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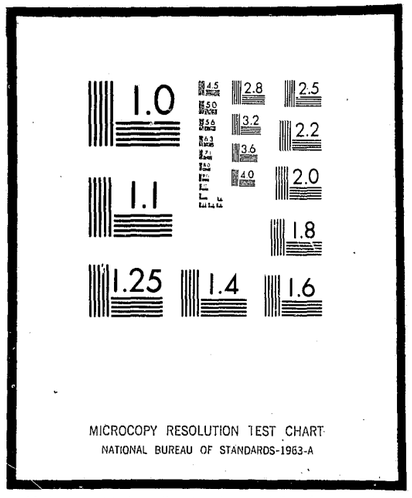

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ISSUES OF TRADITIONAL PREVENTIVE PATROL

A Review and Assessment of the Literature

Submitted to:

The National Institute of Law Enforcement and Criminal Justice
Law Enforcement Assistance Administration
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by

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PREFACE

The University City Science Center, under Grant Number 75-NI-99-0056, has prepared this preliminary review and assessment of the literature on "Traditional Preventive Patrol" as a part of the National Evaluation Program of the National Institute of Law Enforcement of Criminal Justice, Law Enforcement Assistance Administration. This report is based primarily upon an extensive review of the available secondary source literature. We believe that the materials reviewed, and our reporting of them, are representative of the research and writing in the field.

In addition to the generally available secondary source materials, limited use was made of three other sources of information. First, the Criminal Justice Reference Service of LEAA provided a comprehensive set of abstracts which included summaries not only of the general literature, but also of research reports generated by funding from LEAA. Because of logistical problems, however, the reference service was able to make only a very limited number of the actual project reports available. Second, the Grants Management Information System of LEAA provided complete listings and abstracts of grant awards related to patrol practices. Third, the project staff initiated a survey of all police departments in communities with populations greater than 50,000, and in a sample of communities with smaller populations. Each was asked to characterize its patrol operations. While analysis of the survey has not been completed, the approximately 250 detailed responses received to date have provided a wealth of impressionistic information.

The present report is divided into two parts. Part I includes: first, a presentation of our assumptions, definitions and analytical approach, and some general conclusions regarding the nature and quality of the literature reviewed; second, a consideration of the objectives of routine patrol

operations, an examination of the assumed relationship between these objectives and the strategies and tactics of patrol, and an examination of the indicators used to measure patrol effectiveness; and third, a summary of our conclusions regarding the content and quality of the available literature with regard to specific operational issues. Part II contains six working papers, each of which presents a comprehensive review of relevant literature related to specific sets of operational issues in routine preventive patrol. The six papers are:

1. "Patterns of Patrol," a paper in which the relative merits of fixed beat, split, random, and saturation patrol are distinguished from one another with regard to alternative approaches to setting beat boundaries, determining patrol routes, designating officer task responsibilities, and determining the appropriate number of patrol officers. The issues of patrol visibility and response time are also discussed.

2. "Mode of Patrol," a paper in which the relative merits of foot, bicycle, motor scooter, motorcycle, and automobile patrol, and one- vs. two-officer patrol units, are discussed with regard to the issues of visibility, economy, safety, relative observation capabilities, and response time.

3. "Supervision of Uniformed Patrol Officers," in which different forms of supervisory control, particularly as they result from differences in the frequency of officer call-in, the street deployment of supervisory

personnel, the frequent rotation of officers between beats, and procedures for evaluating individual officer performance are discussed with regard to officer efficiency and corruption.

4. "Characteristics of Patrol Officers," a paper in which the attributes of an officer's race and sex are discussed with regard to the efficiency of officer performance and the integration of the officer into the community.

5. "Officer Professionalism," a paper in which an emphasis is placed upon the educational background of patrol officers with particular regard to the quality of patrol officer performance, the range of officer discretion, and the overall efficiency of the patrol division. The general concept of professionalism is also discussed as a "catch-all" for any change made and thought to increase the effectiveness of the patrol operations.

6. "Routine Patrol in the Community," a paper in which the relative merits of an officer's sensitivity to and interaction with the community are discussed with regard to the issues of officer community relations and the legitimacy of aggressive patrol tactics.

PART I

Overview and Summary

OVERVIEW AND SUMMARY

Traditional preventive patrol -- the routine movement of uniformed officers by vehicle or foot through defined geographic areas[1] -- is the mainstay of police work. Approximately 60% of the sworn law enforcement officers in local and municipal police and sheriffs' department in the United States are assigned to general patrol duties,[2] and support of this function consumes a huge percentage of the approximately 5 billion dollars projected as the 1975 municipal expenditure for police protection.

In addressing the subject of traditional preventive patrol, we have been asked to take a very narrow view of the topic. Our inquiry is confined to the operational activities of uniformed officers while assigned to general patrol duties, specifically excluding their activities when dispatched to service calls and when handling other duties. The focus of the study is limited to the traditional model of patrol. Locally autonomous, organizationally distinct teams of officers who provide the full range of police services on a neighborhood specific basis are excluded from consideration as are patrol activities performed by non-uniformed officers and activities having a crime or subject-specific orientation. The former activity, "Neighborhood Team Policing," is the subject of an evaluation being conducted by the National Sheriffs' Association; the latter, "Specialized Patrol," is being evaluated by the Institute for Human Resources Research.

In conducting the present study under the LEAA National Evaluation Program, the University City Science Center is mandated specifically to determine what is currently known about the practice

of traditional preventive patrol in the U.S. We have undertaken the review of the literature about traditional patrol in an effort to distinguish myth from reality, and opinion from fact. Our goal has been to extract from the literature empirically-based findings regarding the relationship between the effectiveness of patrol and the variety of factors over which police officials have direct control. While the level of crime in the United States is a function of both the general conditions of the society and the effectiveness of law enforcement and patrol activities, police officials have control only over the resources of their respective departments. Working only with the resources at hand, they may be continually frustrated by the fact that the effectiveness of their patrol efforts is being masked if not overwhelmed by societal perturbations beyond their control.[3] The inquiry is explicitly oriented towards identifying knowledge which will assist departments in improving their patrol operations.

In the following pages, we first present the view of social science research which we have adopted as a basis for reviewing and assessing the available literature and defining our orientation towards knowledge as being an understanding of cause and effect relationships. In the context of this review we are seeking to understand how changes in the component activities of police patrol are related to changes in the level of effectiveness of patrol operations. Effectiveness is measured with regard to the attainment of patrol objectives.

Second, we consider the objectives of police patrol and the indicators used as measures of patrol effectiveness. While the focus

of this study is not upon measures of effectiveness, it is nevertheless important to review and assess those currently in use in order to provide a basis for evaluating the contribution which alternative patrol procedures make to improving patrol effectiveness. In reviewing measures of effectiveness, we must keep in mind that the validity of research on patrol operations *per se* is heavily dependent on the quality of the measures used to assess the impact of patrol upon its stated objectives.

Finally, we turn to a consideration of the aspects of patrol which can be manipulated by the administrator in order to improve the effectiveness of patrol. In this overview statement, we only summarize what we have learned in the course of our literature review. In the following section, each issue is treated more exhaustively and the documentation for our summary conclusions is presented in detail.

A. A View of Social Research: A Seven Step Hierarchy

We have adopted a seven step hierarchy of social science research as an aid in assessing the quality and relevance of existing information on patrol operations. By classifying each piece of work in accordance with this hierarchy, we can take an initial step toward judging its merit; then by reviewing the manner in which the research design was actually implemented, we will be able to judge the adequacy and merit of its findings. Characterization of research on patrol in accordance with this hierarchy will enable us to assess the merits and relevance of reported results, to suggest the point at which information on a particular aspect of patrol is sufficient to justify moving the nature of inquiry to a higher level of inquiry, and to determine in a general

way the degree to which the study of patrol operations can be viewed as a cumulative enterprise. The research hierarchy[4] is composed of seven levels. Its content is summarized in Exhibit 1.

The first level, the most basic type of research, consists of observation, opinion, and awareness. On the basis of assumptions and experiences, conclusions are drawn about some aspect of patrol operations and its contribution to the effectiveness of patrol. Findings based upon "observation," while often interesting and provocative, have the least merit and form the weakest basis for structuring or orienting a patrol operation. They do, however, provide the basis for selecting variables which should be the focus of correlation analysis or even more sophisticated inquiry. We have found that most of the research on patrol is of this type. Unfortunately, all too often operational conclusions are drawn on the basis of work at this level.

The second level, consists of the application of single correlation analysis to identify and confirm hypothesized relationships between single patrol variables and patrol effectiveness. This form of analysis helps to systematize variables and may serve to direct further inquiries and to suggest an operational focus for the department. In its simplicity, however, it neglects questions of interdependency between many patrol variables or operating factors which could better be examined simultaneously through the use of multiple correlation analysis, the third level of inquiry. While both single and multiple correlation analysis can be suggestive of the degree to which changes in patrol operations have been related in the past to different levels of patrol effectiveness, cause and effect relationships can not be inferred. Such analysis, however, provides a strong foundation for generating interesting hypotheses which are more appropriately addressed in experimental or causative research.

A HIERARCHY OF RESEARCH ADDRESSED TO PUBLIC POLICY*

TYPE	CHARACTERISTIC
1. Observation	Awareness of a relationship between patrol effectiveness and some other variable without specific examination of the nature, direction or strength of the relationship
2. Single Correlation	Findings of relationship between a single, independent operational variable and patrol effectiveness; suggests the focus of patrol policy.
3. Multiple Correlation	Findings of relationship between multiple independent variables and patrol effectiveness; suggests the focus of patrol policy
4. Causation	Demonstration of correlation plus theoretical basis for arguing the direction and scope of causation in such a way as to indicate that a given change in patrol procedures would produce a change in the effectiveness of patrol in a predictable direction.
5. Elasticity	Given correlation and causation, an estimation of elasticity offers a specific prediction as to the magnitude of change in the effectiveness of patrol which would result from a given change in an independent variable.
6. Sensitivity to Policy Change	Analysis predicting that a stated change in public expenditures would yield a predicted increase in the effectiveness of patrol.
7. Optimizing Policy	Research demonstrating that a given balance of expenditures and other resources across the independent variables would yield the most cost-effective mix of patrol variables.

Research and findings in the area of police patrol can be characterized in accordance with the above hierarchy to provide a preliminary assessment of the state of knowledge regarding traditional preventive patrol.

*See William McGreevey et. al., The Policy Relevance of Recent Social Research on Fertility (Smithsonian Institution, 1974, Washington, D.C.).

EXHIBIT 1

The fourth level, experimental or causative research, consists of the careful and deliberate manipulation of patrol operations in order to determine whether or not a change in the effectiveness of patrol results from a given change in the conduct of patrol activity. This type of research is of great value to the policy-maker, for it suggests that a given change in patrol procedures will result in a directional change in patrol effectiveness. Experimentation on patrol is becoming more and more common and has recently focused on determining the impact of patrol officer characteristics and patterns of patrol unit deployment on patrol effectiveness.

While experimental research is of great value, it is also very difficult to accomplish successfully. Firm conclusions regarding the impact of experimental changes in patrol operations on patrol effectiveness depends on the careful control of potentially confounding factors.

The fifth level, elasticity research, is closely akin to experimentation. Research at this level indicates not only the direction of causal relationships, but also provides an estimate of the degree of improvement in patrol effectiveness which could be expected from a given degree of change in the conduct of patrol operations. The only example which we have found of "elasticity" research on patrol is that relating officer response time to changes in the level of criminal apprehension.

The sixth and seventh levels on the hierarchy go beyond the specification of causal relationships. Step 6 considers the ability of the policy maker to undertake <u>particular</u> changes in patrol operations

and to realize the benefits predicted. Cost-benefit analyses which deal only with single operational variables are involved. Finally, the seventh level, economizing research, extends the consideration of capability and cost effectiveness from the consideration of single operational changes, to the consideration of a wide range of options in an effort to optimize resource utilization.

Basically, utilization of the hierarchy reflects our belief that if research is to produce results meaningful to the policy maker, it should proceed from the careful observation of the phenomenon under consideration, to a detailed understanding of the interdependence among the relevant variables, to experimental research in which promising hypotheses are tested in an effort to determine causal relationships. We believe that referencing this hierarchy contributes to our goal oriented approach to answering the question, "What is known about traditional preventive patrol?" In accordance with the direction so provided, we have sought to identify the objectives of patrol and the measures which are used to determine the effectiveness of patrol operations in realizing these objectives. We have attempted to assess present knowledge concerning the relationship between the <u>effectiveness of patrol</u> and <u>the manner of patrol</u>, i.e., the relationship between the outputs of the patrol operations (e.g., the contributions of patrol officers, equipment, and activity). In an analytical sense, patrol effectiveness becomes the dependent variable of the analysis, and patrol operations the independent variable. Throughout our

analysis, research findings will be considered useful only when they define a relationship between or present conclusions about patrol operations and the effectiveness of patrol.

Before turning to a consideration of specific research findings concerning patrol objectives, effectiveness measures, and operations, we would like to make some general observations regarding the nature and quality of the research we have examined.

Application of the research hierarchy suggests to us that research on police patrol should be a linear process. Research is expensive, and as designs increase in sophistication and advance on the hierarchy, it becomes increasingly expensive. To be of greatest value, research on one level of the hierarchy should be based on a firm foundation of accumulated knowledge provided by efforts at lower levels. In general, we have found that this has not been the case with research on police patrol practices. While authorities in the field frequently cite each other's opinions, there has not been a concerted effort to accumulate and build upon an integrated body of empirical findings in advancing to more sophisticated levels of research.

In presenting and utilizing this hierarchy, we do so with the understanding that there is frequently inherent tension between the cumulative process of research and the immediate needs of administrators. In general, we believe that the policy maker is badly served by advanced research that is prematurely executed in an effort to satisfy the immediate needs. The operational needs can not be effectively addressed until many more basic questions have been answered. In the interim, we believe it is appropriate for the policy maker to opt for

the least-cost approach to police patrol on the basis of the best evaluation possible. Often, the administrator will have to rely on his own and on the community's perceptions of relative effectiveness.

Two additional considerations are thought to be important. First, the design of policy related research, particularly of experiments, has been typically compromised and constrained by operational realities encountered in the field. Some constraints become apparent in "negotiating" the experimental design prior to implementation. Constraints of this type are likely always to exist and designs can only be optimal, not perfect. We believe, however, that it is encumbent upon all researchers to assess the "best possible" design arrived at and to determine the validity of the experimental findings which will result. If the results can not be sufficiently valid to warrant the expense involved in the research, the experiment should not proceed. Other constraints can not be foreseen but arise in the course of the experiment. Should the design be compromised in the course of its execution, the researcher should assess his ability to adapt the design and take the changes into consideration when analyzing the experimental results. Depending on the degree to which such compromises can be effected, consideration should be given to abdandoning the experiment. In our review of police patrol research, we have found that too little consideration has been given to assessing the implications of both types of constraints.

This brings us to the final point. We emphasize the need for extreme care in the reporting of all research results, and particularly of experimental results. When findings are reported to be

based on an "experiment," they become endowed with an image of legitimacy and of general applicability. Although an understanding of the limitations of the methodology of experimentation is inaccessible to most and the available technical reports receive little public attention, statements of results receive wide publicity. We have found that in the area of police patrol results have been reported without sufficient qualification, and have become endowed with a high degree of credibility inspite of the flaws in the experimental design and the limited validity of the findings. This may not only lead to unwarranted changes in police procedures, but in the long run it may undermine the credibility of the experimental approach within the police community.

B. The Objectives and Tactics of Patrol, and the Measurement of Patrol Effectiveness

It is generally agreed that police patrol operations have five basic objectives: (1) deterrence of crime; (2) apprehension of criminal offenders; (3) satisfaction of public demands for non-crime services; (4) provision of a sense of community security and confidence in the police; and (5) recovery of stolen goods.[5] There is, for all intent and purposes a one-to-one correspondence between these objectives of patrol and the overall objectives of police departments. The relationship exists not only between the scope of department-wide and patrol-specific objectives, but also with respect to their relative priorities. For both the department and its patrol division, deterrence and apprehension are of primary importance. Satisfaction of demands for non-crime services and the provision of a sense of community security are generally considered to be of secondary importance by

police officials. Recovery of stolen goods, except perhaps of stolen cars, appears to be of least importance.

1. Deterrence

The first objective of patrol, crime deterrence, has provided the major impetus for the extensive deployment of a highly visible patrol force. It has generally been assumed that the projection of an image of preparedness, efficiency, and omnipresence through the deployment of visible police units will discourage the would be criminal from breaking the law.[6] It has also been assumed that higher levels of patrol visibility bring higher levels of deterrence.

The assumption relating patrol visibility and deterrence has been called into question on two accounts. First, doubt has been cast by the reported results of the Kansas City Preventive Patrol experiment which found there was little difference resulting from changes in the levels of patrol visibility.[7] Second, doubt has been cast by the argument that only certain types of crimes can be deterred by a patrol force. Crimes, such as homicide, assault, larceny, burglary, and rape are often committed in private places or in secret and, therefore, are little affected by the preventive and deterrent aspects of patrol.[8] One study even suggests that only about 40% of the known crimes occur in locations where they can be observed and hence potentially deterred by the police.[9] In short, this argument suggests, that if the crime is not observable, it cannot be deterred by the patrol force. The argument can be extrapolated further to suggest that the deterrent effect of patrol diminishes as the amount of time the perpetrator is visibly in the act of committing the crime diminishes.

In the interest of deterrence, police departments have engaged in operational activities aimed at heightening the visibility of patrol. These tactics include: use of one-person cars, motor scooters, increased foot patrol, take-home cars, saturation patrol, and split patrol; attempts to match officer characteristics, such as race, language skills and sex, with the characteristics of their beats; and the use of allocation and deployment models to: direct patrol units to high crime locales; randomize patrol presence; or minimize response time throughout the city.

The fact that different allocation models are based on opposing assumptions is, alone, indicative of the lack of knowledge regarding the relative effectiveness of alternative approaches to deterrence. There is also very little evidence concerning how and to what degree officer characteristics influence deterrence abilities.

In addition to tactical procedures designed to enhance the deterrent effect, departments have experimented with various supervisory procedures intended to increase the efficiency and insure the integrity of the patrol personnel.[10] These attempts have been based on the assumption that the deterrent capability of police patrol depends on the quality of individual officer performance and on high standards of officer integrity and honesty. Such attempts have ranged from the street deployment of supervisory personnel to the random and frequent reassignment of patrol officers to different beats.

While deterrence is considered by many to be the primary objective of police patrol and while considerable resources have been devoted to improving the deterrent effect of patrol, no direct

measure of deterrence exists: there is no way to measure the number of crimes which are not committed due to the operations of the patrol force. Since the number of non-crimes cannot be counted, it is impossible to determine how many crimes were not committed for either patrol or non-patrol reasons. This inability to measure deterrence may partially explain why to date no significant relationship has been shown to exist between patrol activities and the deterrence of crime.[11]

Without direct measurement, the relationship between the two must remain an inferred one, based largely on assumptions. The measures used by law enforcement agencies are indirect or surrogate ones, the merits of which are extremely problematic.

The techniques currently used by departments to measure the deterrent effect of patrol are of two types: (1) measures of crime and victimization rates; and (2) measures of patrol activity thought to be related to levels of deterrence. They include the following:

-- Changes in the Rate of Reported Crimes - on the theory that the rate of reported crime is related to the rate of actual crime, so that a decrease in the crime rate can be attributed to the deterrent affect of the patrol operations.

-- Changes in the Rate of Victimization by Type of Crime - on the theory that a decline in victimization rates is positively related to a heightened deterrent effect of patrol operations.

-- Increases in the Level of Criminal Arrests - on the theory that increased arrest rates indicate to the potential criminal a heightened effectiveness of patrol operations, and consequently a greater likelihood of capture either in the course of or directly following the commission of a crime.

-- Improved Patrol Officer Response Time - on the theory that the criminal will perceive the ability of police patrol units to respond quickly as an indicator of the likelihood of his apprehension.

-- Increases in Agressive Actions by the Police Force - (emphasis on such activities as stop and frisk and vehicle checks) - on the theory that careful checking of suspicious individuals will deter crime.

-- Increased Visibility of the Police - on the theory that the rate of deterrence is directly related to the number of visible patrol units.

-- Equalized Probability that a Patrol Unit Will Appear Anywhere Within the City at Any Given Time - on the theory that the uncertainty about the appearance of police patrol units will deter criminal activity.

While the first two deterrence measures are thought to be related to changes in the actual level of crime, the last 5 are related to police activities which are assumed to have a deterrent effect. Although there are many inadequacies with both types of indirect measures, only some of the most significant drawbacks will be mentioned here.

1. Use of reported crime rates is of questionable value because the relationship between reported crime and actual crime is not clearly understood. The percentage of actual crime which is reported may depend at least as much on public confidence in the police as on the true level of criminal activity.

2. Police patrol is only one of many factors which influence the rate of crime. This greatly reduces the utility of crime and victimization rates as measures of deterrence and it makes it virtually impossible to attribute changes in these measures to changes in patrol operations.

3. The use of types and levels of patrol activity as indicators of deterrence is based on the untested and rather self-serving assumption that these activities have a definite effect on criminal behavior. As a result, they tend to justify continued and more intensive use of the current patrol procedures.

In sum, while the objective of deterrence is of primary importance to patrol activities, little is known about the relationship between patrol strategies and deterrence and no satisfactory measures exist for evaluating the effects of patrol upon deterrence. Departments throughout the country are becoming increasingly concerned about this problem and it is in dire need of solution.

