Jul '70			Aug '70			Sep '70			Oct '70			Nov '70			Dec '70			Jan '71			Feb '71			Mar '71			Apr '71			CB
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	
	163	30	1	19	1	0	13	2	0	17	2	1	17	5	0	11	5	0	7	4	0	4	0	0	7	3	0	7	4	0	5	1	1	334
	537	69	11	39	5	1	57	1	0	75	5	2	37	4	1	27	6	1	18	4	1	24	3	0	37	2	1	39	3	3	25	2	0	
	786	150	19	67	12	3	87	12	0	65	10	1	64	19	0	57	6	2	42	10	4	40	11	7	42	2	2	55	5	2	43	5	0	
	3	0	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	
	210	50	12	15	0	0	23	2	2	18	6	1	23	10	0	15	6	2	16	3	3	12	1	0	20	4	0	9	1	1	7	1	0	401
	262	53	11	20	4	1	20	3	0	18	2	0	24	6	1	31	5	5	13	3	1	21	8	1	25	12	0	28	5	3	15	1	5	
	77	12	2	5	0	0	8	0	0	3	1	0	6	0	0	10	1	2	6	1	0	4	0	0	7	2	1	6	1	2	11	3	0	
	249	71	29	18	4	1	22	9	2	24	7	3	25	14	2	16	5	1	15	3	3	18	5	3	16	4	3	9	0	2	16	1	3	
	174	36	5	10	2	0	11	1	0	9	1	0	12	3	0	13	3	3	24	8	0	20	3	2	29	5	3	17	1	0	11	0	1	
	346	75	13	30	2	1	26	4	0	36	13	0	29	10	3	33	10	4	18	3	3	11	3	1	24	5	2	16	2	1	17	2	0	
	990	264	40	86	26	0	69	8	9	75	19	2	89	29	2	98	32	7	98	38	3	84	25	6	63	12	2	56	4	5	56	9	4	407
	291	67	28	26	5	0	22	6	1	23	1	3	32	8	4	23	10	2	30	11	3	30	7	3	12	1	3	22	5	3	13	2	1	
	323	99	26	17	4	0	50	15	5	24	3	1	27	3	4	45	15	7	12	4	1	19	5	6	18	3	0	16	1	1	20	2	3	
**	357	68	31	28	7	2	26	1	7	29	4	0	38	10	2	39	7	4	21	8	5	26	4	3	23	0	4	23	3	2	13	1	2	
**	879	183	40	76	18	2	71	11	2	61	10	9	80	25	2	85	18	5	69	17	5	67	16	3	82	8	5	72	10	6	40	9	3	
	70	5	4	8	2	0	7	0	0	7	0	1	4	0	0	8	1	0	4	0	1	5	0	1	1	0	0	4	0	0	4	0	0	
	81	8	13	7	1	1	6	0	1	8	1	0	5	1	0	8	2	3	13	1	1	7	2	1	5	2	0	6	0	0	10	1	3	602
	50	7	0	2	0	0	5	2	0	4	1	0	10	1	0	9	1	0	2	0	0	10	0	0	4	0	0	5	1	0	12	0	0	
**	90	14	4	4	0	0	7	0	1	8	1	0	15	4	0	4	0	0	8	0	0	10	0	2	10	2	1	10	0	0	5	0	2	
**	62	3	5	3	0	0	7	0	1	6	0	0	9	0	1	2	1	0	2	1	0	4	0	1	4	0	0	5	0	1	1	0	1	
	27	3	0	6	0	0	1	0	0	3	1	0	1	0	0	1	0	0	1	0	0	4	0	0	2	2	0	2	0	0	4	3	1	
	117	18	18	10	4	2	11	0	0	14	1	1	2	0	0	8	4	0	13	5	0	5	3	1	11	1	4	10	2	3	4	1	3	
**	153	3	4	15	0	1	12	0	0	14	0	1	13	1	0	13	1	1	16	0	0	11	0	0	21	1	0	15	2	2	19	1	0	617
**	123	10	2	6	0	1	12	0	0	12	3	0	8	0	0	8	0	0	7	2	0	9	0	1	12	0	0	16	2	0	8	1	0	
	33	5	2	2	0	0	2	0	0	8	3	2	2	1	0	5	0	0	0	0	0	1	1	0	3	0	0	1	0	0	2	0	0	
	23	6	0	3	2	0	4	1	0	1	0	0	4	2	0	3	1	0	1	0	0	3	0	0	3	0	0	2	0	0	0	0	0	
	175	48	7	12	1	0	23	6	2	23	9	0	20	8	0	18	7	1	13	0	1	15	5	0	18	6	1	12	9	1	12	6	1	
	57	1	1	6	0	0	5	0	0	3	0	0	4	0	0	9	0	1	7	0	0	18	1	0	5	0	0	7	0	0	9	0	0	
	52	5	6	5	0	1	7	0	1	7	1	0	4	0	1	3	0	0	5	1	0	6	0	0	2	1	0	0	0	0	5	0	0	636
AL	11890	2161	565	1009	156	23	1052	120	48	1023	159	45	1107	239	36	1154	264	73	855	206	63	829	163	69	852	153	51	782	129	60	694	93	51	TOT