2. Apprehension

The second objective, apprehension of criminal offenders, is equal in importance to the first and closely related to it. When deterrence fails to prevent crime, the patrol force is responsible for apprehending the offender and swift, efficient performance of this task is generally assumed to contribute to future levels of deterrence.

In the context of the present study, we are concerned only with those arrests occurring due to: (1) self-initiated activity by uniformed patrol officers, resulting from the detection of a crime in progress or the recognition of alleged offenders; (2) actions initiated by direct, non-dispatched citizen requests for service; and (3) officer response to calls for service resulting in arrests due to "tactical surprise."[12] It is commonly assumed that increasing the number of officers on patrol will lead to an increase in the number of crimes detected in progress and the number of suspects apprehended on the streets. Additionally, deployment and allocation procedures are believed to have an important influence on officer-initiated apprehension capabilities. Typical policy decisions in this area include: (1) the deployment of either one or 2-officer cars based on varying assessments of the differences in their observational capabilities and abilities in making arrests;[13] (2) the utilization of allocation

formulas to either increase the presence of patrol units in high crime areas or randomize their distribution in the hope of catching offenders off-guard; (3) the use of different modes of transportation (e.g., foot, bicycle, scooter, motorcycle, marked cars, unmarked cars) based upon assumptions regarding their effectiveness for detecting different types of crimes in different types of areas; and (4) differential assignment of men and women to beats based on assumptions concerning differences in the aggressiveness of males and females.

In an effort to increase the number of apprehensions resulting from direct citizen contact with patrol officers, departments have sought to enhance citizen accessibility to officers by adapting modes of transporation to the characteristics of patrol areas. For example, foot, bicycle, or scooter patrols are frequently used in business districts. Departments have also been concerned with appropriately matching the ethnic, racial, and language skills of officers to patrol districts in an effort to increase the levels of rapport, respect, and cooperation between patrol officers and the communities they serve.

Finally, emphasis on apprehension by tactical surprise has led to the use of allocation models designed to reduce officer response time; and, to the priority screening of calls for service to minimize response time to calls thought to offer the highest probability of offender apprehension.[14]

The effectiveness of patrol in terms of apprehension is usually judged on the basis of two different measures -- one direct and the other indirect. They are:

-- Changes in the Number of Arrests -
(by the type of situation and crime)-
made by uniformed patrol officers
as a function of the
quality of the arrest and the clearance
rate.

-- Changes in the Response Time of Patrol Units - to "priority" calls for service.

The first measure can not be treated as an absolute number. It requires qualification to account for the quality of the arrest so that only the procedurally correct arrests of actual offenders will be counted. The qualification most prominently proposed is the number of arrests which survive initial screening as a proportion of the total number of arrests under consideration. The use of the "first screening" distinction is recommended as it minimizes the impact of prosecutorial and court decisions upon the final disposition of cases. This constitutes an attempt to determine whether or not the officer acted reasonably in making the arrest. Qualifying the number of arrests on the basis of case outcomes later in the judiciary process may significantly underestimate the apprehension effectiveness of patrol operations; it may also be argued, however, that not to qualify the statistics on the basis of final outcome may render the apprehension statistic a self-serving measure of the department's effectiveness which greatly inflates the sense of patrol effectiveness. It is also necessary to qualify arrest data with regard to levels of crime. The most common attempt to do so uses crime clearance rates, i.e., apprehensions are considered as a proportion of "cases solved" by the

department. This attempt to relate the number of apprehensions to the level of crime is necessary if a final judgement is to be made regarding the effectiveness of the patrol operation in achieving this objective. Unless we know whether the rate of crime is increasing or decreasing, we cannot know how to interpret changes in the rate of apprehension. For example, if the level of apprehension rises, is it because there is a significantly greater amount of crime, or is it because the patrol force is more effective in solving a constant or smaller number of victimizations? The inability to measure the rate of victimization and the problems involved in interpreting the rates of reported crimes (as discussed above) also limit our ability to interpret data on the number of apprehensions achieved by departments.

Use of response time as an indirect measure of apprehension, is based upon a limited body of empirical evidence which indicated, for example, that by reducing response time from 14 minutes to 1 minute, a 62% increase in the rate of apprehension resulting from calls for service can be achieved.[15] Based upon findings of this nature the use of response time in and of itself is becoming increasingly common as a measure of the apprehension effectiveness of patrol divisions.[16] However, while a relationship between response time and apprehension rates may exist, its use as a measure of goal attainment can be self-serving and deceptive. This it shares in common with most indirect measures of effectiveness.

In sum, while the apprehension of criminal offenders is a primary objective of patrol operations, little is known about the relationship between patrol strategies and apprehension, and no satisfactory measures exist for evaluating the effect of patrol tactics upon the rate of apprehension.

3. Providing a Sense of Community Security and Satisfaction With the Rules

The third objective of traditional preventive patrol, the provision of a sense of security to the community and the generation of a sense of community satisfaction with the police, is usually considered to be somewhat subsidiary to the preceding goals. While realization of the objectives of deterrence and apprehension is assumed to be partially dependent upon positive community attitudes towards the police, the first two objectives will generally not be sacrificed in order to achieve the third. On the contrary, it is normally assumed that effective attainment of these objectives will result in high levels of citizen satisfaction.

An example of the reluctance to compromise the goals of deterrence and apprehension in the interest of "felt security and satisfaction" is the decline in the use of foot patrol. While commonly thought to contribute to citizens' feelings of security and satisfaction, foot patrol has often been replaced by other modes considered to be more effective in terms of deterrence and apprehension. On the other hand, aggressive patrol practices are employed in a very discriminatory way for while they enhance deterrence and apprehension objectives, they are thought to alienate the community.[17]

Although it is generally believed that community's sense of security and satisfaction will "take care of itself" if the first two objectives are being met, some operational tactics are assumed to contribute more to its attainment than others. It is, for example, commonly believed to be influenced by the level of patrol visibility, the mode of transportation used on patrol, levels of police corruption, demeanor of patrol officers, and officer characteristics such as race,

language skills, and sex. In general, however, the operational configurations assumed to be most effective in meeting the objectives of deterrence and apprehension are also assumed to serve the goal of citizen satisfaction and sense of security.

While the impact upon community attitudes of varying levels of visibility and of utilizing women on patrol has been studied to some extent, the other assumed relationships remain untested. Surveys of citizen attitudes toward the police have been conducted but few studies explicitly relate survey results to specific changes in patrol operations on a before and after basis.

The measures which have been used to determine the impact of patrol upon the level of community security and satisfaction have, to a degree, been already suggested. They include:

-- Attitudinal Data Collected - on the basis of general population surveys and surveys of citizens who have had encounters with the police
-- Attitudinal Data Inferred - from citizen complaints about the police, structured observations of police- citizen encounters, and officer response times.

Survey research provides a direct measure of citizen attitudes toward the police; however, surveys offer little information regarding the intensity of those attitudes.

While in principle it is possible to use surveys to determine the impact of changes in patrol techniques upon the attitudes and feelings of the public, they are seldom employed properly for this purpose.

Accurate information on this relationship requires the testing of attitudes prior to a change in techniques, and then retesting them at an appropriate time after the change. The Kansas City Preventive Patrol experiment and the Women in Policing Study used this technique correctly, but there are even questions which can be raised concerning the quality of the surveys *per se*.[18] As a result of the limited number of before and after surveys, little is known about the relationship between patrol tactics and citizen attitudes.

The second type of additudinal data, which are inferred from complaints, structured observations, and response times, is generated on the basis of inferences about assumed relationships. The number of complaints received and the tone of the complaints is often used as an indicator of attitudinal dispositions. The problem inherent in using the number of complaints is that the number of complaints received can be influenced by both departmental procedures and by factors outside the control of the police, particularly media presentations. In addition, there is no basis for assuming that the complaints received have come from a representative sample of the population. Similar problems are faced in the use of structured observations of citizen-police encounters.

While both of these measures - the number of complaints received and the use of structured observations - may point to specific concerns which should be addressed in attitudinal surveys, neither measure can properly be used as a basis for making general statements about the public as a whole.

Finally, the use of response times as an indication of

attitudes assumes that a community's sense of security is dependent upon perceptions of the ability of the police to respond quickly to calls for service. This assumption presumes a relationship which is of uncertain validity.

In short, while measures of community attitudes exist, they have not been adequately used to test the impact of tactical changes upon levels of citizen satisfaction and felt security. As a result, most of the relationships reported in the literature are based only on assumptions.

4. Provision of Non Crime Related Services

The fourth objective of traditional preventive patrol, provision of non-crime related services, involves activities such as emergency ambulance and rescue service, and minor domestic matters; performing license inspections; and reporting the need for the repair of public property and utilities. The wide range of non-crime-related services "routinely" performed by uniformed patrol officers is indicated by a recent inventory which included over 3000 of them.[19]

Performance of non-crime-related services has fallen to the police due to the general abstention of other governmental agencies and the tendency of citizens to call the police when unable to think of where else to turn. In the main, the police have accepted these non-crime-related tasks, because their provision did not seem to undermine the effectiveness of patrol and could even be viewed as contributing to it. Performance of these services was felt to enhance the community's satisfaction with police work, improve rapport between citizens and officers and build a constituency for the department among the public at large. In addition, it is argued that the police should continue to

provide these services since their capabilities and "infrastructure" allow them to do so more cheaply and efficiently than other agencies of government.[20]

While non-crime-related services have in the past been provided without hesitation by the police, continuation of this practice is coming into question. As crime and the fear of crime increase provision of such services is seen as a significant detraction from the avialability of patrol units for preventive patrol and response to calls for crime-related services.[21] The magnitude of this problem can be summarized in the following way: it is estimated that the provision of non-crime-related services combined with the performance of traffic duties and the policing of minor misdemeanors consumes from 66-84% of the uniformed patrol officer's time.[22] It has been frequently argued that this time could be better spent on activities related to crime deterrence and criminal apprehension.[23]

In essence, the argument against police provision of these services maintains they interfere with the effective achievement of more important objectives of traditional preventive patrol, and as a result may indirectly lower the level of community satisfaction with police performance.[24] It has been suggested that the performance of some of these services, such as traffic control and reporting of public utility outages, does not require the expertise of patrol officers and could be handled as well by non-sworn personnel, and that other non-crime activities, such as license inspections and minor domestic problems could be provided more effectively and appropriately by other government agencies.

Proponents of curtailing police provision of non-crime related services, traffic functions, and the handling of minor misdemeanors do not disavow the importance of these functions *per se*, but rather offer alternative delivery mechanisms. Proposed changes in this area include: (1) referral of certain types of calls for service to other agencies;[25] (2) creation of new agencies[26] or divisions[27] to handle some tasks currently performed by patrol officers; (3) increased use of citizen auxiliaries[28] and non-sworn personnel;[29] and (4) establishment of systems to dispatch officers on a priority basis to calls for service.

In sum, departments do not seem to adapt the strategies and tactics of their patrol operations to the demands for non-crime-related services;[30] rather, they work the provision of these services around the performance of other tasks, increasing the manpower allocated to particular districts when the non-crime-related service load is inordinately heavy. Consideration of this objective is important in the context of the present study because of its potential impact upon the availability of manpower and equipment for crime-related routine patrol. However, since there is no empirically grounded research which quantifies the relationship between the number of officers deployed on crime-related patrol and levels of deterrence and apprehension, the extent and nature of this impact is unknown. In the jargon of economics, we do not know the marginal utility of the extra patrol officer.

Finally, the measures of effectiveness used to evaluate the contribution of patrol to the satisfaction of this objective are:

-- Activity Counts - showing the number of non-crime-related services, provided

often as a percentage of the number of requests received for assistance;

-- Changes in the Number and Content of Citizen Complaints - concerning the failure to provide such services satisfactorily, if at all; and

-- Information From Survey Data - concerning the general quality of service provision and the satisfaction of the recipient with the performance of the police officer.

5. Recovery of Stolen Goods

The fifth objective of patrol is the recovery of stolen goods. This objective has received little attention in the literature. Except with regard to the recovery of stolen cars, satisfaction of this objective is achieved only incidentally to the realization of other objectives. The location and recovery of stolen goods is primarily the concern of investigative rather than patrol officers; the search for stolen automobiles is a normal and often emphasized part of a patrol officer's routine. Tactical considerations in the performance of this function include an emphasis on traffic stops and spot checks, the use of special look-out sheets, and the deployment of two-officer cars for reasons of safety. Measurement of effectiveness in achieving this objective focuses on:

-- Value of Goods Recovered

-- Aggregate Amount of Goods Recovered - as a percentage of the aggregate amount reported stolen.

These are both direct measures. However, since neither is related to the total amount of stolen goods, but at best only to the reported amount, changes in the value or quantity of recovered goods may indicate either increased patrol effectiveness or decreased effectiveness in the face of an even greater rise in the amount or value of property stolen.

Before turning from a consideration of the objectives of traditional preventive patrol and the associated measures of patrol effectiveness, the utility of one additional concept should be mentioned. In the above discussion we have focused upon the attainment and measurement of objectives in an absolute sense, and we have stressed the recurring inability to measure the level of goal attainment in an accurate way. Another approach to neasuring effectiveness which is being actively explored is the use of productivity measures which emphasize cost-effectiveness. In a strict theoretical and analytical sense, as pointed out in the research hierarchy, computation of cost-effectiveness requires the ability to measure patrol effectiveness in a fairly precise manner. However, from a practical standpoint, focusing on cost-effectiveness suggests certain standards which can assist administrators in dealing with questions of effectiveness despite the fact that they can at present only be answered in a very impressionistic manner. In brief, this approach leads us to suggest that where, on the basis of current measures, little or no difference is perceived between the relative effectiveness of alternative patrol procedures, administrators should opt for the least expensive one. In other words, this argument rests on the assumption that when discrimination between

the effectiveness of patrol alternatives is impossible on other grounds, then considerations of cost should appropriately be used as the determining factor in decision-making. While this approach does not obviate the necessity for seeking a real understanding of the relationship between patrol operations and their effectiveness, it can provide a basis for decisions in the absence of more definite criteria. For example, despite the fact that whether one or two officer cars are more effective in terms of patrol objectives, we do know that the former is substantially less expensive than the latter and might be strongly preferred primarily on that basis. In a similar vein, it has often been noted that a large percentage of the uniformed patrol officer's time is devoted to the provision of non-crime-related services many of which do not require the expertise of patrol officers. While the relative effectiveness of officers *vis-a-vis* citizen auxiliary units in performing these tasks has never been determined, the latter would be much less costly and might be used for this reason.

For the most part, all of the measures discussed above can be converted into cost-effectiveness measures, by computing each as a ratio of manpower, equipment, or dollar inputs to the patrol operation. For example, the ratio of the number of apprehensions to the number of men deployed might become the basis for deciding between different deployment strategy. In this context, the department could ask how much additional money is it worth expending to achieve a given desired number of additional apprehensions, regardless of the merit of the apprehension statistics *vis-a-vis* understanding the overall

effectiveness of the patrol operation. By using cost-effectiveness measures we are only saying that given the measures we have to work with, and given the general attitude of the public, we will minimize the operating cost of the department. At such a time as we can determine how to measure the effectiveness of the department in a more direct and meaningful way, we can then determine if it is worth expending the amount of money necessary in order to have the desired impact. The message implied here is that until better measures can be developed, further research should be oriented towards minimizing the cost of patrol to the degree to which this can be done without altering our opinion as to its effectiveness *vis-a-vis* its objectives.

C--Summary of Findings

In the preceding section of this chapter we have indicated how, in a general way and based largely upon assumption, particular operational aspects of traditional preventive patrol are related to the attainment of the objectives of patrol. The operational aspects of patrol mentioned there can be apportioned among six categories in order to facilitate a detailed discussion of each. While ideally each operational aspect would be discussed individually and distinctly from the others, the nature of the literature does not allow for this. As a result, the categorization scheme we have used is more a reflection of the nature of the organization apparent in the literature, and less an analytical construction. Largely, it is a convenient scheme given the task of a literature review.

In the course of this section we will define the general categories which we have used and then summarize for each our more detailed discussions with regard to the level in the hierarchy which is typified by the accomplished research in each category, the quality of that research, and the particular findings resulting from that research regarding operational aspects of patrol.

The six categories into which we have clustered the operational variables of traditional preventive patrol are:

1. Patterns of Patrol
2. Mode of Patrol
3. Supervision of Uniformed Patrol Officers
4. Characteristics of Patrol Officers
5. Officer Professionalism
6. Routine Patrol in the Community

1--Patterns of Patrol discusses the alternative approaches which can be taken to set beat boundaries, determine patrol routes, designate officer task responsibility, and assign appropriate number of units to each beat. These approaches are described as they are used in establishing specific patrol patterns, namely: fixed beat, split, random, and saturation patrol. Particular attention is paid in this discussion to the issues of patrol visibility and patrol response time.

A--Beat Boundaries: We focus here upon the designation of the geographic area in which the patrol units are assigned. Three basic approaches are found in the literature. The first utilizes hazard formulas in an effort to equalize officer workloads and thereby optimize the overall effectiveness of the individual officer, and the sense of officer presence throughout the city. The second usually projects the number of calls for services, anticipates the time involved in responding to such calls, takes into consideration differential travel times in different parts of the city, and then estimates the number of beats (or units) which are required. This second approach is directed mainly at minimizing response time. The third approach derives boundaries on the basis of routes which have been determined on the basis of attempts to minimize travel times and thereby response times.

With regard to the objective of deterrence, little if any evidence exists as to the relative effectiveness of these alternative approaches. With regard to apprehension, there is some experimental and elasticity research which indicates heightened apprehension effectiveness due to reduction in response time. With regard to the provision of non-crime services, no tests have been found which relate the different

approaches to boundary setting to changes in the effectiveness of such service provision. With regard to providing a sense of community security and satisfaction, no evidence has been found of this relationship having been tested.

B--Travel Routes: We focus here upon the designation of the routes travelled by patrol units within their assigned beats. Three general approaches are found. The first leaves route designation largely to the discretion of the individual patrol units, on the assumption that the officers are sensitive to the problems within their beat and know the most important routes to travel to maximize their effectiveness. The second approach seeks to randomize travel on the assumption that this projects an element of unpredictability which is unsettling to the would-be criminal and thereby enhances the probability of detecting a crime in progress. The third approach assigns a repetitive route on the assumption that by so doing the response time and speed of travel throughout the beat will be increased.

With regard to the five objectives of patrol deterrence, there is no empirical evidence that permits differentiating between the actual effectiveness of the three basic approaches. Opinions do exist, however, that randomness enhances deterrence because of its unsettling impact upon the would-be criminal. Others argue that discretionary routes enhance deterrence and apprehension due to the increased sensitivity and awareness of the patrol officers. Finally, to the degree to which the assignment of travel routes does significantly reduce response time, a positive relationship is found to exist between least-time routing and apprehension effectiveness.

C. Task Assignment: The focus here is upon the range of responsibilities assigned to given patrol units, and the determination of the amount of time the patrol unit actually has for routine preventive patrol. This issue is significant as it has been estimated that as much as 80% of patrol time is spent on non-crime service calls, minor misdemeanors, and traffic duties and enforcement. The issue is determination of the range of services which should most appropriately be provided by the patrol officers. Approaches to task assignments include: (1) The dispatching of units to all service calls on an "as received" basis; (2) The prioritization of service calls, and dispatching of officers only to emergency situations or where the chance of apprehension is high; (3) The spliting of the patrol force into two groups, with one responding to calls and the other patrolling; and (4) The referral of non-crime related calls to other agencies or to non-sworn police personnel.

Response time is probably the most commonly used measure to evaluate the four general approaches to task designation. Theoretically, as departmental policies move from approach (1) to approach (4), a reduction in response time should follow as, all things being equal, more time and manpower become available for crime-related calls.

Some experimental evidence exists which supports these assumptions regarding changing response times. The implication is that as response time is minimized, the effectiveness of the patrol force in realizing the objectives of deterrence, apprehension, and the recovery of stolen goods (particularly automobiles) is enhanced, but at the expense of the objective of providing non-crime related services. The impact upon the objectives of perceived community security and satisfaction with the police is unclear.

D. Allocation of Extra Patrol Units to Single Beats: Here we deal with the issue of temporarily increasing the intensity of visible patrol within single beats in response to either anticipated or increased demands for service emanating from those beats.

Two basic approaches are used in the assignment of extra units. One approach is commonly called saturation patrol: extra units are assigned to beats on the basis of forecasting increased work loads. The second is magnetic patrol: a patrol unit not on a service call in its own beat will be dispatched to answer one in another beat when the unit assigned there cannot handle the volume of calls being received. The unit dispatched into another beat will remain there until dispatched elsewhere in response to another call. The assumption is that a "magnetic effect" will continually distribute the patrol force to the areas in which it is likely to be most effective.

Evidence exists that these approaches tend to improve the apprehension and deterrence effects of patrol operations within given beats. With regard to variable assignment based on case load forecasts, however, a serious question is raised as to the possibility that crime is displaced from the intensively to the less intensively patrolled areas. The theory of magnetic patrol with its continual reallocation of patrol units is thought to guard against this displacement effect. We have found, however, no valid empirical studies which relate changes in patrol intensity to the displacement of criminal activity.

E. Visibility: Here the focus is upon the visibility of the general, routine patrol force within a particular geographic area. The discussion of visibility is seen to be relevant to all patterns of patrol mentioned above.

The evidence regarding the impact of visibility upon patrol effectiveness is somewhat contradictory. Some evidence suggests that the increased visibility resultant from an increase in patrol activity contributes to increased deterrence and apprehension within the beat, although it is not known whether or not crime was displaced to other beats where patrol was less intense. Other evidence, in particular the reported summary results of the Kansas City Preventive Patrol Experiment, calls into question the belief that the visibility of patrol increases its overall effectiveness. Our review of the summary of that experiment, however, causes us to raise questions regarding the efficacy of its reported results.

In sum, with regard to the question of visibility of routine patrol, there is no valid evidence regarding the nature of the relationship between visibility and patrol effectiveness.

F. Response Time: Here we summarize the approaches taken to reduce response time, such as assigning a fixed number of units to handle service calls regardless of other patrol conditions, designating beat areas so that individual patrol units will be able to respond quickly while completing their other patrol duties, reducing the number of non-emergency calls assigned to patrol units, and providing the dispatcher with information on the geographic relationship between patrol units and the location of the calls.

Each of these approaches has been tried in various cities, and the usual result has been an immediate reduction in response time from the routine dispatch practices.

The most sophisticated research has been done with regard to the impact of diminished response time upon apprehension where given reductions have been found to result in significant increases in the rate

of apprehension. The most dramatic increases occur when the time it takes to respond to such crimes as burglaries and robberies can be reduced to from one to two minutes.

Although reduction in response time is believed to improve deterrence, no empirical evidence to support this assumption has been found. In addition, no conclusive tests have been made regarding the impact of reduced response time upon felt security and citizen satisfaction, or upon the ability to provide non-crime services. To the degree to which improved response time heightens the level of arrests in the case of burglaries and robberies, it also increases the level of recovery of stolen goods.

2--Mode of Patrol discusses the relative merits of various types of patrol vehicles, foot patrol, one-officer and two-officer cars, and take-home cars. The discussion below summarizes how various mode types contribute to apprehension, prevention, economy, safety, and community relations.

A--Mode of Transportation: Here the focus is upon the relative merits of automobile, foot, motorcycle, motor scooter, bicycle, and helicopter patrol.

Although there are some disagreements and conflicting evidence, the automobile is generally considered to be the most effective mode of transportation. It is able to respond quickly to a crime-related call, and thereby maximizes the probability of criminal apprehensions. The impact of automobile patrol upon prevention is open to question. Some suggest that the ability of the automobile to cover large areas quickly, and the high visibility of the automobile *per se*, has a deterrent effect; others disagree.

Except where there is potentially dense street crime or inaccessible patrol areas, foot patrol is considered to be quite ineffective. The patrol officer does not receive service calls, is quite visible, moves rather slowly, and may be fatigued, all making apprehension of a criminal quite unlikely when compared with other modes. With respect to prevention, foot patrol is considered to be effective in some areas, but impractical on a city-wide basis due to high costs. Police officials tend to believe that the personal contact obtained through foot patrol improves community relations, although some evidence suggests that foot patrol in some neighborhoods may actually antagonize the residents.

Motor scooters are becoming increasingly popular as a mode of transportation. Many believe that the motor scooter combines the best

attributes of the automobile and foot patrol, giving the patrol officers speed, maneuverability, and personal visibility. Although little evidence exists to support the contention that motor scooter patrol contributes significantly to prevention or apprehension, many tend to believe this. The motor scooter can be dangerous at speeds approaching 20 mph and in heavy, slow traffic.

Costing little more than foot patrol, yet with additional speed and high maneuverability, bicycle patrol appears to contribute to both apprehension and prevention in two limited tests. Many believe that bicycle patrol has the same impact upon community relations as foot patrol.

Helicopter patrol, particularly when combined with automobile patrol, appears to contribute to both apprehension and prevention. Surveys of these patrol operations suggest that the community wants them continued. Helicopters, while quite expensive, are usually justified on the grounds that they can effectively replace two to six ground units under certain circumstances.

Two-wheel motorcycles, although popular in some cities, contribute little to patrol operations, are as expensive as an automobile, are dangerous, and may antagonize the community.

In sum, the most reliable information collected on patrol modes describes their financial and safety characteristics, as these date often are collected apart from the analysis of patrol effectiveness.

Although there have been a number of efforts to test and use new patrol modes, particularly the motor scooter and, to a lesser degree, the helicopter and bicycle, few conclusions can be made about their impact upon apprehension and deterrence. One reason many of these studies are inconclusive may be that the introduction of a new patrol mode may constitute only one part of a larger effort to improve patrol effectiveness. It is interesting to observe that even when many of these studies are inconclusive, widespread efforts by police agencies to obtain the new types of vehicles begin.

B--<u>One-Officer vs. Two-Officer Patrol Cars</u>: Consideration here is given to the relative merits of one-officer and two-officer patrol cars.

Although most departments are shifting from the two-officer patrol car to the one-officer car, there is still debate among police officials concerning relative effectiveness. The majority opinion is that the one-officer unit is the most effective in crime prevention due to increased visibility and interceptor capability which results from the increased number of patrol units on the street. In a few cities, the one-officer patrol concept was extended into a take-home car program, the proponents claiming that this leads to improved prevention, since visibility is increased due to the daily use of the vehicle by the officer when off-duty.

With regard to apprehension, there are two opposing views. One view is that the relative merits of each type of mode have not been determined. The other view is that the one-officer cars have a higher apprehension rate. Those who support this latter view usually assume reductions in response time, since the additional units mean smaller beats to be covered. Also, it is assumed that the one-officer units will be more alert than if patrolling with a partner. Those who believe that take-home cars contribute to apprehension refer to their availability for emergency dispatch when off-duty.

There is general agreement that the one-officer unit is cheaper, although there are some who believe that the extra costs of

increased supervision and new equipment reduce considerably the cost advantages of the one-officer unit. The additional costs of the take-home car program are thought to be more than off-set by increase in patrol time.

The available data suggest no appreciable differences in safety. There are, however, some indications that organizational precautions compensate for any increased vulnerability of the one-officer car.

3--Supervision of Uniformed Patrol Officers deals with the relative merits of different forms of supervisory control, particularly with regard to supervisor-patrol officer ratios, the street deployment of supervisory personnel, frequency of patrol officer call-in, frequency of patrol officer rotation among beats, and procedures for evaluating individual officer performance. These are discussed with regard to officer efficiency and officer corruption. In addition, we discuss problems which seem to make it inherently difficult to exercise supervisory control over patrol officers. Issues in patrol supervision are seen to relate to all five objectives of police patrol. In this summary, we present our findings in two sections: "First Line Supervision of Patrol Officers" and "Corruption."

A. First Line Supervision of Officers: With regard to the first line supervision of patrol officers, there are two dominant schools of thought found in the literature. The first emphasizes tight control and close observation over the patrol officers and projects a "para-military model" of police operations; the second emphasizes officer discretion and participation in the decision making process and projects a "participatory-management structure." As a department structure approaches the first model, supervisory-patrol officer ratios tend to be low, close field observation and stringent written report guidelines are set, officers are required to call in frequently, and officers are rotated among beats almost on a random basis. As a department moves towards the "participatory" model, the opposite becomes the case. Most departments tend towards the para-military model.

Low supervisor-patrol officer ratios are assumed to increase

the level of direct accountability and thereby assure patrol officer conformity with regulations and a heightened attention to duty. In the course of our general literature review, although we have found much common sense argument we have not found any studies which show empirically a valid relationship between low ratios and improved officer performance or patrol effectiveness.

The street deployment of supervisory personnel and a high frequency of patrol officer call-in are both assumed to increase the ability of supervisors to observe and maintain an awareness of the actual characteristics of individual officer performance. On the one hand it is argued that by so doing it is possible to maximize officer attention to duty and to increase the ability of the department to detect corrupt practices. On the other hand, some believe that such close observation stifles officer initiative and has a negative impact upon officer morale. We have found no conclusive evidence that either is the case.

The practice of frequently rotating patrol officers among beats assumes that through such rotation, opportunities for corruption will be reduced. While there is no empirical evidence which seems to relate levels or even the advent of the frequency of beat rotation, there is some evidence which indicates that frequent rotation undermines the effectiveness of the officer on the beat. His morale is undermined, and he never develops an indepth knowledge of the area to which he is assigned to patrol.

With regard to procedures used to evaluate patrol officer performance, we note that the literature suggests that an effective evaluative instrument has never been developed which relates changes in aspects of officer performance to changes in the effectiveness of the officer or of the patrol operations as a whole.

In general, we have found no empirical evidence which relates the different models of supervision to differences in officer performance or differences in patrol effectiveness. While it is not possible to determine the relationship between the particular disaggregate characteristics of patrol and the level of individual officer performance, one study has been found which relates the two models of supervision to the frequency of officer infractions. It was found that the closer a department approaches the paramilitary model, the fewer the infractions and the better the performance of individual officers. No relationship was drawn to the overall effectiveness of the patrol division.

B. Corruption: In the context of a more general discussion of the "would-be" causes of the corruption of general patrol officers, we focus upon the procedures and tactics employed by departments in order to control and eliminate corruption on the part of uniformed patrol officers.

Three approaches have been identified in the literature. The first assumes that through more careful screening of recruits and better training in the legal and ethical aspects of patrol, officer susceptibility to corruption will be reduced. The second assumes that through close monitoring including closer surveillance of patrol officers and through the frequent rotating of beat and partner assignments, the opportunity for corruption will be minimized, corruption itself will be deterred, and, if deterrence fails, apprehension will be facilitated. The third assumes that through enhancing the career opportunities including the salary levels offered to the patrol officer, the motivation for corruption will be reduced.

The efficacy of all approaches remains in doubt due to the inherent inability to measure the existence of corruption. It is thought, however, that some of the approaches to the elimination of corruption have

either positive or negative effects of patrol officer performance. Enhancing career opportunities and salary levels are assumed to have a positive effect on officer motivation, though we have not found any empirical evidence in support of this contention. The active functioning of internal security units within departments are thought to have a negative effect on officer morale, though again we have found no empirical evidence for this conclusion either. The frequent reassignment of officers to beats and partners is thought to be generally counterproductive to overall effectiveness as it reduces the officers sensitivity to and knowledge of his territory. Limited empirical evidence has been found in support of this last contention.

4--Characteristics of Patrol Officers, in which the attributes of an officer's race and sex are discussed with regard to the efficiency of officer performance and the integration of the officer into the community. This category is seen to relate primarily to the objectives of deterrence, apprehension, community satisfaction, and the felt sense of security and citizen satisfaction.

A. Racial Characteristics: We focus here upon (1) the use of non-white officers for patrol in predominantly minority areas, and (2) the impact of the presence of non-white patrol officers on the rest of the patrol force.

With regard to the use of non-white officers for patrol in non-white areas, those who believe that assignment on the basis of race affects the quality of patrol assume that non-white patrol officers have a better rapport with the community, are more trusted by the community, and are more sensitive to the needs of the community. Although the use of non-white officers in non-white districts is assumed to have a positive effect upon achieving the objectives of deterrence in that the officer is thought more accessible to citizens and is thought to be perceived as less threatening by the citizens, findings based upon the limited use of opinion surveys and structured observations are inconclusive. With regard to the objective of felt community security and citizen satisfaction, similar types of research studies have also yielded inconclusive results.

With regard to the impact of the presence of minority patrol officers on the rest of the patrol force, limited findings, based on survey research and informal observation indicate that the use of minority officers reduce the prejudicial attitudes of their white counterparts. However,

we have found no empirical evidence which clearly indicates a relationship between changes in officer attitudes, changes in their behavior while on patrol, and through the latter, changes in the effectiveness of patrol with respect to the five objectives of patrol.

B. Sex: We focus here upon the issue of the use of women for routine preventive patrol. Generally it has been assumed that women do not possess the requisite physical attributes, or project an appropriate image of authority to perform effectively as patrol officers.

The reported results of limited experiments indicate that women can and do perform as well on patrol with regard to all objectives of patrol. It is our belief, however, that the question of the effectiveness of women as patrol officers (as compared to their male counterparts) remains an open one as a careful look at the methodology and analysis upon which these findings are based do not support the reported conclusions.

5--Officer Professionalism emphasizes the educational background of the patrol officer with particular regard to the quality of officer performance, the range of officer discretion, and the overall efficiency of the patrol division. The general concept of professionalism is also discussed as a catchall for any change made in a patrol division and thought to streamline or improve patrol operations. Individual changes relating to professionalism are, therefore, discussed in all other categories.

In the discussion of the educational level of the patrol officer, we focus upon the effects of higher education on the ability of patrol officers to perform routine patrol duties. The literature generally assumes that higher education increases officer performance with regard to all aspects of patrol and thereby increases each officer's impact upon the overall quality of patrol. A particular assumption is that higher education better prepares officers to handle discretionary aspects of the job.

Correlation analyses seeking to measure the relationship between levels of higher officer education and the quality of officer performance have found no such systematic relationship to exist. This finding of a lack of relationship is reenforced by survey research which indicates that differences in levels of perceived security and community satisfaction do not seem related to differences in the level of education of the officers. On the basis of what has been found in the literature, "higher education" for patrol officers does not seem to relate to the more effective attainment of patrol objectives; all the evidence is somewhat inconclusive.

6--Routine Patrol in the Community examines the relative merits of an officer's sensitivity to and interaction with the community and his approach to patrol in that community with regard to the issues of officer-community relations. Particular attention is given to the legitimacy of aggressive patrol tactics. To a degree, this category is seen to be closely related to all of the above categories. The category of "Routine Patrol in the Community" is seen to relate primarily to the objective of community security and satisfaction, and through it to the other objectives of deterrence, apprehension, provision of non-crime related services, and the recovery of stolen goods.

In the section we focus primarily upon (1) the relationship between an officer's sensitivity to the needs of the community and his ability to perform effectively within that community and (2) the relationship between the style and tactics of patrol and the effectiveness of patrol within a given community.

With regard to the issue of an officer's "position" in the community and the importance of improving his communication and rapport with the citizenry, it is generally assumed that the better his knowledge of the area he patrols and the better his rapport and communication with the citizens he serves, the greater his overall effectiveness. Available evidence does not clearly support this assumption.

With regard to the issue of patrol styles and tactics, with particular reference to the use of aggressive patrol techniques as implied by an emphasis upon stop-and-frisk and street interrogations, it is generally assumed that such techniques enhance achievement of the objectives of apprehension and deterrence, but have a negative effect on the level of

satisfaction with the police while also posing a threat to individual rights. The actual impact of aggressive patrol on deterrence is unknown; its impact on apprehension rates appear, on the basis of some empirical evidence, to be small. The negative impact on community attitudes is somewhat documented by survey research, while the effect on civil liberties is being debated in the courts and remains problematic.

REFERENCES AND FOOTNOTES ON OVERVIEW

1. This definition is not unlike that offered by many writing in the field. See, for example: Paul M. Whisenand and James L. Cline, Patrol Operations, (Englewood Cliffs, 1971), p

2. A 60% figure has been reported by the majority of respondents to the National Patrol Survey being conducted by project staff. This number is not unlike that reported in: G. Douglas Gourley, Patrol Administration, 2nd ed., (Springfield, 1974), p. viii. We expect that a very firm estimate will be forthcoming based on the ongoing work of Eleanor Ostrom.

3. This distinction between two types of independent variables -- those potentially within the control of the administrator and those beyond his control -- is drawn from: James S. Coleman, Policy Research in the Social Sciences, (Morristown, New Jersey, 1972).

4. This research hierarchy has been adapted from: William McGreevey, et. al., The Policy Relevance of Recent Social Research on Fertility, (Washington, D.C., 1974), pp. 61-64.

5. Many lists of departmental and patrol objectives have been found in the literature. There is, however, very little difference between them. Because of the extensive documentation provided, we have adopted those set forth in: The Report of the Advisory Group on Productivity in Law Enforcement on Opportunities for Improving Productivity in Police Services, (Washington, D.C., 1973); see particularly pp. 13-26. The more traditional definitions are found in: Clarence H. Patrick, "The Police in Modern Society," The Police, Crime, and Society, ed. Clarence H. Patrick, (Springfield, 1972), p. , and Gourley, *op. cit.*, p. 157.

6. See, for example: Samuel G. Chapman, "Security Checks," Police Patrol Techniques, ed. Samuel G. Chapman, (Springfield, 1970), p.

7. George Kelling, et. al., The Kansas City Preventive Patrol Experiment: A Summary Report, (Washington, D.C., 1974). While we report the findings of the study here and suggest that they have caused many to question the efficacy of visible patrol, we note that our review of this summary raises serious questions as to the validity of the results. These are explained in greater detail on pages A-10 to A-12 of our report.

8. Patrick, *op. cit.*, p

9. J. F. Elliott and Thomas J. Sardino, Some Data on Crime as it Relates to Police Strategy and Tactics, (New York, 1971), pp.

10. See, for example: Albert J. Reiss, Jr., The Police and the Public, (New Haven, 1971), pp. 164-168.

11. Franklin E. Zimring, Perspectives on Deterrence, (Washington, D.C., 1971).

12. We note here that the available documentation suggests that only from 13-20% of the actions taken by uniformed patrol officers are officer-initiated. See: Reiss, *op. cit.*, p. 11, and John A. Webster, The Realities of Police Work, (Dubuque, Iowa, 1973), p. 57.

13. J. F. Elliott, et. al., "The Detection and Interception Capability of One- and Two-Man Patrol Units," Police, November-December, 1969, pp. 24-26.

14. The crimes usually considered to have the highest associated probabilities of apprehension are robbery and burglary. See, for example: The President's Commission on Law Enforcement and Administration of Justice, Task Force Report: Science and Technology, (Washington, D.C., 1967), p. 10.

15. *Ibid.*, pp. 9-10.

16. A typical example of the utilization of response time as a measure of effectiveness is found in: Spencer B. Smith, "Operations Research for More Effective Police Patrol," Technology and Human Affairs, Summer, 1972, Vol. 4, No. 2.

17. Reiss, *op. cit.*, pp. 92-94.

    Wayland D. Pilcher, "The Law and Practice of Field Interrogation," The Journal of Criminal Law, Criminology and Police Science, 58, 4, December, 1967, pp. 489-490.

    The President's Commission on Law Enforcement and Administration of Justice, *op. cit.*, pp. 184-185.

18. Kelling, *op. cit.*, and Peter B. Bloch and Deborah Anderson, Policewomen on Patrol: Final Report. Particular concerns are raised in other sections of this report. Regarding the Preventive Patrol Experiment, see pp. A-10 to A-12; regarding the Women in Policing study, see pp. D-6 to D-10.

19. Whisenand and Cline, *op. cit.*, p

20. Marvin Cummins, "Police and Service Work," Police in Urban Society, ed. Harlan Hahn, (Beverly Hills, 1971), p. 287.

21. Herman Goldstein, "Police Functions Peripheral to the Task of Preventing and Controlling Crime," Police Patrol Techniques, ed. Samuel G. Chapman, (Springfield, 1970), p

22. James Q. Wilson, Varieties of Police Behavior: The Management of Law and Order in Eight Communities, (New York, 1972), p. 19.

    Whisenand and Cline, *op. cit.*, p

23. See, for example:

Webster, *op. cit.*, pp. 98-100.

Reiss, *op. cit.*, 94-96.

Comments received in response to our National Patrol Survey also indicate that this is a widespread belief among patrol administrators.

24. Richard A. Myren, "The Role of the Police," Police Patrol Techniques, ed. Samuel G. Chapman, (Springfield, 1970), p

25. Goldstein, *op. cit.*, p

With few exceptions, every department responding to our National Patrol Survey indicates that some calls for service are routinely referred to others for response.

26. Myren, *op. cit.*, p

27. With little variation, it is argued that the patrol department should be divided into two divisions: one which is assigned to handle law enforcement, and the other non-crime related services. Three separate proposals are set forth in the following works:

The President's Commission on Law Enforcement and Administration of Justice, *op. cit.*, pp. 122-124.

Jesse Rubin, "Police Identity and the Police Role," The Police and the Community, ed. Robert F. Steadman, (Baltimore, 1972), pp. 41-44.

Bernard L. Garmire, "The Police Role in an Urban Society," The Police and the Community, ed. Robert F. Steadman, (Baltimore, 1972), p. 6.

28. In the following works, citizen auxiliaries are proposed as being capable of performing such services as neighborhood security checks and house watches, roving observations for wanted persons and vehicles, social service counselling. See:

The President's Commission on Law Enforcement and Administration of Justice, *op. cit.*, pp. 223-224.

James S. Campbell, et. al. and others, Law and Order Reconsidered, (New York, 1970), pp. 441-445.

George E. Berkley, The Democratic Policeman, (Boston, 1969), pp. 177-178.

National Advisory Commission on Criminal Justice Standards and Goals, Police, (Washington, D.C., 1973), pp. 264-269.

Gourley, *op. cit.*, pp. 86-93.

29. Citizens may be hired by police departments as non-sworn personnel to handle specialized functions which would otherwise be assigned to uniformed patrol officers. These might include traffic duties, and community services. See:

The President's Commission on Law Enforcement and Administration of Justice, *op. cit.*, p. 125.

National Advisory Commission on Criminal Justice Standards and Goals, *op. cit.*, pp. 258-261.

30. In some cases, certain equipment is utilized on routine patrol or assigned to patrol officers so that such non-crime related services can be provided, when necessary; e.g., the use of station wagons on patrol so that patrol cars can serve as ambulances.