FIFTH DISTRICT

A -- Total Index Crime
B - Index Robbery
C - Other Robbery (Purse Snatching, etc.)

	Cal. Yr. '70			Jul '70			Aug '70			Sep '70			Oct '70			Nov '70			Dec '70			Jan '71			Feb '71			Mar '71			Apr '71			CB
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	
	328	81	10	32	11	1	25	5	0	30	4	1	19	3	0	16	2	2	17	6	4	24	7	2	19	6	0	12	3	1	11	1	0	511
*	90	14	4	4	0	0	7	0	1	8	1	0	15	4	0	4	0	0	8	0	0	10	0	2	10	2	1	10	0	0	5	0	2	
	78	10	1	6	0	0	4	1	0	9	1	0	13	1	0	0	0	0	9	2	1	5	1	0	4	0	0	4	0	0	5	0	0	
	87	8	7	3	0	0	8	0	0	10	1	1	8	3	0	2	0	0	3	0	0	9	3	2	4	1	1	4	0	1	11	1	4	
	49	4	0	4	1	0	3	0	0	7	0	0	4	0	0	5	0	0	3	0	0	4	0	0	2	0	0	4	0	0	8	0	1	
	176	16	8	14	1	1	13	2	1	16	0	0	14	1	0	17	0	1	12	0	1	9	0	0	10	1	0	17	2	1	12	0	1	
	81	7	0	5	0	0	9	0	0	7	0	0	9	4	0	5	1	0	4	0	0	3	1	0	3	0	0	12	1	0	6	1	0	
	49	4	0	7	0	0	6	0	0	4	1	0	4	0	0	2	0	0	8	2	0	1	0	0	1	0	0	2	1	0	3	0	0	
	61	4	1	7	1	1	7	1	0	9	0	0	6	0	0	5	2	0	1	0	0	6	1	0	5	0	0	8	1	0	3	1	0	
	51	7	0	2	1	0	2	0	0	5	1	0	4	0	0	6	0	0	8	0	0	4	0	0	3	0	0	5	0	0	1	0	0	
	65	4	3	6	0	0	11	2	1	7	0	0	5	0	0	6	0	0	5	0	1	5	0	0	6	1	0	5	0	0	4	1	0	
**	62	3	5	3	0	0	7	0	1	6	0	0	9	0	1	2	1	0	2	1	0	4	0	1	4	0	0	5	0	1	1	0	1	
**	153	3	4	15	0	1	12	0	0	14	0	1	13	1	0	13	1	1	16	0	0	11	0	0	21	1	0	15	2	2	19	1	0	
**	123	10	2	6	0	1	12	0	0	12	3	0	8	0	0	8	0	0	7	2	0	9	0	1	12	0	0	16	2	0	8	1	0	
	155	28	4	11	2	1	16	1	1	18	2	0	25	5	0	14	4	1	6	2	1	5	0	0	6	0	2	9	4	0	11	0	0	
	97	7	1	9	0	0	0	2	0	18	1	0	13	1	0	4	0	0	11	0	0	5	0	0	1	0	0	11	0	0	8	0	0	
	137	23	7	9	4	0	16	0	0	6	0	0	11	0	3	6	2	0	16	2	1	8	0	1	11	1	0	11	1	1		0	0	
	193	22	10	15	1	1	34	4	2	15	0	0	20	3	1	10	1	0	10	2	3	9	4	0	13	4	1	18	4	0	5	0	0	
	170	18	19	16	0	4	22	1	0	13	0	2	21	6	3	9	1	1	20	3	4	13	1	2	19	2	0	20	2	1	9	1	1	
	97	11	2	11	4	0	12	1	0	8	2	0	11	1	1	4	0	0	9	0	1	3	0	0	5	0	0	3	0	0	4	0	0	
	42	9	3	3	2	0	6	1	0	2	1	0	6	1	0	0	0	0	3	1	0	8	4	0	5	0	0	6	1	0	6	0	1	
	702	217	43	53	15	10	58	10	3	39	10	3	53	11	2	41	9	4	51	17	3	62	23	5	58	13	7	43	13	4	48	11	3	
	89	18	1	7	2	0	12	0	0	5	1	0	12	3	0	6	0	0	2	0	0	7	0	0	2	0	0	1	0	0	2	0	0	
	215	30	9	18	1	0	20	2	1	20	8	1	19	4	3	19	1	0	22	0	2	9	0	0	9	1	0	6	0	2	8	1	1	
	104	8	8	8	1	0	9	1	0	6	0	0	14	3	2	6	0	1	6	0	0	15	1	0	9	1	0	6	0	1	12	0	0	
	189	21	10	16	0	1	18	2	2	15	2	1	23	5	1	15	2	1	9	1	0	8	1	0	4	1	0	13	1	0	14	1	1	
	334	35	22	23	4	0	33	1	0	21	2	0	32	7	0	27	6	0	21	2	3	24	0	4	18	1	2	33	2	6	12	0	2	
	121	10	2	17	2	1	8	0	0	9	1	0	6	0	0	11	0	0	18	3	0	15	0	0	9	0	0	9	0	0	17	1	3	
	27	5	2	3	1	1	2	0	0	6	1	0	2	0	0	4	0	1	1	1	0	1	0	0	0	0	0	1	0	0	0	0	0	
	145	4	3	14	0	0	13	0	0	19	0	0	10	0	0	14	1	2	10	0	0	9	1	0	10	1	1	4	0	1	5	0	0	
	145	8	4	16	1	1	15	0	0	9	2	1	16	0	2	14	1	0	11	1	0	8	1	0	16	2	2	16	1	2	17	1	1	