PART II

Issue Papers on Traditional Preventive Patrol

ISSUE PAPERS ON TRADITIONAL PREVENTIVE PATROL

The following six issue papers, in the areas of Patterns of Patrol, Mode of Patrol, Supervision of Patrol Officers, Characteristics of Patrol Officers, Professionalism, and Routine Patrol in the Community, combine to summarize and assess the literature on traditional preventive patrol.

With regard to each issue, the opinions, experience, and research findings which pertain to it are described. Particular operational characteristics which contribute to the achievement of each of the five basic patrol objectives -- apprehension, detection, satisfaction of demands for non-crime services, provision of a sense of community security and confidence in police, and recovery of stolen goods -- are discussed. Assessments are then made of the quality of the findings.

Each issue paper is prepared as a complete document; the description of the issue, our assessment of the quality of the literature, and citations to the source materials are bound together to facilitate review.

PATTERNS OF ROUTINE PREVENTIVE PATROL

Police officials have a considerable range of opportunities for setting patrol directives, ranging from allowing the individual patrol unit to move about as it wishes to assigning specific routes and schedules. Within these extremes, a number of patterns of routine patrol have been developed and have evolved. The term "pattern" refers here to the responsibilities of patrol officers within their assigned beat, not to the methods of crime analysis which led to their selection and subsequent assignment to beat areas. In discussing some of the basic attributes and characteristics of alternative patterns of routine patrol, the premises supporting the crime analysis techniques which resulted in the determination of beat boundaries and size, number of officers, scheduling, supervisory practices, etc., will be discussed in order to improve understanding of the stated purpose of each type of patrol.

It must be understood that the possibility for variations in actual patrol practices exist within each of the patterns discussed below. For example, the degree of agressiveness can vary among beats which, in principle, are the same. Officers in one beat, either by directive or on their own initiative, can stop and interrogate considerably more people than officers in another beat, even though basic patrol patterns are the same. Also, different modes can be used and the number of officers assigned to an automobile may vary.

Again, the discussion of patrol patterns focuses upon the responsibilities of patrol officers as they move throughout their assigned beat.

A. Regular, Routine Patrol: The Fixed Beat

This type of patrol appears to account for the majority of patrol activity undertaken by departments with 24-hour patrol operations. Also, this type of patrol is generally used as the standard against which the effectiveness of all other types of patrol is measured. The typical fixed beat has one marked car assigned to it, with 1 or 2 uniformed officers depending upon the characteristics of the neighborhood. Alternatives to the marked police vehicle are uniformed officers either on foot or motor scooter. The patrol unit follows a route within the beat area; the route taken is generally based upon some combination of the officers' experiences and perceptions, guidelines perhaps provided by fellow officers or superiors, and any specific duties which are scheduled to be performed. The patrol unit receives all service calls within his beat; in an emergency, it may be dispatched to other beats. The type of service call which warrants the dispatch of a police officer varies among police agencies. In Wilmington, Delaware, for example, the general policy has been to dispatch a car for any type of citizen request. In Boston, Massachusetts, considerable effort has been made at the dispatcher level to screen out non-emergency service requests.

The patrol unit, then, handles all service calls; there are no specialized units deployed to handle certain types of calls. (Traffic, certain vice violations, and robberies-in-progress may be an exception to this general rule.) When not assigned to a service call, the patrol unit is visibly moving through the area in an attempt to reduce the opportunity for a crime to be committed and increase the apparent threat of apprehension to the criminal. Also, specific duties may have

to be completed as part of routine patrol operations, such as directing traffic at the end of the school day, providing informal escort services to retailers delivering daily receipts to the bank, and checking on the customers of certain eating and drinking establishments.

Fixed beat patrol often is characterized by the following terms: random and unpredictable, omni-present, inquisitive, and responsive. Actual patrol functions, however, usually vary according to the way patrol beats are defined. Methods of determining the boundaries of the fixed beat are discussed below.

1. Hazard and Workload Formulas

A police hazard is defined as any situation which may induce an incident requiring some police action.[1] Hazards may be defined in terms of population size and density, types of business establishments, characteristics of the residents, crimes and attempted crimes, street miles to be patrolled, radio calls, and felony arrests. In workload formulas, activity indicators associated with police patrol and the other factors believed to be relevant to police patrol are combined so as to produce some index of the need for patrol services. The term hazard formula is the most appropriate to use when factors focus on actual crime hazards, such as bars, parkland, and parked cars, while the term workload formula is perhaps more appropriate when factors focus on patrol time requirements, such as street miles to be patrolled and store fronts to be checked.[2]

Hazard and workload formulas are used to equalize the hazards or workload among patrol units; the computed index is assumed to be a surrogate measure for the relative need of police services. Adjusting the boundaries of the patrol beats, in principle, serves to equalize the

hazards and workload among all patrol units, since each boundary contains a specified number of hazards or factors affecting workload. The objective, then, is to distribute the patrol force in equal proportion to hazards or workload across all patrol units.

The concept of proportional distribution is not new. As early as 1909, Chief August Vollmer in Berkeley, California, assigned his patrol force to two 12-hour shifts and to beats which were laid out in accordance with the number of anticipated calls.[3] The result was that some beats were quite large geographically and some were quite small, but the total number of calls expected in each were approximately the same. It has been pointed out that the use of a hazard formula today cannot easily be justified unless it is continually updated: hazards must be inspected and assessed regularly.[4] Routine preventive patrol procedures must be reviewed and service calls and investigations estimated.

Hazard formulas and the resultant proportional distributions are largely based upon estimates of the time it takes a patrol unit to complete a given task; e.g., patrolling a certain street, handling a call, or stopping a traffic violater, or interrogating a suspicious person. Wilson and McLaren suggest, however, that allocating manpower according to the absolute time required to perform a satisfactory quality of police service is impractical.[5] Simply, they point out that the time needed for routine patrol is not known. Also, there are no standards for optimal patrol strength. In order to correct these difficiencies, it is suggested that analysis of the proportional distribution of hazards and other factors affecting police patrol be the basis for fixing beat boundaries, with available manpower allocated accordingly.

Although the use of hazard formulas has probably formed the basis for defining most fixed beat boundaries across the country, there are a number of severe shortcomings associated with their application.

Pakalik and Wildhorn make the following points concerning the application of hazard formulas: (1) The additive weighted combinations of hazards and factors affecting police patrol do not reflect highly complex interpretations nor the relative importance of single factors. (2) Such formulas reflect past rather than forecast future problems. (3) Meaningful effectiveness measures are not related to operational policies. (4) Nothing is said about the total size of the patrol force.[6] Stated differently, hazard formulas are inherently linear in form, thereby precluding descriptions of highly complex and non-linear interactions.[7]

It is generally understood that hazard formulas and the resulting patrol discriptions do not relate crime and patrol strength to effectiveness measures, only to activity measures. One result of this is that activity indicators may suggest the need for additional personnel in high arrest areas where, in fact, actual needs may be in those areas with relatively fewer arrests by over-worked personnel.

The use of hazard formulas suggests that the level of preventive patrol is generally determined in a residual fashion; the time not spent on service calls or handling citizen requests is *ipso facto* preventive patrol.

Although the use of hazard formulas is the most common way of assigning patrol responsibilities, little can be said about its actual effectiveness as compared to other forms of patrol. One reason for this is that it is difficult to determine the exact impact individual variables (e.g., miles patrolled vs reported crimes) have on computing

the hazard or workload index, as each department tends to make subtle adjustments in the computations which cannot be traced. Also, a major effort to introduce th use of hazard formulas into a department may also include other changes such as new training and community relations efforts, thereby increasing the difficulty of ascertaining the exact impact of allocating patrol units according to hazard formulas.

2. Magnetic Patrol

As mentioned above, patrol units not on a service call may be dispatched from their beat to another beat where there is an emergency which cannot be handled by the patrol unit originally assigned to it. Upon completion of the call in the other beat area, the unit returns to its originally assigned area. Under conditions of magnetic patrol, the patrol unit which is dispatched from its beat to another will remain in the new beat patrolling and answering calls until assigned elsewhere. This pattern is justified, generally, on the assumption that the level of preventive patrol which is required in an area is roughly proportional to the number of service calls received from it. Magnetic patrol is considered here to be a short-term variation of routine preventive patrol, as the beat areas remain fixed. Generally, when shifts change each patrol unit begins its patrol activity in its assigned area, moving to another only when there is a service call which cannot be handled by the patrol unit assigned to it.

Magnetic patrol, or similar variations, is discussed in the literature as a possible pattern,[8] but any actual tests do not appear to have been documented.

3. Conclusions Concerning Fixed Beat Patrol

Although the literature on fixed beat patrol is voluminous, it is not possible to draw any firm conclusions as to its impact on deterence, apprehension, and provision of services. Major attempts to equalize workloads usually are accompanied by personnel shifts, new training programs, and community relations programs, making it difficult to determine the specific impact of new beat boundaries upon patrol objectives.

B. Split Patrol: Reactive and Proactive Patrol

A number of observers of police patrol practices have noted that it is extremely difficult to measure the effectiveness of preventive patrol *per se*. Perhaps because it is relatively easy to measure response time and the time spent performing specific duties, preventive patrol is often examined only as a residual. Often preventive patrol is considered to be only the time the patrol unit has after all other duties are accomplished. One result of this is that patrol units may begin to consider the time between calls as "rest periods," where they are merely waiting for another call. Also, patrol units begin to consider handling of service calls as their most important task; the time spent between on preventive patrol is considered to be the time between jobs.[9]

To examine the impact of preventive patrol *per se* and to test various hypotheses concerning its effectiveness, a number of proposals and efforts have been made to distinguish quantitatively "reactive" patrol from "proactive" patrol. This distinction usually results in service calls being the responsibility of reactive patrol units and preventive patrol being the responsibility of proactive patrol units. This "split" can be accomplished by either fixing the proportion

of time individual patrol units have to spend on preventive patrol or assigning reactive and proactive tasks to different patrol units. In sum, reactive units respond to service calls phoned in by citizens and proactive units patrol and initiate their own activities.

1. Fixing Ratio Between Reactive and Proactive Patrol Time for Each Unit

One recent example of an attempt to fix the ratio of reactive and proactive patrol time was made in Arlington County, Virginia.[10] Here, the working assumption was that the time spent on proactive patrol should be twice that spent on reactive patrol:

$$\frac{\text{"Unobligated Time"}}{\text{"Obligated Time"}} = \frac{2}{1}$$

Service calls and arrest projections were made and weighted according to the time it takes a patrol unit to handle each. The time required to handle each service call and non-traffic arrest was then estimated and the total workload in hours was computed using the 2-1 ratio which expressed the desired relationship between proactive and reactive patrol. Beat boundaries were then adjusted to approach an equal workload. Although this can be considered to be an application of a hazard formula, it was an explicit attempt to fix the proportion of time a single patrol unit is to spend on preventive patrol *per se*.

The selection of this relatively simple technique was made after a careful review of the applicability of large-scale simmulation and resource allocation techniques. These more sophisticated techniques were explicitly rejected by Arlington, County, police officials for the following reason: they are oriented towards a reactive rather than a preventive patrol strategy "...which tends to overemphasize remaining

idle and in service to respond to an event after its occurence, and they require too much shifting around of patrol units; the patrol officer doesn't really get to know his Turf." [11]

After the estimates of needed patrol units were made, it became evident that the available manpower was insufficient. Due to a number of management problems, it was not possible to increase the size of the patrol beats proportionally so that they would equal the number of available officers. Although this form of split patrol was not actually implemented, police officials did become more sensitive to the problem of allocating time for proactive patrol.

2. Assignment of Reactive and Proactive Patrol Tasks to Different Units

Here, the number of units needed for preventive patrol operations are estimated; they do not, except in an emergency, respond to service calls. Assignment of preventive patrol responsibilities to units on a full-time basis is assumed to be an effective way to obtain many of the desired characteristics of preventive patrol,[12] i.e., omni-presence, inquisitiveness, intimate knowledge of beat, and randomness.

When tried in St. Louis, Missouri, however, the needed level of preventive patrol was determined through an analysis of reactive patrol requirements, not proactive patrol requirements. A service call model was used to predict the number of calls which would be received by the police department and a queuing model was used to determine the number of units which would be required on the street to handle with no delay 85% of the calls received by the police dispatcher.[13] These units were, in effect, subtracted from the total number of units available

and the remaining units were assigned to preventive patrol. As is the case in most experiments dealing with preventive patrol, explicit performance criteria or effectiveness measures were not specified. The effectiveness measure which was emphasized in the entire experiment was response time, which did drop.

In Wilmington, Delaware, an experiment is now being formulated which will assign reactive and preventive tasks to different patrol units.[14] Here, the idea is to conduct preventive patrol in various ways (such as marked and unmarked cars with both uniformed and plain clothes officers), with service calls being handled by non-patrolling reactive units. If this experiment is implemented, it may be possible to reduce incrementally the preventive patrol force, perhaps assigning them to other responsibilities, to gain some estimate of the overall impact of preventive patrol.

In Kansas City, Missouri, an experiment was conducted from October 1972, through September, 1973, to test the effectiveness of routine preventive patrol *per se*.[15] The study attempted to determine how routine patrol affected the incidence of crime and the public's fear of crime. Three types of beat areas were defined: Reactive Beats, where officers were to respond only to service calls and preventive patrol was eliminated; Control Beats, where at least one car was used on routine preventive patrol; and, Proactive Beats, where preventive patrol was to be increased by a factor of 2-3 by assigning additional cars and by using cars from the reactive beats when they were not responding to calls for service. (Note that the term Proactive Patrol, as used in the Kansas City study does not have the same definition as used earlier. In Kansas City, proactive patrol is a form of high

visibility patrol.)

The conclusions of the experiment were summarized by Chief McNamara who stated: "the experiment did show that routine patrol in marked police cars has little value in preventing crime or making citizens feel safe." An inference drawn from this conclusion is that time spent on preventive patrol might be spent more productively on other assignments.

While to date only the summary report has been reviewed in detail, information and descriptive materials in that summary lead us to profoundly question the reported results and the efficacy of the experiment as a whole. Examples of the types of questions raised follow.

1. Because the small proactive, reactive and control beats within the limited geographic area of the experimental grid were contiguous to one another, we wonder if sufficient differentiation existed to affect citizen and "would-be" criminal perceptions of the relative intensity of patrol within and among the beats?

2. Because of ambiguity as to where the units withdrawn from the reactive beats were patrolling when not responding to calls for service -- whether on the perimeter of the reactive beat or elsewhere -- we wonder if the integrity of the experimental differentiation was meaningfully maintained? This question is of still greater concern because of a reported

tendency for there to be an over response to calls for service within the reactive beats. No where does the summary indicate that in fact there was a significant difference in the total amount of time spent by visible patrol officers in the three types of beats.

3. Because of the extremely small sample sizes used in the surveys, particularly with regard to the business sample, we wonder if a real basis exists for generalizing survey findings to the community as a whole?

Of course underlying these questions is our basic concern with the efficacy of the measures used in order to evaluate the effectiveness of patrol with regard to the objectives of apprehension and deterrence.

Final judgements regarding the reported findings of the Kansas City Preventive Patrol Experiment and its relevance to patrol operations in other parts of the country must of course await availability and intensive examination of the forthcoming technical reports.

3. Conclusions Concerning Split Force Patrol

The experiments to date on split force patrol have only reaffirmed the growing opinion that the value of routine preventive patrol is open to question. The hypotheses that a proactive patrol force would effectively reduce crime or apprehend criminals have not been proven; however, they have not been disproven. The information which is

becoming available on experiments in Split Force Patrol in St. Louis, Wilmington, and Kansas City will be suitable for considerable review and assessment.

C. Random Patrol

The traditional literature on preventive patrol asserts that randomness is one of its essential attributes. Random patrol procedures are justified on the basis that this form of patrol is perceived by potential offenders as being unpredictable: they are unable to guess the movement and location of the patrol unit and, therefore, will be more reluctant to commit a crime than they otherwise would have been.[16] Until recently, random patrol usually meant encouraging the individual patrol units to patrol where and how they wanted. The experience and intuition of the patrol officers, perhaps guided by information obtained from their fellow officers and supervisors, were considered to be sufficient for making patrol routing decisions.

Recently more structured, formal analytical techniques have been developed or proposed for assuring random patrol. Under these conditions, patrol units are given instructions on routes to follow, speeds, frequency at which certain points should be passed, etc.

1. A Theoretical Approach

One of the first formal analysis of the possible impact of a truly random patrol pattern assumed that 50% of all crimes are committed in a way which is observable by a patrol unit.[17] A random patrol algorithm was then constructed which would predict the level of preventive patrol required to insure a given probability of immediately apprehending a criminal at a given, accessible location. Assuming that the presence of a patrol unit to a criminal will either deter crime

or result in his apprehension, this approach in principle makes it possible to place a dollar value on the cost of reducing crime by a randomly patrolling force. This "dollar value" can be readily computed for property crimes; i.e., estimating the relationship between the value of property crimes "prevented" by a patrol unit and the cost of that patrol unit. This is, however, a much more difficult computation for other types of crimes.

The model developed by Elliott assumes that a crime can take place anywhere in the area that is accessible to the patrol unit, and the likelihood of a specific type of crime happening at any particular location is the same for any other location. Except for a perfectly homogeneous area, this is not the case. Burglaries will not take place unless there are buildings to break into. People will not be robbed unless people are present. Even assuming that this methodological shortcoming can be compensated for, a pure theory of random patrol does not seem to improve measurably the deterrence of crime or the apprehension of a criminal.[18]

The theory of random patrol, in sum, describes the probability of detecting an event that takes place in a defined area by an observer moving continuously in the area in a random fashion. The major consideration is the "observability" of the crime. The model requires that the following be determined: the time it takes to commit a crime and the time it takes to patrol the protected area once. Given these two values, the probability of detecting a crime is predicted. The model shows that decreases in the time required to patrol an area (e.g., from 60 minutes to 10 minutes) increases the probability that a crime will be detected.

Available data do not seem to support the use of random models in the determination of patrol patterns. Actual model results have been shown to be correct only within an order of magnitude.[19]

2. The Application of A Random Patrol Model

Certain principles of a random patrol model were applied in 1968 and 1969 in Endina, Minnesota.[20] Although the purpose of this experiment was not to improve preventive patrol *per se*, but rather to reduce response times, it was an attempt to apply a random patrol model. The basic idea was to define beat areas with equal crime potential, and then assign them to patrol units on a random basis. Patrol units were to travel through beats in a prescribed order.

At the time this random patrol experiment was being initiated, however, a pervasive effort to improve police operations was also initiated; training was intensified, the public was informed of attempts to innovate, planning was improved, and police manpower was increased. Also, considerable competiveness developed between those patrol units which were going to be put on random patrol and those which would be part of the control group using the old patrol patterns.

The result of this was that response time dropped in both the random patrol and control areas even before the experiment was initiated. Also, the experimental design was changed a number of times over the 18-month period. Although the experimental quality of this effort is probably quite low, it does suggest that well-directed efforts to improve a number of aspects of police operations may be quite successful, even though the reasons for any improvement cannot be isolated.

3. Conclusions Concerning Random Patrol Models

The use of random models to structure police patrol appears

to be questionable. Random patrol models, which are based upon "intercept probabilities,"[21] attempt to place the patrol unit in the same location at the same time a viewable crime takes place. This is supposed to maximize both the deterrent effect of preventive patrol and the apprehension of criminals. However, computed intercept probabilities are usually small. If an area is patrolled once an hour and the time required to commit a crime is 1 minute, then the probability of intercepting a crime cannot be expected to exceed 1/60th, or 1.7%.

The one cited "experiment" suffers in that it is impossible to isolate the effects of the random patrol procedures and the other organizational changes.

D. Saturation Patrol

Saturation patrol is the assignment of additional patrol units to those beats which are believed to require more patrol coverage.[22] The unit originally assigned to the beat, in effect, shares its responsibilities for patrolling with another unit. The additional manpower may come from additions to the entire shift or the use of a 4th 8-hour shift which overlaps 2 regular shifts. Saturation patrol can be thought of as an alternative to modifying beat boundaries on either a permanent or flexible basis; the additional units assigned to previously fixed beats are often thought to equalize the workload.

Saturation patrol is traditionally used in high crime areas and at certain times, such as Friday and Saturday nights in neighborhoods with theatres, clubs, and bars. Except for those situations where the additional units are specialists oriented towards dealing with certain

types of crime, the effectiveness of continued saturation patrol should probably be compared with the effectiveness which would result from the restructuring of beats.

Although saturation patrol is often discussed as a means to reduce crime in high-crime areas, there are no well-documented experiments or demonstrations which permit drawing of firm conclusions.

E. A Comparison of Patrol Methods

The experiments and demonstrations of routine preventive patrol do not permit substantiated conclusions to be made concerning the advantages of one type of patrol over another. In order to obtain some comparative understanding of different patrol types, it is useful to understand variations in the response times associated with several patrol models. These comparisons were made by testing them with a simulation model which reflected conditions existing in the Chicago Police Department.[23] All but saturation patrol was tested. Fixed beat patrol was found to provide faster response times than other types of patrol, the given reason being that dispatchers had a better understanding of the patrol units' location. As might be expected, the simulation showed that the response time varied proportionately with the density of reactive patrol units.

In sum, conclusions concerning the actual advantages of one form of patrol over another cannot be readily defended on the experiments and demonstrations conducted to date. The literature seems to indicate, however, that the more complex methods of patrol do not offer many benefits over the simpler ones. If conclusions had to be drawn at this time, one might be that the simple and economical methods of patrol should not readily be adbandoned in favor of more complex untested, and uncertain ones.

REFERENCES AND FOOTNOTES ON PATTERNS OF ROUTINE PREVENTIVE PATROL

1. O. W. Wilson and Roy C. McLaren, Police Administration, (New York: McGraw-Hill Book Company, 1972), p. 357. A prototypical list of specific hazards is suggested.

2. R. C. Larson, Urban Police Patrol, (Cambridge, Mass.: MIT Press, 1972), p. 37.

3. Samuel G. Chapman, ed., Police Patrol Techniques, (Springfield, Ill.: 1970), p. 292.

4. *Ibid.*, p. 294; and Wilson and McLaren, *op. cit.*, p. 357-368 and Appendix J., pp. 666-688.

5. J.S. Kakalik and S. Widhorn, Aids To Decision Making in Police Patrol, (Washington, D.C.: National Technical Information Service, 1971), p. .

6. *Ibid., p.* .

7. Larson, *op. cit.*, p. 38.

8. J. L. Carlin and C. L. Moore, "A Comparison of Some Patrol Methods," Police, (Washington, D.C.: International Association of Chiefs of Police, August, 1972), pp. 27-30.

9. Larson, *op. cit.*, p. 133.

10. James D. Caldwell and James N. Nehe, "Patrol Distribution in Arlington County," Police, (Washington, D.C.: International Association of Chiefs of Police, September, 1974), pp. 47-50. Also, interview with command-level officials in Arlington County Police Department.

11. *Ibid.*, p. 47.

12. George L. Kelling, Tony Pate, Duane Dieckman, and Charles E. Brown, The Kansas City Preventive Patrol Experiment, (Washington, D.C.: The Police Foundation, October, 1974).

13. J. Thomas McEwen, "A Mathematical Model for Prediction of Police Patrol Workload," A Paper Presented at the TIMS/ORSA Joint National Meeting, San Francisco, California, May, 1968.

14. Department of Police, Wilmington, Delaware, A Experiment in "SPLIT PATROL," Presently being prepared for submission to LEAA.

15. Kelling, et. al.,

16. Paul M. Whisenand and James L. Cline, Patrol Operations, (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1971), p

17. J. F. Elliott, "Random Patrol," in Proceedings of the Second National Symposium on Law Enforcement Science and Technology, S. I. Cohen, ed., (Chicago, Illinois: ITT Research Institute, 1968), pp. 557-560.

18. Saul I. Gass, John M. Dawson, et.al., An Evaluation of Policy-Related Research: Review and Critical Discussions on Policy-Related Research in the Field of Police Protection, (Bethesda, Maryland: Mathematica, Inc.), pp. 490-498.

19. Elliott, *ibid.*

20. Wayne Bennett and John R. DuBois, The Use of Probability Theory in the Assignment of Police Patrol .... , (Washington, D.C.: U.S. Department of Justice, Law Enforcement Assistance Administration, National Institute of Law Enforcement and Criminal Justice, July, 1970).

21. Larson, *op. cit.*, p. 174.

22. Chapman, *op. cit.*, p

23. Carlin and Moore, *op. cit.*, p

MODE-OF-PATROL

There has been considerable debate among police officials about the most appropriate patrol mode and, in the case of automobiles, the number of men to be assigned to each. These issues are often addressed separately from that of patrol patterns. The two basic concerns of police officials are discussed below: (1) selection of the patrol mode and (2) 1-officer vs 2-officer patrol cars. Brief consideration is also given to work concerning take-home cars.

A. Modes of Transportation

Over the past few years, police officials have begun to evaluate the effectiveness of alternative patrol modes -- foot, automobile, 2 and 3-wheel motorcycles, motor scooters, bicycles, and helicopters. These evaluations are being made with respect to both patrol objectives (e.g., apprehension and prevention) and other departmental concerns (e.g., safety and economy).

1. Effects Upon Apprehension

Foot patrol, although it may provide a more intimate and thorough knowledge of the beat area than other forms of patrol, does not appear to have much impact on the apprehension of criminals. One reason for this is that the foot patrolman seldom receives service calls which would take him to the scene of a crime. Also, a foot patrolman is quite visible and moves rather slowly. In those areas where there is foot patrol, an individual is unlikely to commit a crime unless he knows the officer's location. Even if the patrol officer sees the crime take place, the burden of equipment and fatigue may preclude criminal apprehension.[1]

One aspect of foot patrol which is seldom discussed is the possible use of the foot patrol force in investigations after a crime has taken place. An officer's knowledge of the beat may allow him to go directly to the criminal or his associates after a crime has been committed.[2]

The automobile, on the other hand, can be dispatched, is fast, and is reasonably maneuverable in streets and alleys.[3] Despite these characteristics there exists some debate as to the effectiveness of making arrests while on patrol. Automobiles limit observations and the length of time for perceiving and reacting to problems.[4] The most valuable characteristic of the automobile appears to be its ability to respond quickly to dispatched calls. Even here, though, there is some disagreement as to the impact of vehicle patrol upon apprehension.[5]

Data from the Los Angeles Police Department show that the apprehension rates of radio-dispatched cars double when their movements are co-ordinated with helicopters. This is attributed to the low average response time of 1.5 minutes. A similar effort by the Los Angeles County Sheriff's Department, Project Sky Knight, has resulted in an average response time of 2 minutes.[6] A conclusion made on the Project Sky Night study is that helicopter patrol is justified only if a large geographical area is patrolled and the number of called-for police services is high.[7] Improved apprehension rates are also reported by the Memphis Police Department[8] through the co-ordinated use of vehicles and helicopters.

Helicopters have been found to be useful in detecting some misdemeanors, such as break-ins and vandalism.[9] In many states, though, the ground unit cannot make arrests on information received from the

helicopter unit; the offense must be committed in the presense of the arresting officer. This means that the ground unit, to make an arrest, must arrive at the scene while the misdemeanor is in progress.[10]

Although the motor scooter is believed by many to contribute to a high apprehension rate,[11] there is no evidence to support this. Although faster and less fatiguing than foot patrol, apprehensions by scooter patrol officers do not appear to be higher than those on foot patrol.

In some departments, patrol on bicycles is thought to improve the apprehension of burglars. Baltimore claims that the bicycle patrol is a success due to its maneuverability through alleys and its virtually silent operation.[12] The Long Beach Police Department finds bicycle patrol to be effective in small geographic areas with high crime rates.[13]

In sum, certain modes of patrol have been found to contribute significantly to apprehension: bicycles have been instrumental in arrests for burglary, helicopters for break-ins and vandalism, and motor scooters for auto theft. However, such evidence indicates that these modes are used more as a selective enforcement tool in specialized patrol than as a general apprehension device in preventive patrol. As far as the other modes are concerned, they do not appear to contribute significantly to apprehensions except in those cases where they are dispatched to a crime scene.

2. Effects Upon Prevention

Foot patrol, generally, is not considered to be practical for city-wide crime prevention as it would be too expensive; a patrol officer would have to be assigned "...to every block."[14] It is found to be effective in certain areas, however, such as neighborhoods with a high-rate of "sidewalk" crimes, high density residential areas where

vehicle access is difficult, and congested business areas.[15] Although foot patrol does seem to prevent crime in the areas being patrolled, adjacent areas not being patrolled often experience crime increases. Foot patrol, it seems, often displaces crime from one area to another with no overall reduction in crime.

Automobiles,[16] motor scooters,[17] motorcycles,[18] and bicycles[19] are capable of covering a larger area with faster speed than foot patrol; therefore, they offer greater visibility. Also, the bicycle and the motor scooter have a certain degree of versatility in that the rider can occasionally dismount and walk. Despite the increased visibility and versatility offered, some observers suggest that certain vehicle patrol is more effective in selective enforcement than in preventive patrol.[20] The use of the motorcycle is restricted primarily to traffic; it is said to have a tremendous psychological effect in suppressing speed on the roads.[21] Washington, D.C., finds the motor scooter especially effective in preventing theft from automobiles.[22] Lakeland, Florida, and Baltimore, Maryland, attribute the reduction of nighttime burglaries and thefts to the bicycle.[23] Yet Long Beach, California, has tried the bicycle as a preventive measure against daytime strongarm robberies and purse-snatchings, but has found it to be more effective in apprehension.[24]

Although Project Sky Knight and ARGUS have reported a reduction in crime in their project areas, observers of the Sky Knight Project suggest that helicopter patrol be directed towards specific crimes rather than just orbiting around patrol areas.[25] Other findings show that helicopter patrol has reduced vandalism to city and school property to the extent that it has almost paid for itself. The helicopter is equally

adept in detecting certain criminal activities as daylight burglaries, rooftop burglaries, robberies, riots, and speeding motorists.[26] Much of this is attributed to its observational range.[27] Additionally, the helicopter can view some otherwise inaccessible areas.[28]

Observers of various patrol modes tend to agree that the automobile and the motor scooter are the most practical means of preventive patrol, although their actual value is not really known.

3. Economy

Transportation costs are second only to manpower costs in police department budgets. Police officials attempt to use the cheapest forms of transportation which will allow certain levels of service to be provided; that is, the most cost-effective patrol mode is desired.

The commonly held belief is that the automobile is more cost-effective than foot patrol. On account of its limited coverage and effectiveness, foot patrol is the least cost-effective and is recommended only in areas where it is absolutely necessary and only during hours of actual need.[29] Also expensive is the motorcycle, since it costs about as much to buy and maintain as an automobile, yet has much more limited use.[30]

In cities where the motor scooter has been tested (New York, Washington, D.C., and Detroit), the claim is made that this type of patrol has the advantages of both foot and automobile patrol, yet costs considerably less than each.[31]

The helicopter is expensive, but proponents claim that utilizing it for patrol permits replacement of 2 to 6 ground units and their personnel.[32]

4. Safety

Injuries to officers and damage to equipment result in increased costs, reduced officer morale and performance, and loss of patrol units. Regardless of the pattern of patrol selected, police officials are extremely concerned with minimizing injuries and damages.

The 2-wheeled motorcycle is perhaps the most dangerous vehicle; injuries associated with its use are often serious and permanent.[33] The motor scooter at speeds above 30 mph is perhaps as dangerous as the motorcycle. In Washington, D.C., the maximum speed permitted on a motor scooter is 15 mph. Other dangers include the lack of visibility when the motor scooter is alongside a lane of parked vehicles.

The automobile is far safer than either the 2 and 3-wheel motorcycles and motor scooters.[34] Although their use is very limited and general conclusions cannot be made, the helicopter's accident rate appears to be lower than the automobile's.[35]

5. Community Relations

The mode of patrol has been found to affect community relations. Police officials tend to consider foot patrol as offering the most personal contact, therefore improving community relations.[36] This conclusion may not be warranted, as foot patrol in some neighborhoods may actually antagonize the residents.[37] Patrol by motor scooter[38] and bicycle[39] are thought to have the same effect as foot patrol.

Motorcycle officers may actually detract from community relations, particularly if they are in traffic enforcement and spend the majority of their time giving traffic tickets. Also, motorcycle officers often affect a certain elitism which may antagonize the community.[40]

Citizens' reactions to Project Sky Knight were assessed through a mailed questionnaire to all Lakewood, California, residents. The County Sheriff received a 32% return, as compared with a normal mail survey return of 2%, with the following results: 92% approved continuation of helicopter patrol, 6% disapproved, and 2% had no opinion.[41]

6. Conclusions Concerning Mode of Patrol

Since August Vollmer first introduced patrol vehicles into Berkeley, California, in 1912, police officials have been experimenting with new and different modes of transportation.[42] Although considerable resources are being invested in the acquisition and maintenance of vehicles and the training of officers, few studies have been undertaken to determine the effectiveness of different modes. In those cases, however, when a study dealing with a new mode has been conducted, police departments often use it to justify acquisition of such vehicles, even though their overall effectiveness has not been proven. There is rarely any questioning of findings or attempts to ascertain suitability in terms of departmental differences.

Studies of new patrol modes usually show them to be more cost effective than the ones they replaced.[43] However, few valid data are offered which measure effectiveness, safety, economy, and impact upon community relations. Questions which are seldom addressed deal with officer training and selection and the availability of auxiliary equipment.

One recent study which deserves particular attention, if for no other reason than many police agencies use it as justification for the purchase of a helicopter, is Project Sky Knight. The evaluation of this project appeared to be quite candid in that it pointed out a number of problems, including: (1) lack of coordination and understanding at the

command level; (2) technical difficulties with the equipment; (3) failure to develop training and procedural manuals prior to the actual operations; and (4) threat of community rejection of the project before its onset. A study recommendation is that any police agency contemplating the use of helicopter patrol should design patrol strategies to meet its own particular environment and needs.[44] Another evaluation noted that the statistical data which suggested crime reduction should be questioned, as they may not have resulted from the helicopter patrol. The extent to which the helicopter patrol reduced total crime, the extent to which the patrol forced a shift in the location of criminal activities, and the extent to which other factors played a part in crime reduction are unknown.[45]

In sum, a few substantial conclusions can be made which will aid police officials in selecting patrol modes. However, most of these conclusions are based upon criteria other than patrol effectiveness, such as safety and economy. When apprehension and prevention are the criteria to be used in the selection of patrol modes, very little can be said other than to refer to the observations and opinions of others. Although scooters may have a perventive effect, bicycles an apprehension effect, and helicopter a preventive effect, the available information *per se* does not warrant any massive patrol mode shift.

B. <u>One vs Two-Officer Cars</u>

Over the past 20-years, there has been considerable debate among police officials concerning the relative effectiveness of 1 and 2-officer patrol cars. It appears that most departments are moving from the 2-officer car to the 1-officer car.[46] Concerning the issue of the relative

economy of the alternative transportation modes, there are two opposing views. (1) Supporters of the 1-officer car argue that the extra cost of automobiles required to obtain a 1-officer patrol car force is far below the benefits of the increased preventive patrol.[47] And (2) Opponents of the 1-officer patrol car unit say the extra costs in equipment, maintenance, and dispatcher services are greater than the benefits.[48] A logical extension of the 1-officer car system has been the implementation of the take-home car policy by some departments. The added cost is asserted to be more than offset by increases in patrol time.[49] None of these basic economic questions have been satisfactorily resolved. The issues below of prevention, apprehension, and safety are even more complex.

1. <u>Prevention</u>

The majority opinion is that the 1-officer unit is the more effective in the prevention of crime. The two reasons cited are: (1) increased visibility for 1-officer cars when the 2-officer beat has been split in half, allowing for twice as much coverage;[50] and (2) greater interceptor capability or observational power for two 1-officer units than for one 2-officer unit.[51] Others, however, question the entire nature of the impact of visibility on prevention.[52] Also, some question whether the 1-officer unit is as attentive to activities around the vehicle as is the 2-officer unit.[53] Although quantitative data is lacking, proponents of the take-home car have claimed that it provides increased omnipresence of police or visibiltiy on account of its more frequent use (for personal activities and for drives to and from work).[54]

2. Apprehension

There are two basic views. One argues that no determination has been made as to the superiority of either unit.[55] The other argues that the 1-officer unit has a higher apprehension rate.[56]

Those supporting the latter argument assume that 1-officer units will reduce response time, as the additional units mean smaller beat areas to cover. Also it is assumed that the single officer is far more alert than he would be with a partner.[57] Although this is countered by the argument that, without 2-officers, situations are often overlooked.[58] The argument for take-home cars is the increased availability of additional cars for more timely response; this, however, applies to only emergency calls for service.[59]

3. Safety

The available data suggest that there are no appreciable differences between the two systems.[60] Yet there are indications that organizational precautions compensate for the reduced manpower in the 1-officer cars. Dispatchers, screening the calls, assign the more dangerous ones to 2-officer units or provide back-up units for 1-officer cars.[61] Certain regulations have been formulated in most departments for the protection of the 1-officer unit. For example, before leaving the vehicle, he must notify the dispatcher of his location and he must never transport a prisoner alone.[62]

4. Conclusions Concerning 1-Officer vs 2-Officer Cars

Much of the literature is descriptive, many of the attempts to make statistically valid statements are weak. FBI statistics, for example, on police officers killed by criminals were used as the basis for the argument that no appreciable differences exist between the

two systems.[63] Yet the statistics were in the form of absolute numbers, giving no indication of the percentages of the patrol force that was 1 and 2-officer. In another case, data from Wichita, Kansas City, and San Diego were used to demonstrate the increased productivity (arrests, citations, field interrogations) and visibility for 1-officer cars.[64] Special training and the screening of calls were not accounted for in these experiments.

In another city, the relative observation capability was tested for three 2-officer and six 1-officer units in the same district by simulating four types of "targets" (open doors, break-ins, stolen cars, and wanted men) of which the observations or "hits" were recorded during a one-hour test. By using the Mann-Whitney U Test to compare the significance of the difference between the number of hits made by the 2-officer cars to that made by all possible combinations of 1-officer cars, it was determined that there is probability of .58 that two 1-officer units will always out perform one 2-officer unit.[65] This conclusion, however, is questionable due to the small size of the sample and the short term nature of the experiment itself.

Furthermore, the Indianapolis experiment with take-home police cars, although claiming a number of benefits from such a policy, has no evidence to support such assertions. In view of the substantial cost differences between this and alternative deployment policies, it is recommended that a comprehensive program of controlled test and evaluation be undertaken.[66]

REFERENCES AND FOOTNOTES ON MODE-OF-PATROL

1. O. W. Wilson, "Put the Cop Back on the Beat," Police Patrol Techniques, ed. Samuel G. Chapman, (Springfield, 1970), p

2. Egan Bittner, "The Police on Skid-Row: A Study of Peace Keeping," American Sociological Review, 32, 5, October, 1967, pp. 707-709.

3. Wilson, *op. cit.*, p

4. James H. Crawford, "Combined-Selective Patrol," The Police Chief, 38, 8, August, 1971, p. 33.

5. The President's Commission on Law Enforcement and Administration of Justice, Task Force Report: Science and Technology, (Washington, D.C., 1967), pp. 9-10.

   Crawford, *op. cit.*, p. 33.

6. G. Douglas Gourley, Patrol Administration, 2nd ed., (Springfield, 1974), pp. 32-33.

7. C. Robert Guthrie and Paul M. Whisenand, "The Use of Helicopters in Routine Police Patrol Operations: A Summary of Research Findings," Police Patrol Techniques, ed. Samuel G. Chapman, (Springfield, 1970), p

8. National Institute of Law Enforcement and Criminal Justice, The Utilization of Helicopters for Policy Air Mobility, (Washington, D.C., 1971), p. 27.

9. Steven M. Neel, "Alternative Identification in Decision Making: Implementing a Helicopter Patrol Unit," The Police Chief, 36, 7, July, 1969, pp. 18-28.

10. George F. Felkenes, "Some Legal Aspects of the Use of Aircraft in Law Enforcement," The Police Chief, 36, 2, February, 1969, pp. 28-30.

11. District of Columbia Police Department, Motor Scooter Training Program, (Washington, D.C., 1966), p

12. Edward L. Lee (II), "Back to Bikes for Baltimore," The Police Chief, 39, 5, May, 1972, p. 22.

13. Gourley, *op. cit.*, p. 19.

14. Wilson, *op. cit.*, p

15. Thomas J. Rogers, "Review of Foot Patrol in Chicago," Police Patrol Techniques, ed. Samuel G. Chapman, (Springfield, 1970), p

16. Wilson, *op. cit.*, p

17. District of Columbia Police Department, *op. cit.*, p

18. W. Cleon Skousen, "The Chief Takes A Look at the Solo Motorcycle," Police Patrol Techniques, ed. Samuel G. Chapman, (Springfield, 1970), p

19. Lee, *op. cit.*, p. 22.

20. Gourley, *op. cit.*, p. 19.

21. Skousen, *op. cit.*, p

22. District of Columbia Police Department, *op. cit.*, p

23. Lee, *op. cit.*, p. 22.

    Gourley, *op. cit.*, p. 19.

24. Gourley, *op. cit.*, p. 19.

25. Guthrie and Whisenand, *op. cit.*, p

26. Neel, *op. cit.*, pp. 18-28.

27. Gourley, *op. cit.*, p. 30.

28. Guthrie and Whisenand, *op. cit.*, p

29. O. W. Wilson and Roy C. McLaren, Police Administration, 3rd ed., (New York, 1972), pp. 337-339.

30. Skousen, *op. cit.*, p

31. District of Columbia Police Department, *op. cit.*, p

32. Neel, *op. cit.*, pp. 18-28.

33. Skousen, *op. cit.*, p

34. Wilson and McLaren, *op. cit.*, pp. 334-336.

35. Neel, *op. cit.*, pp. 18-28.

36. Wilson and McLaren, *op. cit.*, p. 334.

37. James D. Bannon, "Foot Patrol: The Litany of Law Enforcement," The Police Chief, April, 1972, p. 45.

    Richard A. Myren, "The Role of the Police," Police Patrol Techniques, ed. Samuel G. Chapman, (Springfield, 1970), p

38. Gourley, *op. cit.*, p. 22.

39. Lee, *op. cit.*, p. 22.

40. Myren, *op. cit.*, p

41. Peter J. Pitchess and C. Robert Guthrie, Project Sky Knight: A Demonstration in Aerial Surveillance and Crime Control, (Washington, D.C., 1968), p

42. August Vollmer, The Police and Modern Society, (Montclair, 1971), p

43. Wilson and McLaren, *op. cit.*, pp. 333-334.

44. Guthrie and Whisenand, *op. cit.*, p

45. National Institute of Law Enforcement and Criminal Justice, *op. cit.*, pp. 26-29.

46. Government Research Institute, "One-Man Police Patrol Car Operation," Police Patrol Techniques, ed. Samuel G. Chapman, (Springfield, 1970), pp. 222-225.