FIFTH DISTRICT (Cont'd.)

A - Total Index Crime
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	Cal. Yr. '70			Jul '70			Aug '70			Sep '70			Oct '70			Nov '70			Dec '70			Jan '71			Feb '71			Mar '71			Apr '71			CB
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	
	142	13	8	11	0	1	12	0	2	12	1	0	17	0	0	9	0	0	7	0	0	5	0	1	15	4	0	12	2	1	18	2	2	705
	169	16	8	21	0	1	20	0	0	19	1	0	18	2	1	13	1	2	12	0	1	9	0	1	11	2	0	10	2	0	10	0	2	
	262	37	8	30	2	0	29	3	2	26	4	2	29	5	2	24	6	0	21	3	1	19	6	1	15	3	0	19	1	0	15	1	0	
	270	49	16	18	2	0	28	2	3	21	8	2	30	6	4	19	4	3	15	4	1	15	3	0	14	3	1	18	3	0	11	0	0	
	319	7	12	28	1	1	28	1	0	40	0	2	35	2	0	21	0	0	27	1	1	17	0	0	19	0	1	34	1	0	20	1	0	
	117	5	4	16	1	1	21	0	1	8	0	0	9	0	0	10	1	0	10	0	1	13	1	1	5	0	1	6	0	0	10	0	0	
	257	31	7	28	5	1	27	1	0	20	2	0	26	3	2	24	4	0	19	3	1	23	0	0	24	4	2	21	4	0	20	4	1	
	355	55	13	32	5	1	38	3	2	24	1	1	47	8	2	26	5	1	23	4	1	28	5	6	20	0	0	25	5	1	19	4	1	
	454	91	20	47	8	0	34	5	1	25	2	0	49	10	2	32	12	2	25	5	2	37	6	4	42	8	3	27	4	3	32	5	3	
	426	77	27	41	5	0	53	4	3	27	6	3	38	12	1	41	8	2	35	7	4	36	12	5	30	7	2	27	11	0	25	6	4	
	579	101	20	51	8	1	43	6	1	48	5	2	36	6	1	50	10	2	52	6	1	59	9	2	40	2	3	41	6	1	48	13	2	
	237	24	8	22	2	0	28	2	0	15	0	1	14	0	0	13	1	0	18	6	2	15	1	1	11	1	2	14	1	0	10	2	3	
	437	42	11	32	5	1	49	2	0	37	5	2	49	8	2	40	2	1	39	5	1	20	0	1	15	2	1	20	1	1	11	1	0	
	408	80	18	42	5	4	31	10	2	18	0	2	41	10	2	37	9	1	31	8	0	26	9	1	25	7	0	26	4	2	28	2	2	
*	519	135	30	52	12	3	47	10	2	33	14	0	43	15	1	46	14	3	35	9	4	45	15	3	37	17	2	30	9	3	23	10	2	
**	361	62	13	33	5	0	29	9	1	13	2	0	29	6	1	26	2	0	22	6	2	30	4	2	24	2	0	31	4	3	29	3	1	
*	862	230	42	112	32	3	76	18	4	57	25	2	59	20	2	72	30	4	66	15	3	61	12	4	46	11	3	64	28	4	46	11	1	
	540	132	32	42	9	3	54	14	1	41	14	1	35	7	1	42	14	1	35	9	2	54	10	3	33	9	2	35	10	0	41	22	0	
	996	200	40	94	13	6	115	22	4	72	13	3	68	19	1	66	7	5	74	16	4	66	16	1	75	17	3	64	14	4	61	12	5	
	352	64	10	26	5	0	34	6	1	22	1	0	29	6	3	18	2	1	31	5	1	24	8	2	23	7	1	37	7	0	27	4	0	
*	656	173	24	70	17	3	63	22	3	60	12	2	62	15	2	47	18	0	56	16	10	56	15	7	33	5	2	45	3	2	40	0	2	
**	474	105	20	48	12	2	24	5	2	25	8	3	51	15	3	43	12	1	44	6	4	54	14	1	44	9	2	58	9	5	50	5	0	
	371	67	14	34	6	0	21	3	2	29	4	0	42	7	1	18	2	0	30	6	2	28	2	7	18	3	1	19	3	1	30	0	1	
	483	129	21	48	12	0	43	6	1	39	11	2	34	9	3	29	4	2	36	8	1	25	4	1	33	5	0	31	7	1	24	5	0	
**	380	107	33	35	9	1	21	3	0	18	3	1	31	4	3	49	11	15	28	3	3	33	5	1	19	3	2	21	4	1	19	3	0	
**	324	96	30	38	7	3	42	11	7	20	7	0	18	7	3	19	3	1	25	10	1	17	5	2	22	7	2	20	4	1	15	4	2	
	57	9	2	7	3	0	12	0	0	6	0	1	2	1	0	4	0	1	2	0	0	4	0	0	2	0	0	5	0	0	4	0	0	
	00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
TL	15220	2786	687	1421	246	61	1440	205	58	1148	194	43	1366	268	62	1133	275	63	1147	208	79	1132	211	80	994	186	53	1089	188	58	970	143	56	

SIXTH DISTRICT

A - Total Index Crime
B - Index Robbery
C - Other Robbery (Purse Snatching, etc.

B	Cal. Yr. '70			Jul '70			Aug '70			Sep '70			Oct '70			Nov '70			Dec '70			Jan '71			Feb '71			Mar '71			Apr '71			CB
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	
1	505	131	30	42	8	4	64	25	4	48	12	3	37	11	2	43	7	1	35	4	3	30	8	4	31	14	3	35	15	1	31	12	0	801
2	117	10	4	9	1	1	5	1	1	7	2	0	11	0	2	4	0	0	8	0	0	8	1	0	7	1	0	11	3	0	8	2	0	
3	206	42	8	16	1	1	6	2	0	12	3	1	16	3	0	16	2	0	14	1	2	16	1	0	14	6	2	13	4	0	6	1	0	
4	284	46	3	15	1	1	20	1	0	24	2	0	21	2	1	21	3	1	23	4	0	27	4	0	18	5	3	26	4	0	10	1	0	
5	129	12	0	7	0	0	12	2	0	9	1	0	10	1	0	17	0	0	8	0	0	10	2	0	6	2	0	6	1	0	4	0	0	805
6	139	43	4	17	3	0	13	2	1	10	3	0	16	4	1	6	2	0	7	2	0	6	1	0	9	4	0	13	1	0	15	1	2	
7	364	77	20	31	9	2	36	5	2	22	5	2	34	3	3	44	13	3	39	10	2	33	4	0	21	6	1	36	6	1	25	2	2	
8	137	7	5	12	1	0	12	1	0	10	0	0	15	0	1	11	2	1	11	0	1	10	0	0	7	0	0	9	0	0	6	0	0	
9	191	52	15	27	5	3	15	2	0	14	4	1	13	1	1	9	3	2	5	1	0	10	4	0	17	9	1	11	1	1	8	3	0	
10	150	31	21	13	6	1	8	1	0	6	2	1	10	1	0	19	4	2	11	1	4	18	3	5	13	2	1	11	2	0	8	0	2	
11	106	18	5	12	2	0	8	1	0	4	1	0	7	2	0	12	3	1	7	1	1	8	1	0	11	4	0	5	1	1	4	1	0	811
12	113	15	5	10	4	1	6	0	0	7	0	0	5	2	0	13	2	1	4	3	0	5	3	0	5	0	1	8	3	0	10	1	2	
13	221	42	6	20	7	0	12	2	0	13	3	0	24	5	1	24	1	0	21	3	0	17	3	2	19	2	1	22	3	0	18	1	0	
14	221	35	5	19	3	0	10	1	0	20	2	0	13	2	1	28	8	2	26	4	0	16	4	1	18	3	0	19	3	0	28	1	1	