47. Chicago Police Department, "One-Man Patrol Cars," Police Patrol Techniques, ed. Samuel G. Chapman, (Springfield, 1970), pp. 213-214.

    National Institute of Law Enforcement and Criminal Justice, Research, (Washington, D.C., 1974), pp. 10-11.

48. Gourley, *op. cit.*, pp. 14-15.

49. National Institute of Law Enforcement and Criminal Justice, Research, *op. cit.*, p. 13.

50. Chicago Police Department, *op. cit.*, pp. 213-214.

51. J. F. Elliott and others, "The Detection and Interception Capability of One- and Two-Man Patrol Units," Police, November-December, 1969, p. 26.

52. Police Foundation, The Kansas City Preventive Patrol Experiment: A Summary Report, (Washington, D.C., 1974), pp. 1-49.

53. Government Research Institute, *op. cit.*, pp. 236-237.

54. National Institute of Law Enforcement and Criminal Justice, Research, *op. cit.*, pp. 11-13.

55. Government Research Institute, *op. cit.*, pp. 237-238.

56. Gourley, *op. cit.*, p. 12.

57. Chicago Police Department, *op. cit.*, p. 214.

58. Government Research Institute, *op. cit.*, p. 240.

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1 OF 2

59. National Institute of Law Enforcement and Criminal Justice, Research, *op. cit.*, p. 13.

60. Gourley, *op. cit.*, p. 11.

61. Government Research Institute, *op. cit.*, pp. 235-236.

62. Spartanburg Police Department, The One-Man Patrol Car, (Spartanburg, South Carolina, n.d.), p

63. Chicago Police Department, *op. cit.*, pp. 214-215.

64. Gourley, *op. cit.*, p. 4.

65. Elliott, *op. cit.*, pp. 25-26.

66. National Institute of Law Enforcement and Criminal Justice, Research, *op. cit.*, p. 14.

SUPERVISION OF PATROL OFFICERS

Regardless of the patrol patterns and modes adopted, individual patrol officers require supervision. It is believed that supervision is required to assure that: (1) organizational objectives are met efficiently and (2) the extraordinary powers of the individual patrol officer are not misused. Because patrol officers typically spend a large percentage of their time either alone or with a trusted partner, and are often unaccounted for, various approaches have been proposed and developed for the purpose of providing effective supervision.

The actual purposes of supervision are not always well-defined or expressed; supervision can, for example, serve to encourage more alert patrol, increase responsiveness, improve community relations, and inhibit corruption. The issue of supervising patrol officers is discussed here from three points of view: first, the problems and procedures associated with first-line supervision of the uniformed officer on patrol; second, the relationship between supervision and the corruption of patrol officers; and third, the problems which make supervision of patrol officers an inherently difficult task.

A. First-Line Supervision of Patrol Officers

Patrol officers are usually supervised through a well-defined bureaucratic structure. Direct line supervision is generally considered the best way to guide and correct behavior, with each patrol officer placed directly under the supervision of a particular supervisor. All patrol officers are not answerable to all sergeants.[1] (This rule may be broken in emergency situations where ranking officers move into a beat area that is not their initial assignment.) Where officers patrol

alone, one suggested officer-sergeant ratio is 8:1; where officers patrol in pairs, the suggested ratio 6:1.[2]

Another approach considers the additional deployment of higher ranking officers a rather drastic departure from the traditional system. Though limited in scope, a significant experiment was conducted for 6 to 9 months in 1953 by the New York City Police Department -- called "Operation 25." The unusual feature is the supervision of rookies by captains as well as sergeants. The captains, patrolling the areas in radio-equipped scout cars, responded to various calls where they interviewed the officers on the scene, questioning them about the circumstances of the crime and the reasons for the action taken.[3] Unfortunately, the experiment involved rookies rather than tenured officers with conclusions drawn in terms of crime reduction rather than behavior modification.

1. Observation and Review

The incentives and disincentives to which a patrol officer is generally most responsible are those imposed by the first-line supervisor who is usually a sergeant or corporal. As the rank closest to patrolman, he is often considered to have the most control of the process which either rewards the officer (e.g., high ratings and advancement) or punishes him (e.g., low ratings and no advancement).[4] In assessing patrol officer performance, the first line supervisor relies both on his direct observation of officers' behavior and his review of their written reports.[5]

There are two types of observation: (1) Overt, in which the supervisor responds to officers' calls or patrols with them; and (2) Covert, where the supervisor observes officers from places of concealment or questions citizens concerning police actions. Regarding the efficacy of either approach we note the following. On the one hand, some believe that the mere presence of supervisory personnel in the field has a significant effect on officer performance and accountability.[6] On the other hand, some argue that what amounts to little more than casual observation leads to subjective and arbitrary conclusions regarding individual officer performance.[7]

The review of reports prepared by the patrol officer is critical to the supervisory process. Both the patrol officer and his supervisor know that these reports are used to evaluate overall departmental effectiveness and that they form the basis for the development and justification of policy. A typical set of reports which must be completed by a patrol officer include: (1) Daily Log (brief, concise record of an officer's tour of duty); (2) Field Contact Report (record of information concerning the activities of persons interrogated and vehicles stopped); (3) Traffic Enforcement Citation (traffic ticket); (4) Vice Control Report (record of information about vice activities); (5) Incident Report (documentation of minor noncrime incidents or violations of municipal codes); (6) Case Report (documentation of any situation involving law violations); and (7) Arrest Report (documentation of any arrest).[8] Departments are constantly seeking improved methods of reporting. One reason for this is to reduce the amount of time spent by patrol officers in completing reports, the assumption being that time not spent filling out forms is used to patrol. A second reason for wanting to develop new methods of reporting is to assure that certain administrative needs are met, including more effective allocation of existing manpower, the justification of existing programs, and the satisfaction of grant conditions.[9]

The importance of the type of reporting method used for supervision was shown in an experiment in the Los Angeles County Sheriff's Department. As a substitute for filling out daily activity logs, deputy sheriffs checked activities completed with an electrographic pencil on IBM cards. These cards were then run through light-sensitive scanners which read and recorded the activities which had been completed. The Mark Sense Reporting System was supposed to have resulted in faster and more accurate statistical reports, more detailed information on radio car activity, and information for traffic analysis on a daily basis. Also, the system was supposed to be cheaper than tabulating dat from the old daily logs. While the second objective of economy was met, the first of improved reporting was not. The project was abandoned after one year. Since there had been no training program for sergeants and administrators in the interpretation of data, they derived from it less information than they had previously. Procedures for the use of the old daily log system had been well-established with both patrolmen and supervisors understanding how the recorded data would be interpreted. The new system led only to considerable confusion and misunderstandings on the part of supervisory and administrative personnel.[10]

2. Supervisory Discretion

Observations of subordinates' activities and reviews of their reports form the basis on which patrol officers are either "rewarded" -- given high performance ratings, promotional recommendations, preferred assignments, and recommendations -- or "punished" -- given poor ratings, undesirable assignments, or perhaps suspended. The supervisor has considerable discretion in reviewing his subordinates' work.[11]

The Los Angeles Police Department instituted an "incident report" on which a sergeant would record all activities, favorable and unfavorable, of officers under his command. This practice, however, was discontinued when the reports were discovered to be solely negative. This was then replaced by the sergeant's daily log (a chronological account of the sergeant's daily activities) from which an officer's performance is derived; the results were higher performance ratings for patrol officers.[12] Departments throughout the country are searching for objective systems of rating in which bias will not be reflected.

Aside from giving poor performance ratings to officers, which reduce chances for promotion and often result in assignment to undesirable duties, supervisors may take further action and refer allegedly serious infractions to higher officials or the internal review board.

Supervisors also have to evaluate information obtained from other sources, such as citizen complaints or reports from other police officers.[14] This is an extremely difficult supervisory function, as the supervisor does not have first-hand knowledge of the incident in question. The incident may have been the result of either a radio-dispatched or an officer-initiated run. The officer may, in fact, have successfully handled a situation informally without completing a report.[14]

Various attempts have been made to increase the sources of information available to the patrol supervisor; these often take the form of soliciting active citizen participation. The Oakland, California, Police Department mailed in December, 1965, and January, 1966, bulletins to religious and civic organizations which requested that any complaints

against the police be filed. The procedures for making these complaints were described in detail, and the increased filing of complaints began immediately. The result of this was that the Oakland Police Department's Internal Affairs Division investigated as many as 408 citizen-initiated complaints in 1966, judging 115 of them as valid.[15] Yet without the data for 1965, these findings are inconclusive.

Another approach used to improve the information which is available to supervisors is the Civiliam Review Board, such has been attempted in Philadelphia, New York City, Rochester, and Washington, D.C. Civiliam Review Boards have the responsibility to adjudicate citizen complaints by either dismissing them as groundless or by recommending them for departmental discipline.[16] Effectiveness of this form of supervision depends upon the accessibility of the review process to the public and the ability of the department to act on the Board's recommendations.

A generally accepted opinion is that the present supervisory practices allow serious infractions by police officers to go unpunished. Some attribute this to rigid and over-protective civil service regulations[17] and others to powerful police unions.[18] Also, there is a tendency for officers to insulate each other from what is perceived to be unwarranted outside pressures.[19]

One approach to the problem of supervision which has been proposed, though never attempted in this country, is the appointment of an ombudsman who has the responsibility and power to conduct investigations of individual grievances. This is thought to be one way to eliminate the questionable administrative policies which lead to inequitable, arbitrary, and protective supervisory practices.[20]

Various approaches are made to discipline patrol officers for minor infractions, one being assigning officers with poor records to high crime precincts. In one department which used this approach, however, 38% of black and 46% of white officers were involved in at least one of the serious violations of drinking and sleeping while on duty, neglect of duty by unauthorized time away from duty for other than police matters, and falsification of information concerning police matters.[21]

Another method of supervision and discipline is to provide for rotation of beats and partners. Frequent rotations, some argue, have a dual purpose: (1) patrol improves because the officers are more alert and do not waste time with their partners; and (2) corruption declines as the officers do not have control of the beat and do not have strong ties with their partners.[22] Opponents of beat rotation argue that patrol effectiveness declines since officers do not have the requisite knowledge of their beat.[23]

Many departments, to maintain control, require that officers call in at scheduled times to either the dispatcher or their supervisor. This is facilitated by the assignment of portable radios to all officers.[24] With two-way radios, constant contact can be accomplished.

In sum, current supervisory practices are subject to bias and misuse. Some of these approaches were challenged in a recent experiment, the Community Profile Development Project, which was conducted in the Northern Division of the San Diego Police Department. From November, 1973, to September, 1975, staff conferences were held as an alternative to the traditional quasi-military roll-call. Opinions and attitudes of the patrol officers were received by first-line supervisors and dissem-

eminated upward throughout the command structure. From these open discussions of the area's problems and possible patrol strategies, more effective administrative policies were formulated. Some of these policies concerned how the first-line supervisor assesses his subordinates' performance. Rather than conducting a day-to-day evaluation of the standard measures of officer productivity, as obtained through observation of officers' activities and reviews of their reports, supervisors made an on-going evaluation focusing on the relationship between the quality of officers' patrol work and the beat conditions. The findings were that the experiment led to increased squad communication and coordination, more suitable and reliable performance evaluations by supervisors, and increased work motivation.[25]

3. Conclusions Concerning Supervision Practices

Most of the literature is descriptive. The supervisory changes which have been documented in a general sense have not been formally evaluated, so it is not possible to state with any reliability what, in fact, each accomplished. Specific methodological shortcomings are seen in the Los Angeles Police Department's "Sergeant's Daily Log and New York City's "Operation 25" in that they were not evaluated. It appears that the Los Angeles County Sheriff's Department's "Mark Sense Reporting System" was improperly implemented. San Diego's "Community Profile Development Project" is currently being evaluated.

In sum, the impact of attempts to remove the biases of many current supervisory practices while maintaining effective control is not known.

One additional point must be made. Until now, we have primarily focused on the general belief that better supervision leads to

better officer performance as measured by individual officer performance ratings, reports, "quota" realization, citizen complaints, and the like. It has also been assumed that better individual officer performance contributes to better overall performance of the department in terms of the 5 basic objectives of patrol: deterrence, apprehension, provision of non-crime related services, provision of a felt security and community satisfaction, and the recovery of stolen goods. However, the literature reviewed does not discuss any well-executed attempts to test and validate empirically the relative merits of alternative supervisory practices vis-a-vis the attainment of these objectives by patrol divisions. The literature relates changes in supervisory practices to changes in individual performance, but it does not go on to relate changes in practices and performance to changes in level of primary goal attainment. As a result, little is known about the relationship and little can be said, therefore, about the overall merit of alternative patrol supervisory practices.

B. Corruption of Patrol Officers

Corruption of patrol officers is considered to be one of the most cirtical problems confronting police officials. There is virtually universal consensus that corruption is destructive to all aspects of patrol operations: apprehension and deterrence efforts suffer due to pay offs; the morale of uncorrupt officers may be damaged by their perceptions of corruption around them; the status of police work is degraded; and citizen respect for and cooperation with police officers is diminished. Also, visible or pervasive corruption is thought to place senior police officials in extremely precarious positions: more

police chiefs have been fired or scandalized as a result of the detected corruption of patrol officers than by perceived rapid increases in crime.[26]

1. Nature and Extent of Corruption Among Patrol Officers

The total amount and exact nature of patrol officer corruption has never been determined; however, impressionistic evidence, drawn mainly from investigations of police scandals, suggests that the problem is widespread. For example, the Knapp Commission found extensive corruption in the New York City Police Department. Its final report states that a rookie coming on to the force faces a situation in which "it is easier for him to become corrupt than to remain honest."[27] Field studies conducted by the President's Commission on Law Enforcement and the Administration of Justice present a similar picture. They reveal that in numerous departments across the country a significant number of officers are engaged in criminal activities.[28]

These recent official findings have been confirmed by independent scholars and journalists. One in-depth study of a large urban department concluded that the pressure on patrol officers is such that "they know that the only way a policeman can be honest in the exacting way required by his oath of office is to resign."[29] Another highly regarded study of four big city departments found that "during any year a substantial minority of all police patrol officers violate the criminal law..."[30] Finally, it has been estimated that approximately one-half the take from illegal gambling in the United States goes for bribes to law enforcement officials. If the estimate is at all accurate, the figure could easily exceed the total wages paid to all police officers in the country.[31] In short, although precise evidence is lacking,

corruption is widely perceived to be a serious and sometimes overriding problem in patrol operations.

2. Problems in Studying Corruption of Patrol Officers

The unfortunate quality of current knowledge about corruption is primarily a function of two related problems: a lack of consensus on its operational meaning, and the absence of adequate research techniques to investigate it.

Discussions of corruption frequently fail to define its various levels and dimensions, and often treat it in concert with other types of police deviance such as brutality and incivility. It is important to distinguish corruption from other types of misconduct. The rationale behind them is normally quite different. For example, brutality is usually a form of emotional outlet, while corruption is more often an instrumental activity motivated by a desire for financial gain. While they may frequently be found to coexist, there is no necessary analytical reason why one should involve the other. A patrol officer, or a department, can be corrupt without being brutal and visa versa.

Corruption is a multifacited phenomenon which encompasses activities ranging from accepting a free cup of coffee or a discount on a meal, to active involvement in narcotics traffic and premeditated theft. Yet there is a distinct tendency, especially common in the media, to treat it as if it were all of one piece. Any and all transgressions of the strict legal and ethical standards governing police work are cited as evidence of corruption *per se*, and on this basis a patrol officer or even an entire department may be indelibly labelled as corrupt. It is, of course, true that the police occupy a unique place in society and are quite properly held to rather rigid standards of conduct; however,

while simple comparisons of reality with an abstract ideal may provide the impetus for action, they offer rather little guidance concerning which course to follow in coping with the problem.

Patrol officers themselves recognize the existence of various types and levels of corruption when they speak, for instance, of the difference between being "on the arm" and "on the pad," and their lead might well be followed. There is a need to know: not only why some officers go bad while others remain clean, but why some become much more corrupt than others; not only that corruption is widespread, but how and why does it vary from department to department; and not only that many officers are corrupt, but whether any of them ever reform and if so for what reasons. Only in the most superficial sense is corruption a black and white issue and we treat it as such to the detriment of our understanding of the problem and our ability to control and, hopefully, eliminate it.

The second difficulty involved in studying corruption is substantially less tractable than the first. Most standard social science methods do not lend themselves very well to the examination of illicit activities. As a result, investigators have been forced to rely primarily on informers for their data and, unfortunately, it is terribly difficult to validate information obtained from such sources. Informers must be taken more or less as they are found and their personal stake in the matter at hand. Even the most open and apparently honest informer can have trouble providing an accurate picture of activities ranging beyond those in which he is or was directly involved.[32]

Despite the problems entailed in using informers, rather few

alternative methods have been tried. Reiss and his associates found a seemingly substantial amount of illegal activity in their structured observations of patrol officers at work. However, it is extremely hard to imagine how open observation could unearth more than a fraction of existing corrupt activity.[33] Another scholar has bodly suggested that it is not all that difficult to discover police corruption. He points out that if corruption is widespread, then awareness of it must, of necessity, also be widespread.[34] There is, no doubt, some truth to his comment, but to be useful, investigations of corruption must move beyond its mere discovery to an examination of its character, incidence, and changing complexion over time. Only with this level of specificity can the success of efforts to cope with the problem be evaluated.

The development of techniques for studying corruption is an immensely difficult task which is much in need of creative work. As with so many aspects of patrol, research is currently hampered by the lack of a clear-cut definition of the problem, and valid, cost-effective means for measuring its impact. Until these difficulties have been surmounted, discussions of the subject will, of necessity, remain at an impressionistic and largely subjective level.

3. Causes of Patrol Officer Corruption: Prevailing Theories

The difficulties involved in defining and measuring corruption, great as they are, have not led to any noticable reluctance in identifying its causes. The literature contains a lengthy and sometimes contradictory list of factors which supposidly contribute to police corruption.

The traditional approach to the issue focuses on the individual origins of illegal activities. It views corruption in terms of the

personal and moral deficiencies of the officers involved. The problem is seen as an individual responsibility which does not necessarily reflect on the department as a whole. This so-called "rotten apple" theory appears in numerous texts on police work and has been a particular favorite of police administrators in responding to allegations of corruption.[35] Former Commissioner Murphy resorted to it frequently in attempting to answer the charges of the Knapp Commission.[36] In essence, it allows the police to explain to the public and to themselves the persistence of a condition which they feel incapable of controlling.

In recent years the "rotten apple" theory has been subjected to a great deal of criticism. The Knapp Commission explicitly rejected it, an influential scholar termed it a "plausible half-truth," and a well known police chief observed that recent research has exploded the myth of the rotten apple.[37] Indeed, the theory has gone from being an explanation to being frequently identified as part of the problem. The National Advisory Commission on Criminal Justice Goals and Standards stated that the most important factor contributing to corruption is the general attitude which resists acknowledging the extent of its existence and inhibits the self examination necessary to alter the conditions which permit it to flourish.[38]

This is a rather harsh indictment of a theory which contains at least a kernal of truth. Certainly, individual factors such as avarice and moral character need to be considered in explaining corruption; however, in recent years a new and partially conflicting theory has emerged which stresses the importance of social context as a causal influence on corruption.

In its most general form, this approach views corruption of patrol officers as a natural consequence of society's demands for illegal services. It has often been observed that crime is very much an American way of life[39] and that since the police do not function in a vacuum there is really little wrong with law enforcement that is not also wrong with society as a whole.[40] This observation, while doubtlessly true, is not terribly helpful to a police administrator trying to run a clean force.

On a more specific and useful level this approach concentrates on the importance of corruption-oriented cliques in supporting and fostering illegal activities. Corrupt subcultures are thought to develop from a disjunction between the personal goals sought by patrol officers (e.g., financial rewards, job satisfaction, status, and prestige) and the availability of adequate, legitimate means (e.g., promotions, pay raises, etc.) for their realization. The blockage of legitimate access to valued goals, coupled with oft-noted feelings of alienation and isolation from the community at large, leads to the exploration of other routes and for the patrol officers, these are not at all difficult to find.[41] Opportunities for corruption are literally thrust upon them.

Opportunity in combination with motivation leads to corruption and a subculture develops, almost naturally, around the norms and rationalizations used to legitimate clearly illicit behavior. Subcultures serve to justify corrupt activities, protect their members from discovery and, perhaps most damaging of all, act as a means of introducing recruits to the potential profits of their new occupation. In these rather sociological terms, corruption can be viewed as a

process which feeds on itself until it eventually encompasses an entire department. Even those officers who are not directly involved are pulled into its web by their reluctance to expose their friends and colleagues.

This process has been frequently elevated in the literature to a position of paramount importance in explaining corruption.[42] However, emphasis on the personal frustrations of patrol officers as a cause of corruption needs to be supplemented by an appreciation of the extreme demands placed on them by society. Not only are they held to strict ethical standards (much stricter, it might be noted, than those applying to most other occupations), but they are also required to perform tasks for which they have insufficient power and resources, and rather ambivalent support from the communities they serve.