15	184	18	11	10	1	1	16	1	0	10	0	0	16	2	1	15	2	2	19	5	0	12	2	1	6	1	0	13	1	0	19	3	1	
16	132	17	0	9	0	0	8	3	0	7	2	0	5	1	0	6	1	0	17	2	0	11	1	2	11	1	1	10	0	0	4	1	0	
17	200	27	12	17	3	0	16	0	1	9	2	0	13	2	1	15	1	1	13	6	0	16	1	1	11	1	1	8	2	0	10	0	1	817
18	112	25	6	9	1	1	10	3	0	7	1	0	6	0	1	3	1	0	8	2	1	8	1	1	11	4	0	7	0	0	14	0	2	
19	164	26	13	15	4	0	16	3	2	8	1	0	7	0	1	16	4	0	16	1	1	17	3	1	13	1	1	8	2	0	9	3	1	
20	186	15	5	14	1	2	15	1	0	15	0	0	14	1	0	18	2	0	25	0	1	22	1	0	21	1	2	23	2	0	19	0	0	
21	168	18	6	13	2	1	13	1	0	12	1	1	17	0	1	21	5	1	20	1	0	12	1	1	26	1	0	18	1	1	16	2	0	
22	196	31	8	9	2	1	20	1	2	12	1	0	18	5	1	23	5	1	28	6	0	29	8	3	18	5	1	36	5	7	16	2	3	
23	100	16	2	12	2	0	8	2	0	4	0	0	14	3	1	6	0	0	4	0	0	9	1	0	7	1	0	9	1	0	8	1	0	823
24	134	28	9	22	8	0	13	3	0	2	0	0	18	5	1	5	0	1	13	1	3	28	4	3	11	3	1	12	3	0	23	2	2	
25	79	10	0	7	2	0	7	2	0	4	1	0	6	0	0	3	0	0	9	0	0	6	2	0	15	1	0	9	1	0	4	0	0	
26	97	10	0	7	1	0	9	2	0	5	1	0	8	1	0	12	2	0	6	0	0	9	1	0	7	2	0	6	1	0	10	1	1	
27	82	12	2	12	2	0	8	2	0	2	0	1	10	3	0	4	0	1	7	1	0	11	4	1	6	1	0	11	2	0	9	0	0	
28	91	22	3	4	1	0	3	2	0	5	1	0	9	5	0	10	3	0	7	1	0	8	2	1	6	2	1	7	0	0	2	0	0	
29	251	46	17	22	3	2	18	6	3	8	4	0	16	8	0	18	6	4	25	5	4	16	1	1	11	2	0	24	1	1	12	1	1	
30	117	21	7	8	2	1	13	2	0	7	0	1	5	1	0	14	7	0	10	5	0	7	5	0	6	0	1	5	1	0	6	1	1	
31	145	26	11	12	3	0	11	4	1	11	2	3	13	5	1	9	1	2	3	0	0	16	4	1	10	0	1	13	3	1	14	1	2	831

SIXTH DISTRICT (Cont'd.)

A - Total Index Crime
B - Index Robbery
C - Other Robbery (Purse Snatching, etc.)

	Cal. Yr. '70			Jul '70			Aug '70			Sep '70			Oct '70			Nov '70			Dec '70			Jan '71			Feb '71			Mar '71			Apr '71			CB
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	
	297	43	10	24	1	0	19	3	0	16	2	1	25	8	3	26	5	2	20	3	1	19	1	1	19	2	1	23	3	2	19	3	1	832
	209	27	4	11	2	0	21	4	0	17	1	0	14	3	1	17	3	0	8	1	0	18	1	1	14	2	0	18	3	0	12	1	0	
	50	8	2	8	2	0	2	2	0	5	0	0	4	0	0	4	2	0	3	2	0	2	1	0	5	0	0	3	1	0	2	0	0	
	124	21	12	10	0	0	10	1	0	12	3	1	8	1	0	7	2	2	9	2	3	15	5	1	12	5	1	14	4	3	18	1	1	835
	12	4	1	0	0	0	1	0	0	0	0	0	0	0	0	3	0	1	1	1	0	1	1	0	1	1	0	0	0	0	1	0	0	
	96	13	11	6	0	0	9	1	1	3	1	0	9	3	1	8	2	2	7	0	0	4	1	2	6	1	1	6	2	3	2	0	0	
Dup	206	42	8	16	1	1	6	2	0	12	3	1	16	3	0	16	2	0	14	1	2	16	1	0	14	6	2	13	4	0	6	1	0	
	127	15	16	10	1	0	11	3	1	7	0	0	11	2	0	11	2	3	10	2	3	8	2	0	7	1	0	4	1	0	2	1	0	
	228	22	7	16	1	1	13	0	0	17	2	1	21	2	0	18	1	0	20	1	4	11	3	1	12	1	0	23	8	1	13	3	1	
	219	42	29	24	4	2	14	4	1	20	2	3	15	3	2	17	4	4	15	4	4	27	4	5	16	2	2	18	1	1	10	2	0	841
	52	3	1	3	0	0	3	0	0	6	0	0	7	2	1	1	0	0	4	0	0	2	0	1	5	0	0	6	1	0	4	0	0	
	111	23	3	8	1	0	8	2	0	7	0	0	3	1	0	7	3	1	7	3	0	14	1	0	12	6	0	5	1	0	9	4	0	
	39	6	2	5	0	0	2	0	0	7	1	1	5	0	0	4	1	0	2	0	1	3	0	0	5	0	0	1	0	0	1	0	0	
	139	24	9	9	4	0	13	0	0	11	2	1	14	3	1	10	1	1	16	2	1	8	1	2	15	3	3	6	1	2	9	1	1	
	363	53	5	33	3	0	33	4	0	27	3	0	32	4	0	24	7	2	24	5	0	22	3	2	35	7	1	30	5	3	41	8	3	
	180	34	4	24	5	0	11	1	1	8	1	0	7	2	0	11	2	0	14	1	1	14	3	0	15	4	0	15	3	0	15	6	1	847
	255	29	6	17	0	0	15	1	1	10	3	0	17	1	0	28	4	0	22	4	0	22	1	2	14	1	1	17	3	0	13	3	0	
	58	21	0	6	1	0	9	2	0	2	1	0	2	1	0	5	2	0	5	3	0	5	2	0	7	4	1	4	2	0	4	0	0	
	41	3	0	8	0	0	3	0	0	3	0	0	0	0	0	1	0	0	2	0	0	2	0	0	2	0	0	6	1	0	0	0	0	
	397	51	15	42	3	1	47	4	2	27	1	0	27	4	2	22	6	1	27	9	1	30	9	7	20	2	1	20	8	1	25	2	2	902
	423	102	18	39	7	2	37	10	2	19	0	1	23	7	2	24	6	1	33	12	3	23	7	2	16	3	0	31	12	2	32	13	1	
	437	59	11	30	5	0	44	5	0	19	4	0	39	3	0	33	5	2	40	10	6	38	8	1	32	5	1	35	9	2	32	5	4	
	241	36	6	20	4	0	28	3	0	8	1	0	20	1	0	31	5	2	23	5	1	26	6	0	27	8	1	21	1	2	15	1	1	
	96	13	2	5	1	0	9	1	0	10	3	1	6	0	0	7	2	0	9	2	0	7	1	0	6	2	0	13	2	0	10	1	0	906
	48	6	0	6	1	0	4	0	0	4	0	0	6	1	0	5	0	0	2	2	0	6	2	0	9	0	0	4	1	0	5	1	0	
	108	22	1	15	3	0	6	1	0	15	1	0	3	2	0	7	5	0	10	4	1	8	5	0	7	4	2	3	0	1	6	2	1	
	334	72	16	22	3	0	20	2	0	26	9	1	25	3	1	34	9	1	31	10	2	40	9	2	35	11	5	45	10	1	49	14	2	
	248	37	5	21	3	0	25	0	0	19	2	1	12	3	0	22	8	2	20	4	1	23	5	1	16	5	0	17	2	0	22	5	0	
	86	16	2	8	2	0	2	0	0	11	3	0	10	1	0	7	1	0	5	2	1	12	3	0	3	0	0	8	0	0	8	3	0	911

SIXTH DISTRICT (Cont'd.)