The problem is particularly evident in attempts by uniformed patrol officers to police vice, a major source of police corruption. The obligation to enforce morals laws creates a serious dilemma for the patrol officer. Departments often place great emphasis on vice activity as evidence of their honesty and incorruptability. However, it is extremely difficult for uniformed patrol officers to make vice arrests. Frequently they are obliged to engage in questionable and even illegal activities such as perjury on warrant affidavits, planting evidence, and illegal searches in order to make arrests of rather doubtful significance to the courts, the public, or even themselves. In the process, they are placed in an environment where close supervision is difficult if not impossible and where opportunities for graft abound. The result is often the development of understandable

feelings of cynicism and alienation in an atmosphere which provides a ready and profitable outlet for their expression.

It is difficult, at this point in time, to guage the relative explanatory powers of different theories of corruption. They are presently cast more in the form of speculative notions rather than systematic, well thought out assumptions and hypotheses. While the traditional "rotten apple" explanation places much too much emphasis on individual moral character and has often been used as much to cover-up corruption as to explain it, the sociological, group-oriented approach sheds little light on the crucial question of why some officers are corrupted while others remain clean. Indeed, the sociological analyses often leave one wondering how there could be any honest cops at all given the unhappy conditions of police work.

Although frequently presented in the literature as conflicting approaches they, perhaps, best be viewed as providing two different levels of explanation -- one emphasizing the immediate causes of corruption such as individual characteristics, lax supervision and inadequate recruitment practices; and the other concentrating on latent causes such as community norms and mores, and informal police subcultures. At present, there is a clear need to extract from these two approaches, a set of explicit, testable, and policy-relevant hypotheses. Until this has been accomplished we must content ourselves with some interesting, if rather free flowing speculations on corruption, none of which are supported by much in the way of hard data. Future progress in our understanding would seem to require a more definite and systematic specification of the factors impacting on corruption and the development of means for measuring them.

4. Countering Patrol Officer Corruption

The disagreement found in discussions of the causes of corruption does not carry over into considerations of its consequences. Here there is virtually universal consensus that corruption is destructive to all aspects of patrol. It does tremendous damage to morale, brings formal rules and procedures into contempt, degrades the nature and status of police work, and dimishes community respect for and cooperation with law enforcement agencies. It also exerts a disturbing influence on the distribution of police services, and can place senior administrators in extremely precarious positions. Finally, it is generally recognized that corruption works like a cancer in police departments, even small seemingly harmless transgressions can contain the seeds of a major scandal.

Someone once said that to explain a phenomenon is to explain why it cannot be other than it is. The causes of corruption are so many and complex and its ramifications so difficult to unravel that it is easy to come away from an examination of the problem with a rather pessimistic prognosis concerning our ability to control and eliminate it. Several authorities in the field have fallen victim to this fatalistic frame of mind. Sayre and Kaufman in their influential study of politics in New York City conclude that the Police Commissioner eventually comes to accept the fact "that police corruption is endemic to his organization, and that he is fortunate if he can prevent its reaching epidemic proportions."[43] In a similar vein, Neiderhoffer has written of his conviction that "the forms of graft quietly condoned by most policemen will prove impossible to eradicate."[44]

These negative predictions may well prove out to be true,

but they offer small comfort or assistance to police administrators who must cope with controlling corruption, however impossible the task might be, nor have they dampened efforts to devise strategies and tactics for dealing with the problem. A great many proposals for change and reform have eminated from recent commission reports and studies of corruption. In summary form these include:

1. Psychological screening of police candidates to weed out those most likely to engage in corruption[45]
2. Increased emphasis on the indoctrination of officers in a code of ethics [46]
3. Regular surveillance and investigation of police behavior by an independent investigative agency [47]
4. Emphasis on high arrest and ticketing rates to reduce the prospect and suspicion or corruption
5. Elimination of the common practice of assigning poorer officers to high crime areas where temptation is greatest[48]
6. Increase in salaries to reduce temptation[49]
7. Creation of opportunities for lateral mobility between departments to enhance opportunities for promotion[50]
8. Changes in the laws covering victimless crimes to remove a major source of corruption[51]
9. Vigorous prosecution of officers caught

engaging in corrupt activities[52]

10. Prosecution of citizens caught offering bribes[53]

11. Rotation of officer beat assignments and partners.

While lengthy, this represents only a partial list of suggested reforms. And, as is so often the case, there are benefits and drawbacks to each proposal. For example, the use of an internal investigating agency while a potentially valuable technique for controlling corruption, might also have serious consequences for morale. Every patrol officer, however honest, is guilty of violating some departmental rule or regulation, and the spectre of being constantly watched and possibly informed on could create an extremely hostile and apprehensive atmosphere. It would also be quite costly.

Rotation of officer beat and partner assignments could make it much more difficult for officers to develop and solidify the contacts necessary for systematic graft, but it would also increase the managerial headaches involved in manpower allocation and substantially reduce the familiarity of officers with their beats.

In brief, the present state of our knowledge about corruption of patrol officers is not sufficiently detailed and reliable to permit any very definite conclusions concerning the relative merits of various approaches to dealing with the problem. Perhaps the most sensible proposal was made by the National Advisory Commission on Criminal Justice Standards and Goals when it called for detailed studies of the steps that have led or might lead to a reduction in police corruption.[54] Certainly, little can be accomplished in the absence of better and more detailed knowledge.

REFERENCES AND FOOTNOTES ON SUPERVISION OF PATROL OFFICERS

1. G. Douglas Gourley, Patrol Administration, 2nd ed., (Springfield, 1974), p. 187.

2. O. W. Wilson and Roy C. McLaren, Police Administration, 3rd ed., (New York, 1972), p. 330.

3. New York Police Department, "Operation 25," Police Patrol Techniques, ed. Samuel G. Chapman, (Springfield, 1970), p. 352.

4. Donald F. Norris, Police - Community Relations, (Lexington, 1973), p. 13.

5. Bruce Smith, Police Systems in the United States, (New York, 1960), p. 243.

   Gourley, *op. cit.*, pp. 193-200.

6. Smith, *op. cit.*, pp. 243-245.

7. Gourley, *op. cit.*, p. 200.

8. Thomas F. Adams, Police Patrol: Tactics and Techniques, (Englewood Cliffs, 1971), pp. 126-129.

   Paul M. Whisenand and James L. Cline, Patrol Operations, (Englewood Cliffs, 1971), p

9. Gourley, *op. cit.*, pp. 216-218.

10. *Ibid.*, pp. 228-235.

11. Norris, *op. cit.*, pp. 12-17.

12. Gourley, *op. cit.*, p. 194.

13. James S. Campbell and others, Law and Order Reconsidered, (New York, 1970), pp. 407-411.

14. George E. Berkley, The Democratic Policeman, (Boston, 1960), pp. 135-136.

15. *Ibid.*, p. 139.

16. Campbell, *op. cit.*, pp. 411-415.

17. Berkley, *op. cit.*, pp. 140-141.

18. *Ibid.*, p. 52.

19. William Westley, "Secrecy and the Police," Social Issues, 34, 1956, pp. 254-257.

20. Campbell, *op. cit.*, pp. 416-418.

21. Albert J. Reiss, Jr., The Police and the Public, (New Haven, 1971), pp. 164-168.

22. Smith, *op. cit.*, p. 256.

Reiss, *op. cit.*, p. 5.

23. Leonhard F. Fuld, Police Administration: A Critical Study of Police Organizations in the U. S. and Abroad, (Montclair, 1971), p

Wilson and McLaren, *op. cit.*, pp. 328-330.

24. David J. Bordua and Albert J. Reiss, Jr., "Command, Control, and Charisma: Reflections on Police Bureaucracy," The American Journal of Sociology, 72, July, 1966, pp. 69-70.

Gourley, *op. cit.*, pp. 249-255.

25. R. L. Hoobler, et. al., San Diego Police Department Community Profile Development Project, Community Profiling and Police Patrol Abstract, December, 1974. Paper prepared as part of an Original Action Program sponsored by the Police Foundation, Washington, D. C. pp. 10-13.

26. James Q. Wilson, Varieties of Police Behavior (New York, Atheneum, 1974). p. 118.

27. "The Report of the Knapp Commission to Investigate Allegations of Police Corruption: Summary and Principal Recommendations" (New York August 3, 1972). p. 4.

28. President's Commission on Law Enforcement and Criminal Justice, Task Force Report: The Police (Washington, D. C.: Government Printing Office, 1967). p. 208.

29. Jonathan Rubinstein, City Police (new York: Ballantine Books, 1973). p. 402.

30. Reiss, op. cit., p. 169.

31. Berkeley, op. cit., p. 127.

32. Ellwyn R. Stoddard, "The Informal 'Code' of Police Deviancy: A Group Approach to 'Blue-Coat' Crime" in Jack Goldsmith and Sharon S. Goldsmith, eds., The Police Community (Pacific Palisades, Cal.: Palisades Publishers, 1974) p. 264.

33. Reiss, op. cit., p. 160.

34. Jerome H. Skolnick, Justice Without Trial (New York: John Wiley and Sons, inc., 1966) p. 28.

35. Stoddard, op. cit., p. 257.

36. Knapp Commission, op. cit.

37. James C. Parsons, "A Candid Analysis of Police Corruption" in The Police Chief, vol. 49, no. 3, March 1973, p. 20.

38. The National Advisory Commission on Criminal Justice Goals and Standards, Police (Washington, D. C.: LEAA, 1973) p. 44.

39. Daniel Bell, The End of Ideology (New York: Collier Books, 1960) p. 127.

40. Parsons, op. cit., p. 20.

41. Barbara Raffel Price, "Police Corruption: An Analysis," in Criminology, vol. 10, no. 2, August, 1972. pp. 161-176.

42. Robert K. Merton, Social Theory and Social Structure, revised edition (Glencoe: Free Press, 1957), chapters 1, 4, 5.

43. Wallace S. Sayre and Herbert Kaufman, Governing New York City (New York: Russel Sage Foundation, 1960) p. 289. As quoted in Neiderhoffer, op. cit., p. 177.

44. Neiderhoffer, op. cit., p. 177.

45. Knapp Commission, op. cit.

46. Task Force, op. cit., pp. 212-215.

47. Ibid.

48. Reiss, op. cit., p. 168.

49. Task Force, op. cit., pp. 212-215.

50. Reiss, op. cit., p. 162.

51. Knapp Commission, op. cit.,

52. Ibid.

53. Ibid.

54. National Advisory Commission on Criminal Justice Standards and Goals, op. cit., p. 495.

PATROL OFFICER CHARACTERISTICS

The personal characteristics of the patrol officer is considered a significant issue in determining an individual's inherent capability to serve as a patrol officer and in determining the appropriate beat assignment for the officer. In this paper, two particular issues are discussed: The first deals with the racial characteristics of the patrol officer. The second deals with the question of utilizing women as patrol officers. The relevance of the officer's educational background is discussed in a special section on police professionalism. Language skills are not considered here as virtually no information was found in the literature.

A. Racial Minorities and Preventive Patrol

Official governmental commission reports and independent studies have stressed the importance of recruiting and deploying more non-white patrol officers as a means of improving community relations and patrol effectiveness.[1] Minorities are currently under-represented, in terms of proportion of the total population, on virtually every department in the country. Even the Washington, D.C. police department, with the nation's highest proportion of non-white officers, has a percentage far below the city's 70% black population. The relative absence of non-whites in police work has been viewed as a major factor contributing to the frequently evoked image of the police as an alien, occupying force in inner-city neighborhoods.

Aside from enhancing the image of law enforcement and complying with equal employment regulations, it has also been suggested that increased use of minority officers will lead to more sensitive, acceptable, and effective patrol of non-white areas, and that the presence of non-white officers in significant numbers in a department will help to alter the

prejudicial attitudes of their white colleagues.

Evidence bearing on these issues is sketchy at best and often of dubious quality. Many discussions of the subject seem content with the simple and usually unsupported assertion that non-white officers are more effective than whites in patrolling non-white areas. This assertion generally serves as a prelude to more extensive and better documented considerations of the techniques and problems in minority recruiting.[2] Unfortunately, studies with a more direct focus on minorities on patrol are few in number and present confusing and often contradictory findings.

For example, it is commonly observed that non-white officers are more sympathetic to the needs and problems of non-white citizens and treat them with greater respect and dignity than their white counterparts.[3] Rossi and his associates found evidence in support of this contention in their study of black patrol officers and they also noted that black officers perceive less citizen hostility in black communities and are better able than whites to interpret the meaning and significance of street activity in these areas.[4] However, other studies have discovered substantial levels of hostility directed toward black officers patrolling in black neighborhoods[5] and have reported that all officers regardless of their race attribute this hostility to similar sources. It has even been suggested that, albeit on the basis of very little data, that black officers are often more harsh than whites in policing black areas because of feelings of frustration and moral indignation at the damage done by black criminals to the image of their race.[6] One study has reported that for this reason lower income blacks sometimes prefer to be policed by white officers.[7]

While the available evidence on citizen reactions to black patrol officers is incomplete and contradictory, there is widespread agreement that

black officers frequently find themselves trapped in an uncomfortable position between the white community which doesn't completely accept their authority as public officials and their own community which often regards them as "uncle toms" who are traitors to their race. Rubin, in his study of the Miami police force, found black officers to be heavily burdened by this conflict in the public definition of their role.[8] And, if there is any truth to the common assertion that the police and ghetto residents are locked in a warlike situation, then black officers are confronted with a virtually insolvable conflict.[9]

Even less is known about the actual effectiveness of black officers than about community reactions to their presence. A study of the Philadelphia Police Department found that approximately three-fourths of the patrol officers believed that black officers were more effective than whites in black neighborhoods; however, their supervisors were more spectical.[10] In Fort Worth, the department recently experimented with assigning two-man racially mixed foot patrol units to ghetto beats. The resulting improvement in community satisfaction and levels of enforcement activity was striking, but it is impossible to determine how this was influenced by the racial composition of the units.[11] Finally, an examination of background data on New York City police officers revealed very few significant differences between the performance of whites and non-whites.[12]

In short, there has never been a systematic examination of the relative performance of white and non-white patrol officers. However, the fragmentary evidence that does exist suggests that on the whole officers patrolling in minority areas perform similar tasks in a similar manner regardless of race.

At least part of the reason for the absence of detailed analyses

of the effectiveness of non-white officers may well lie in the widely felt ambivalence about assigning them in disproportionate numbers to non-white districts. Most recommendations for the increased use of minority officers place considerable emphasis on their ability to better police minority areas; however, there is also a great relunctance to staff minority districts primarily with minority officers. This would conflict with the goal of providing full occupational equality in a completely integrated department and it might contribute to racial barriers which are already dangerously high. While the goal of full occupational equality is important, it must be realized that in most major cities assignment procedures which do not account for race would greatly restrict the direct impact of minority officers on minority areas.

Non-white officers themselves appear to have mixed feelings about assignment practices. In several cities black officers have protested about being assigned primarily to black areas, while in New York City black and Puerto Rican officers have complained about frequent assignments outside their communities. There appears to be no very satisfactory resolution to the dilemma between occupational equality and full efficiency in assignments. If minority officers are believed to be of primarily symbolic value then the problem disappears; however, if they are seen as a means of coping with the problems of patrolling the inner-city, then administrators face a very delicate situation. One seemingly useful response to the problem has been the deployment of racially mixed two-officer units in high crime areas.

Finally, substantial attention has been paid to the effects of increased numbers of minority officers on the social climate of patrol divisions. Some authors suggest that they might exert a positive influence on the racial attitudes of white officers, while others have emphasized the

the social tensions which can exist on a racially mixed force. One study found that the use of perjorative language in referring to minorities was negatively related to white officers' exposure to blacks on the force and that the strength of this influence depended on the degree to which blacks were integrated into all facets of the department's operations.[13] This effect has been confirmed by informal observations of departments across the country.[14] On the other side, tension between white and non-white officers makes excellent news copy and has accordingly received considerable public exposure; however, very little of substance is known about the problem. There have been reports of: black officers accusing whites of misconduct and brutality toward blacks,[15] problems in the use of white and black officers as patrol partners,[16] and concern that the involvement of a large number of minorities in police work might be viewed as a threat to the status of the occupation.[17] But, since none of these alleged problems has received careful attention and study, it is difficult to offer more than conjecture about them. Perhaps the best that can be said is that they represent aspects of the on-going process of integration in American society and, as such, can be treated but not avoided by administrative and supervisory practices.

It is difficult to conclude, in a satisfactory way, a discussion of an issue on which so little is known. On the basis of current evidence, the degree to which departments with large numbers of minority officers on patrol in minority areas have experienced less community tension than departments with fewer minority officers is unclear. Nor is it clear whether increased deployment of minority officers has contributed to lower crime rates or to a decline in police harrassment and abuse of minority citizens. This lack of evidence does not constitute an argument against

employing more minority officers and placing them on patrol in minority communities.[18] Instead it appears to be a consequence of the fact that, at bottom, increased use of minority officers has been stressed less for reasons of their supposed effectiveness, than for reasons of equity and equality. While this sense of priorities cannot be argued with, it should not be allowed to impede examination of the effect of minority officers on patrol operations. The question is not whether minorities should be recruited and placed on patrol in greater numbers, but how can they best be utilized.

B. Women on Patrol

The use of women on patrol is one of the most controversial issues in American policing. Although women have been active in police work since before the turn of the century, until quite recently they were restricted to "policewomen's positions" such as matron duty and juvenile work.

Indianapolis, in late 1968, became the first American city to assign women to general patrol. Since then, under pressure from civil rights legislation, feminist groups, and federal regulations, an increasing number of police departments have followed suit. It has been estimated that in 1974 there were approximately 1,000 female patrol officers distributed among some 40 to 50 departments.[19]

It is now legally incumbent on departments to hire and use women and men on an equal basis unless the existence of bona fide reasons for sex discrimination can be demonstrated. Yet, inspite of the legal requirements, the issue of women on patrol continues to be hotly debated.

The debate revolves around a host of highly emotional issues ranging from the ability of women to handle violent situations to fears of sexual encounters between male and female officers on duty together. From an operational point of view the most important concerns appear to be:

1. The ability of women to perform adequately on patrol;
2. The potential advantages and disadvantages of using women on patrol; and
3. The possible effects of a large number of female officers on the nature of police operations.[20]

Evidence bearing on these issues has come from a wide variety of sources including: 1. the few departments which have used women on patrol; 2. experiences of foreign police departments with women on patrol; 3. experiences of women in other potentially hazardous jobs (e.g. mental hospital attendants, housing project guards, etc.); 4. results of studies on the influence of sex on job performance; and 5. subjective opinions of various observers on the suitability of women for patrol. To date, program evaluations of women on patrol have been conducted in three departments: New York City, St. Louis County, Missouri, and Washington, D.C. The sample sizes in New York and St. Louis (14 and 16 respectively) are too small for their findings to be regarded as anything more than suggestive. However, the Washington, D.C. study, sponsored by the Police Foundation, represents an ambitious, elaborate, and influential attempt to evaluate experimentally the use of women on patrol.[21]

This study addressed the three central questions mentioned above by means of a year-long experiment. Eighty-six female patrol officers were matched with an equal number of males and their performance was compared and evaluated in terms of a wide variety of criteria ranging from citizen reactions

to supervisory ratings. The study concluded that:

1. It is appropriate to assign women to patrol on the same basis as men. Both sexes were found to perform similar kinds of work in similar settings with roughly equal measures of success. There were no incidents which could cast doubt on the ability of women to patrol effectively. Citizens had similar and generally favorable attitudes toward both male and female officers. In short, the study found that "sex is not a bona fide occupational qualification for doing police work."[22]

2. Employing women on patrol has numerous advantages. Women are less likely than men to exhibit conduct unbecoming to an officer, they may be more effective in defusing potentially violent situations, they can provide a patrol force with a more representative proportion of its jurisdiction's population, and finally, their presence protects a department from discrimination lawsuits. On the other side, male officers tend to react negatively to women on patrol and this can have a serious, although possibly temporary effect on departmental morale.

3. The use of a substantial number of women on patrol may reduce the likelihood of violent encounters between the police and the public, and foster a less aggressive style of patrol. It may also stimulate a constructive review of patrol techniques and the measures used to evaluate patrol effectiveness.

These, put all too briefly, are the major findings of the Washington study. This project represents one of the most widely publicized experiments

ever conducted in the field of preventive patrol and its impact has been considerable. For example, a recent review of the literature on women in policing notes that, "While each city can be seen as a somewhat unique law enforcement situation, findings from the Washington, D.C. evaluation have been generally accepted as applicable to programs in other urban areas."[23] And, in a similar vein, a manual on women in policing observes that, "further programmatic evaluations of women on patrol would be a case of experimental overkill. The program question has been answered definitively and affirmatively that women are able to perform as well as men on general patrol..."[24]

Inspite of the generally positive reaction to the Washington study, there are serious flaws in its design and execution which undermine the validity of its findings. This is not the place for a detailed critique of the study. However, it may be useful to consider briefly a few of its problems as examples of the extreme care which must be taken in evaluating and using the results of experimental research.

1. Lack of integrity in the sample size - The study purports to present a comparative analysis of the performance of an equal number of male and police recruits newly assigned to patrol. However, the number of officers in the sample, especially female officers, declined strikingly during the course of the experiment. As a result, there are serious questions as to whether the sample size remained sufficiently large and comparable between the two sexes to permit any generalizations to be drawn from the study's findings. Furthermore, for unexplained reasons, the sample size varies continually in the presentation of data of different measures of performance. This makes interpretation of the data extremely problematical and often misleading. Finally, toward the end of

the experiment only 45% of the women, compared with 71% of the men, remained on patrol. In drawing its conclusions the study frequently combines data on female officers on patrol with data on those with inside assignments. This procedure raises serious doubts about the extent to which the analysis and conclusions presented in the study actually pertain to patrol. Certainly, it is not accurate to conclude that there were no significant differences between male and female patrol officers in the number of injuries sustained while on duty, in the number of driving accidents, and in supervisory performance ratings on a number of factors related to patrol when more than 50% of the women included in the analysis were not assigned to patrol for the duration of the experiment.