A - Total Index Crime
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Cal. Yr. '70			Jul '70			Aug '70			Sep '70			Oct '70			Nov '70			Dec '70			Jan '71			Feb '71			Mar '71			Apr '71			CB
A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	
363	75	10	29	11	1	24	5	0	22	4	1	22	7	0	30	7	2	15	7	0	18	2	1	21	9	0	25	6	6	17	1	4	912
158	17	5	12	2	0	10	2	1	7	1	0	7	0	0	9	0	1	6	1	1	7	1	0	8	0	1	6	0	0	8	0	0	
174	23	1	13	4	1	19	2	0	11	3	0	16	0	0	12	2	0	14	3	0	14	2	0	4	0	0	13	1	0	12	1	0	
219	26	9	16	3	0	17	3	2	13	3	0	21	1	1	11	2	1	11	2	1	10	1	0	10	0	1	15	1	2	10	3	1	
84	14	1	3	2	0	8	1	0	4	0	0	5	2	0	12	1	0	10	0	0	7	1	0	6	0	0	5	0	1	5	1	0	
248	40	5	19	4	0	20	2	0	30	4	1	29	6	0	17	5	0	18	4	0	21	6	3	17	1	0	15	2	0	9	0	0	
190	26	3	19	3	1	14	4	0	18	1	0	16	4	0	13	4	1	14	2	0	12	0	0	9	1	0	12	2	0	9	1	0	918
336	46	6	21	3	0	29	2	0	22	1	0	27	4	1	29	4	1	31	10	1	29	1	0	21	2	0	18	4	0	17	3	0	
211	30	5	22	9	0	20	1	1	18	0	1	25	5	0	9	1	0	18	1	1	11	2	0	16	2	1	14	4	3	12	0	0	
79	9	2	6	2	0	6	0	0	6	0	0	7	1	0	8	0	0	12	2	1	6	1	0	5	0	0	7	0	0	7	0	0	
152	43	6	16	8	0	13	5	0	10	2	2	15	4	0	9	3	0	10	2	0	11	2	0	6	1	1	5	1	0	11	2	1	
286	69	4	26	5	0	33	6	0	21	3	1	25	11	0	16	6	0	27	10	2	22	3	1	20	5	2	29	4	2	19	4	0	
44	10	0	2	0	0	2	0	0	5	3	0	2	2	0	7	1	0	1	0	0	0	0	0	3	0	1	2	0	0	1	0	0	924
171	18	9	11	1	1	21	2	0	11	0	0	7	3	0	9	1	1	21	2	4	15	1	3	7	0	2	13	1	0	14	2	1	
11	9	1	10	2	0	7	0	0	14	0	0	7	2	0	8	0	0	18	1	0	12	0	0	10	0	0	8	2	0	8	0	0	
231	46	10	20	8	3	16	5	1	11	0	0	16	3	0	13	1	2	20	6	3	13	2	0	24	3	6	18	0	2	17	0	2	
277	41	7	26	4	3	19	1	0	25	2	0	25	9	0	13	1	2	19	4	0	20	5	5	10	1	0	21	3	0	21	3	1	
136	33	5	17	4	0	13	3	0	9	1	0	13	6	1	8	0	1	12	4	0	13	0	0	5	3	0	13	6	1	9	1	1	
74	12	10	11	3	0	3	0	0	6	1	2	8	2	0	6	1	1	9	2	4	5	1	2	3	0	2	5	1	1	7	0	3	930
19	4	2	1	0	0	0	0	0	3	1	0	3	2	0	1	0	1	1	0	0	2	1	0	0	0	0	1	0	0	1	0	0	
150	8	2	16	1	0	13	1	0	13	0	0	11	0	0	9	1	0	12	2	0	9	0	1	10	1	1	13	1	0	12	0	0	
193	10	5	22	1	1	18	2	0	11	1	0	13	0	0	10	0	0	15	2	0	9	1	1	10	0	0	10	3	2	12	0	0	
165	20	3	17	3	1	17	0	0	14	1	0	11	1	1	11	3	0	7	0	1	8	2	0	7	1	0	10	1	1	11	3	0	
6	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	4	0	0	0	0	0	0	0	0	1	1	0	
16	3	0	3	1	0	0	0	0	1	0	0	2	0	0	1	0	0	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	936
7	0	0	1	0	0	0	0	0	0	0	0	2	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
79	19	15	6	1	0	12	5	1	3	1	1	2	0	0	4	1	0	8	2	5	7	0	4	8	2	3	9	2	3	3	1	1	
ALL 14736	2428	575	1263	231	42	1212	192	32	990	139	36	1144	218	40	1156	219	68	1185	235	83	1162	202	81	1019	203	67	1140	203	62	1014	152	58	TOT

APPENDIX D

S.O.D. EVALUATION OF POUNCE TACTICS

This letter was sent to a member of the Project Staff in response to a request by the Principal Investigator for an evaluation of the proposed experimental tactics.

GOVERNMENT OF THE DISTRICT OF COLUMBIA

METROPOLITAN POLICE DEPARTMENT

June 4, 1971

Mr. Paul Coggins
Senior Analyst
Operation "Pounce"
Washington, D. C.

Dear Mr. Coggins:

This letter is in response to your request for an informal evaluation of "Operation Pounce."

As you know, we have been operationally experimenting with "Operation Pounce," since early September of 1970, but unfortunately have not had success with the plan in terms of street apprehension of criminal suspects. There are several reasons for this lack of success, in my opinion.

One of the reasons the Tactical Branch of the Special Operations Division was chosen as the experimental vehicle for this program was the fact that an in-house communications system was available for total committment to "Operation Pounce." In the three practice exercises performed by the unit, this system worked very well, providing a "time-late" (time from actual crime to time all vehicles arrived at search areas), factor of generally well under ten minutes. However, under normal patrol methods during actual street duty this time-late factor was considerably extended, primarily because of insufficient radios.

From the time the experiment was inaugurated until late April, 1971, the Tactical Branch of the Special Operations Division was operating with a total of 45 footman radios for a complement of over 200 personnel. Many of these footmen radios were between 4 and 5 years old, and required an inordinate amount of maintenance to keep them in usable condition. Consequently, the average number of radios available to the Tactical Branch rarely exceeded 25, of which many were committed to other priorities, (official's use, plants, details, etc.). Also, some difficulty in transmission was experienced with these radios in the particular locations to which the Tactical Branch was assigned.

In late April, 1971, the Tactical Branch acquired 110 new-model footman radios on a different frequency, with more reliable transmission capability. This should solve the communications difficulty as it exists within the Tactical Branch itself. Efforts will be made to improve coordination with our central communications system to reduce as much as possible the time-late factor.

Other committments also hampered our efforts relating to further experimentation and full implementation of the "Pounce Plan." I'm sure you are aware of the fact that this city experiences a large number of demonstrations by various organizations throughout the year. As the Tactical Branch is the single largest reservoir of trained police manpower available to handle these demonstrations, quite frequently all available Tactical Branch personnel must be assigned to these demonstrations thus prohibiting their use on routine patrol and the "Pounce Plan."

In addition, the Tactical Branch also performs a number of subsidiary police functions of an emergency or quasi-emergency nature. We have the sole responsibility, for instance, for apprehending barricaded criminals; calls of this nature must take precedence over routine patrol. Also, we have expended a large number of man-hours on various "plants" or "stake-outs" across the city. All these factors militate - against and help to explain the lack of - success with the "Pounce Plan."

Hopefully, additional personnel and equipment that the Tactical Branch has recently acquired will help to overcome these difficulties, and allow us a greater opportunity to develop the "Pounce Plan."

What I am trying to point out is that it is difficult to furnish you with a fair evaluation of the "Pounce Plan" because I really don't think it has received a fair trial yet. I myself, and many other members of the Department with which I have discussed the plan, think that it possesses undeniable merit, and I have every intention of retaining the "Pounce Plan" within the Tactical Branch of the Special Operations Division and expanding on it and trying different variations.

I might point out that in the past the Department had no plan at all to thoroughly "cover" or search an area in which a crime had recently occurred. The "Pounce Plan" is certainly an improvement on no plan at all and at least provides us with a starting point to develop a workable plan.

In the very near future I intend to start experimenting with variations on the plan. Initially, I intend to utilize, in addition to the eight uniform cruisers now assigned to the plan, at least four teams of casual clothes personnel (additional radios allow us to do this.)

My feeling is that the approach of highly-visible marked police cruisers allows a fleeing felon sufficient warning to allow him to secrete himself out of sight of the occupants of the marked cruiser and perhaps to proceed on his way after the marked cruiser disappears from sight. Hopefully, the addition of unmarked casual clothes cruisers to the plan will prevent the felon's undetected escape. Depending on the success of this variation, I intend to experiment with other variations along similar lines.

At any rate, the "Pounce Plan" will be retained as an operating mode within the Tactical Branch for the forseeable future.

Sincerely,

Robert B. Wissman
Captain, Commanding
Tactical Branch

RBW:MDC:nr