2. Administrative interference with the experiment - The influence of then-Chief Wilson's involvement in the experiment is never adequately recognized and explored. For instance, 8 months into the study the Chief rescinded his previous order that male and female officers be treated equally in every respect and he declared the experiment to be a success. This, in all likelihood, did tremendous damage to the study's experimental integrity and, in effect, probably destroyed its status as an experiment.

3. Citizen survey sample size - Citizen attitudes toward male and female officers were examined by means of 129 telephone interviews of residents in the 4 police districts included in the experiment. On the basis of these interviews the study concludes that, "Citizens of the District of Columbia generally approved of having policewomen on patrol."[25] Exactly how a statement of such a general nature can be justified on the basis of a sample composed of only 129 respondents drawn from areas of the city selected on a non-random basis is never explained.

The above observations are only intended to be indicative of the

serious flaws contained in this study. There are many other problems which cannot be considered here. However, even the few difficulties we have noted in the design and implementation of the experiment are sufficiently severe to support our conclusion that its results cannot be considered valid. In sum, the issue of women on patrol is yet to be closed.

FOOTNOTES AND REFERENCES ON

THE CHARACTERISTICS OF PATROL OFFICERS

1. George E. Berkley, The Democratic Policeman (Boston: Beacon Press, 1969). p. 63

   President's Commission on Law Enforcement and Criminal Justice, Task Force Report: The Police (Washington, D.C.: U. S. Government Printing Office, 1967). pp. 167-168

2. Robert Wasserman, et. al., Improving Police Community Relations (Washington, D. C.: LEAA, June, 1973) pp. 40-48

3. David J. Bordua and Larry L. Tifft, "Citizen Interviews, Organizational Feedback, and Police-Community Relations" in Law and Society Review, November, 1971. pp. 155-182

   Peter H. Rossi, et. al., "Between White and Black: The Faces of American Institutions in the Ghetto," in Supplemental Studies for the National Advisory Commission on Civil Disorders, p. 104

4. Ibid.

   W. Eugene Groves and Peter H. Rossi, "Police Perceptions of a Hostile Ghetto: Realism or Projection," in Harlan Hahn, ed., Police in Urban Society (Beverly Hills: Sage Publications, 1970). p. 181

5. Task Force, op. cit., p. 167

6. Arthur Neiderhoffer, Behind the Shield (Garden City, New York: Anchor Books, 1969) p. 193-194

7. Elliot M. Rudwick, "The Unequal Badge," in Samuel G. Chapman, ed., Police Patrol Readings (Springfield, Illinois, Charles C. Thomas, 1970) pp. 80-98

8. Jesse Rubin, "Police Identity and The Police Role," in Robert F. Steadman, ed, The Police and the Community (Baltimore: The Johns Hopkins University Press, 1972). pp. 37-39

9. Nicholas Alex, Black in Blue, (New York: Appleton-Century-Crofts, 1969).

10. Task Force, op. cit., p. 167.

11. Melvin B. Pendland and Wayne G. Gay, "Foot Patrols: The Fort Worth Experience" in The Police Chief, April, 1972. pp. 46-48

12. Bernard Cohen and Jan Chaiken, Police Background Characteristics and Performance (Lexington, Mass.: Lexington Books, 1973). pp. 48-50

13. David M. Rafky, Police Race Attitudes and Labelling," Journal of Police Science and Administration, vol. I, no. 1, March, 1973.

14. Jerome H. Skolnick, "The Police in the Urban Ghetto," in Arthur Neiderhoffer and Abraham Blumberg, eds., The Ambivalent Force: Perspectives on the Police (Waltham, Mass: Ginn and Co., 1970). pp. 223-238

15. John Darnton, "Color Line: A Key Police Problem," ibid., pp. 72-76

16. Samuel G. Chapman, "The Nation's Most Wanted Man," in Chapman, op. cit., pp. 98-105

17. James Q. Wilson, "The Police and Their Problems," in ibid., p. 297

18. James Q. Wilson, "Dilemmas of Police Administration" (Public Administration Review, September-October, 1968). p. 409

19. Constance M. Breece and Gerald R. Garrett, "Women in Policing: Changing Perspectives on the Role," an unpublished paper, prepared in part for the Governor's Committee on Law Enforcement and the Administration of Justice, Commonwealth of Massachusetts, p. 6.

20. Peter B. Bloch and Deborah Anderson, Policewomen on Patrol: Final Report (Washington, D.C.: The Police Foundation, May, 1974). pp. 1-4

21. Ibid.

22. Ibid., p. 3

23. Constance M. Breece and Gerald R. Garrett, op. cit. p. 8

24. Lewis Sherman, quoted in Catherine Higgs Milton, et. al., Women in Policing: A Manual (Washington, D.C.: Police Foundation, December, 1974). p. 46

25. Peter B. Bloch and Deborah Anderson, op. cit. p. 36

PROFESSIONALISM

Professionalism has been a mainstay in writing and research on patrol since the pioneering work of Raymond Fosdick and August Vollmer in the early 1900's.[1] They argued that because of its complexity, ambiguity, and vital importance, patrol could only be handled by a professionalized force. Decades later leading authorities in the field are still making similar recommendations.[2] Their comments indicate that discussion and debate of professionalism has travelled in repetitious circles over the years rather than advancing toward any definite rosolution.

A. Defining the Concept

Much of the difficulty in discussing professionalism stems from the problem of definition. At times there appear to be almost as many definitions as there are definers. To some professionalism is synonymous with advanced education for patrol officers, to others it means improvements in management, organization, and accountability, while a third group would label any apparent change in police operations as a step toward a more professional department.

Typically, definitions are developed by comparing the characteristics of police work with those of the prototypical professions of law and medicine. And, as might be expected, a number of similarities and differences emerge. For example, patrol is professional in that its practioners exercise considerable discretion in making vitally important decisions; while it is non-professional in that patrol officers work in hierarchial organizations with little lateral mobility, are not required to undergo lengthy periods of education and training

in a specialized body of theory and knowledge, and are not publically recognized as professionals.[3] This type of analysis by analogy then leads to the conclusion that law enforcement agencies must change certain practices, such as recruitment, in order to achieve professional status or, less often, that the inherent nature of their task renders professionalism an impossible goal.[4]

In terms of its actual implementation, professionalism appears to have two distinct operational connotations. On one hand it is viewed as an attempt to rationalize police operations through the use of more effective internal controls; sophisticated management, allocation, and crime analysis techniques; and emphasis on efficient, objective law enforcement. On the other, it is seen as an effort to upgrade the quality of personnel by stressing higher education as a prerequisite for recruitment and promotion. These two orientations, while not mutually exclusive, represent in practice two very different responses to the managerial problem of officer discretion and low visibility. The first would attempt to increase accountability through the use of sophisticated methods of external control. while the second emphasizes internal standards of behavior developed through education and training as the principal means of controlling discretion.

It is difficult to reconcile the first approach with the traditional dictates of professionalism. Professions, by definition, allow their members considerable leeway in making judgements and exercising discretion on the basis of individual competence and expertise. Efforts to increase managerial efficiency and standardization of officer behavior might well improve the quality of law enforcement, but they will not promote professionalism unless professionalism is equated with

improvement in general. In operation, they would tend to bureaucratize rather than professionalize a department.

B. Higher Education and the Patrol Officer

The second approach, that which stresses higher education, corresponds more closely to the usual notion of professionalism. Higher education has always been one of the defining characteristics of a profession, and in recent years there has been a growing interest in improving both the quality and status of law enforcement through the educational process. Rather impressive claims have been made for the beneficial effects of increased education. The President's Commission on Law Enforcement and the Administration of Criminal Justice stated that, "The quality of police service will not significantly improve until higher educational requirements are established for its personnel,"[5] and warned that all its recommendations were "predicated on the sharp improvement in personnel..."[6] The Commission then went on to propose that ultimately all sworn law enforcement officers should have baccalaureate degrees and that, as an interim measure, degrees should be required for all officers in supervisory positions.[7]

The Commission's conclusions, coupled with the availability of federal funding, have stimulated considerable interest and activity in the field of law enforcement education. There are currently over 800 law enforcement programs in institutions of higher education throughout the country and the number continues to grow.[8] However, only a small percentage of currently active officers have obtained the vaunted B.A. degree.

While it is generally assumed that education will improve

the quality of patrol, there is rather little hard evidence bearing on the issue. It is probably true that higher education can benefit the patrol officer, but the nature of that benefit is unclear. We have found little detailed and explicit analysis of its anticipated impact upon the patrol officer. Despite the great emphasis placed on its importance, only a few studies have focused directly on the effect of education on patrol effectiveness.

Smith and Ostrom, in one of the most careful and useful examinations of the subject, discovered only a very weak relationship between college education and the positive attitudes and behavior it is commonly expected to foster. They found that while college educated patrol officers did manifest slightly more humanitarian and pro civil liberties attitudes than their less educated peers, they tended to feel less confident in their ability to handle police work and were not given higher ratings by the citizens they serve. In concluding, the authors observe that, "While considerably more analysis is obviously required, the results from our study thus far provide slight confirmation for hypotheses derived from police reform literature calling for higher levels of training and education." [9]

Cohen and Cahiken, in a study of the background characteristics of officers in New York City, found that officers with at least one year of college were more likely to be promoted and less likely to receive civilian complaints than those with lower levels of education. [10] However, another author who studied and worked in the same department noted that differences in education can often lead to cleavages within a department between the annointed few and their colleagues with only high school diplommas or equivalency certificates. [11] It has also been

observed that education in police science frequently fails to lead to a career in law enforcement and that educated officers commonly leave the field in favor of other pursuits. [12]

In sum, the available evidence on the effects of education on police patrol performance is very incomplete. It is difficult to generalize about the influence of education because educated officers may differ from their peers in many other ways which are potentially related to performance. At present we do not have sufficient knowledge to draw any firm conclusions on the subject. Scant evidence has been found in support of assumptions which related improved officer and patrol effectiveness to higher education among patrol officers.

FOOTNOTES AND REFERENCES FOR PROFESSIONALISM

1. Raymond B. Fosdick, American Police Systems (The Century Co., 1920).

   August Vollmer, The Police and Modern Society (University of California Press, 1936).

2. See: James F. Ahern, Police in Trouble (New York: Hawthornes Publishers, 1972) pp. 175-176.

   G. Douglas Gourley, Patrol Administration, 2nd edition (Springfield, Illinois: Charles C. Thomas). p. 396

   Albert J. Reiss, Jr., The Police and the Public (New Haven: Yale University Press, 1971). p. 121

   President's Commission on Law Enforcement and the Administration of Justice, Task Force Report: The Police (Washington, D.C.: U. S. Government Printing Office, 1967). p. 126-127

3. Robert W. Hodge, Paul M. Siegel, and Peter H. Rossi, "Occupation Prestige in the United States, 1925-1963," American Journal of Sociology, Vo. 70 (November, 1964). pp. 290-292

4. James Q. Wilson, Varieties of Police Behavior (New York: Atheneum, 1974). p. 30.

   James Q. Wilson, "Movie Cops - Romantic vs. Real," in Arthur Neiderhoffer and Abraham S. Blumberg, eds., The Ambivalent Force: Perspectives on the Police (Waltham, Mass.: Ginn and Co, 1970) pp. 64-66

5. Task Force, op. cit., p. 126

6. President's Commission on Law Enforcement and the Administration of Justice, The Challenge of Crime in a Free Society (Washington D.C., U. S. Government Printing Office, 1967). p. 107

7. Task Force, op. cit., pp. 109-110.

8. Charles W. Tenney, Jr., Higher Education Programs in Law Enforcement and Criminal Justice (Washington D. C.: LEAA, June, 1971)

9. Dennis C. Smith and Elinor Ostrom, "The Effects of Training and Education on Police Attitudes and Performance: A Preliminary Analysis" (Bloomington: Workshop in Political Theory and Policy Analysis) p. 39

10. Bernard Cohen and Jan M. Chaiken, Police Background Characteristics and Performance (Lexington, Mass.: Lexington Books, 1973) pp. 37-65

11. Arthur Neiderhoffer, Behind the Shield (Garden City, New York: Anchor Books, 1969). p. 32.

12. Charles W. Tenney, Jr., op. cit., p. 61

ROUTINE PATROL IN THE COMMUNITY

Police-community relations are of central importance to preventive patrol, since citizen satisfaction with police services is a principal objective of police patrol. Moreover, patrol units would find it very difficult to carry out their mandate without community support. Much of their activity is generated by public demands for service[1] and their ability to apprehend criminals and deter crime is greatly dependent on public cooperation.

Most research on police-community relations has reported fairly high levels of public satisfaction with and support for the police. The vast majority of the public has a favorable opinion of police work. Recent surveys have generally indicated that close to 70% of the citizens surveyed believe that the police are doing a good or excellent job and that a similar number have a great deal of respect for the police.[2] Thus, nationwide, support for the police and approval of their performance appears to be high, although this data does not indicate specifically what it is about patrol which leads to the level of satisfaction.

Unfortunately, in inner-city minority neighborhoods where crime is most heavily concentrated and where effective patrol is most needed and most difficult to perform, the situation is quite different. Here there is considerable distrust of and animosity toward patrol officers. It is conditions in these communities that are usually referred to in discussions of the problem of police-community relations, and, in the words of the President's Commission on Law Enforcement and the Administration of Justice, "It is as serious as any problem the police have today."[3]

Police patrol in minority areas has been criticized on many

grounds. The police have been accused of being an occupying force and a symbol of the white establishment's oppression.[4] They have been criticized for both over and under enforcement of the law.[5] There have been allegations of brutality, prejudice, and lack of communication with residents.[6] And, they have even been identified by some as symbolic assailants who contribute to rather than deter crime.[7] In short, accounts of relations between inner-city residents and police are often couched in the language of war.

The problem of police-minority relations is two-fold, encompassing both the attitudes and behavior of minorities toward the police and of the police toward the minority citizens they serve. Both sides of the issue are, of course, heavily interdependent. They have even been described as interlocking self-fulfilling prophecies in which the negative attitudes of each party toward the other lead to behavior which confirms and reinforces the initial attitude.

Available data present a somewhat confusing picture of the problem. While they clearly indicate that racial minorities are more critical of the whites, they also show that slightly over half the non-whites in the nation believe that the police are doing a good or excellent job,[8] and that many who are critical feel that the police, rather than being a repressive force, are not active enough or present in large enough numbers to do an adequate job.[9] These data led one observer to conclude that there is "little support for the view that the great majority of blacks are seething with resentment against the police on grounds of injustice or abuse."[10]

However, while the data do not depict residents of non-white neighborhoods as being as hostile to the police as much of the rhetoric on the subject would have one believe, patrol officers working in these areas perceive a great deal of citizen distrust and hostility.[11] This apparent

contradiction between the opinions of citizens and the perceptions of the police results from the fact that patrol officers do not have much contact or devote much of their attention to "average citizens." They are primarily involved with a relatively small number of "clients" (willing or unwilling) who make heavy demands on their services. These "clients" are disproportionately young, black, and male, and they comprise that segment of the population which expresses the greatest animosity and hatred toward the police and from which the police derive their image of minority areas as being unfriendly and even dangerous.[12] Thus, although the problem of police-minority relations is not quite as straightforward and uncomplicated as it is often depicted in the literature, it is an important problem nonetheless which has a substantial impact on the ability of patrol officers to provide protection and services to minority areas.

Efforts to improve police-community relations have typically led to the establishment of community relations programs within departments. There is considerable controversy over the techniques employed by these units and the efficacy of the many different programs that have been tried;[13] however, they fall outside the purview of a discussion of preventive patrol. Suffice it to note that it has been frequently observed that special community relations programs will not bring much benefit unless great attention is paid to the community impact of day-to-day patrol operations.[14] A recent review of community relations noted: "Police community relationship is made on the streets -- it is made by the officer on the beat."[15]

Recognition of the importance of patrol to community relations has prompted a variety of responses: Departments have undertaken to change officer attitudes toward patrol work in minority areas, to alter the methods and techniques of patrol in order to increase citizen satisfaction,

and to match officer characteristics with the social and cultural characteristics of the beats they patrol.

Probably the most common approach to this problem has been the implementation of programs designed to sensitize officers to the peculiar needs and culture of minority areas and to change their attitudes and behavior toward the residents of these areas. Essentially, these programs have sought to increase communication through neighborhood advisory councils, t-groups composed of officers and community members, ride-a-long programs, and open community meetings. There has also been widespread use of lectures and seminars on race relations, urban sociology and related subjects, and officer involvement in sensitivity training and role-playing exercises.

Since few of these programs have been carefully evaluated, it is difficult to guage their influence. However, considerable doubt exists concerning their effectiveness. A substantial body of theory and research in the field of social psychology suggests that attitudes, especially attitudes of adults, are quite resistant to change. Only through rather extensive and long-term reinforcement can desired opinions and beliefs be firmly internalized. Occasional seminars, t-groups, and community meetings are likely to have only marginal effects. Furthermore, the relationship between attitudes and behavior is far from clear-cut. A patrol officer who is taught to use polite language in referring to minority citizens may still be insensitive in the exercise of his duties.

An after-the-fact evaluation of the Washington, D.C. Pilot Police Project provides some evidence of these difficulties. The project was a fairly extensive and long-term (18 months) effort to change the attitudes and behavior of both the police and citizens by means of in-service police training, community advisory board, and general involvement of community

members in police activities. After 18 months the independent evaluators were forced to conclude that "little was accomplished to improve police-Black community relations."[16] Experience from this and other projects indicates that attitude change on the part of both the police and the public needs to be viewed as a long-term, on-going effort. Little of value can be accomplished through short-term or intermittent activities.

In short, although there is very little hard evidence on the effects of efforts to change attitudes and increase sensitivity, there does appear to be a general dissatisfaction with the experiences in using them to date. Often, they appeared to have been undertaken because they are relatively quick and easy to conduct and may have some public relations value. Much more attention must be devoted to their design and evaluation if future projects in this realm are to yield useful results.

The second approach to improving patrol-community relations focuses on changes in the methods and tactics of patrol. Examples of projects in this area include (or are typical of projects in this area):

1. The use of measures of patrol effectiveness which focus on citizen satisfaction. This is normally accomplished through interviews with citizens who have recently had contact with patrol officers.[17] The assumption is that by emphasizing citizen satisfaction as a measure, the officer will become more conscious of citizen needs.
2. The design of patrol sector boundaries to match, as closely as possible, identifiable neighborhood boundaries. The procedure is intended to facilitate officer familiarity with his beat and to allow the officer to respond to the needs of a neighborhood as a whole.
3. Specification of community-orineted tasks to be performed by officers while on preventive patrol. Examples include establishing rapport with juveniles and councilling residents and merchants on crime prevention techniques.
4. Projects requiring patrol officers to systematically study and analyze their beats and on this basis to develop specific patrol strategies to address the problems which have been identified and which can be handled at that level of authority.[18]
5. Reconsideration and possible de-emphasis of field interrogation policies involved in aggressive styles of patrol in light of the hostility they breed in the neighborhood.

Although also suffering from inadequate evaluation, projects represented in this approach appear, in some ways, to be more promising than those subsumed under the first category. First, since they involve almost immediate changes in patrol activities, they might also have a much more immediate impact on community relations than would attempts to change attitudes. Secondly, there is considerable psychological evidence suggesting that attitudes can more easily and permanently be changed through the apparently indirect technique of forcing changes in behavior rather than indirectly through seminars, t-groups, and the like.[19] While attitude change is not necessarily the primary goal of these projects, they all involve a substantial amount of behavioral change and improved attitudes could be an important by-product. It certainly seems possible that use of citizen satisfaction as one measure of patrol effectiveness would cause

officers to think twice before engaging in any possibly objectionable behavior and that requiring officers to analyze their beats carefully and in writing might cause them to reconsider some of the sterotypes that might have previously guided their activity.

In the near future we should have some more definite answers concerning the efficacy of at least several programs in this area. The San Diego Police Department has carried out an experiment, sponsored by the Police Foundation, in community analysis by patrol officers and an evaluation is expected shortly. The same department is also conducting an experiment on the utility of aggressive patrol tactics. Such tactics typically include an emphasis on stop and frisk, and vehicle checks. Their use is extremely controversial. Available evidence concerning their effectiveness, though limited in scope, suggests that they inflame police-community relations, while contributing rather little to the objectives of deterrence and apprehension. Hopefully, the San Diego experiment will provide some new and firmer insights into the efficacy of aggressive patrol.

In sum, while there are many approaches to improving the state of police-community relations, little is known about their relative merits. In the absence of more systematic and detailed research, departments will have no basis for formulating effective programs.

FOOTNOTES AND REFERENCES FOR

ROUTINE PATROL IN THE COMMUNITY

1. Albert J. Reiss, The Police and the Public (New Haven: Yale University Press, 1971) p. 70.

2. President's Commission on Law Enforcement and the Administration of Justice, Task Force Report: The Police (Washington, D.C., Government Printing Office, 1967) p. 145.

3. President's Commission on Law Enforcement and Administration of Justice, The Challenge of Crime in a Free Society (Washington, D. C.: Government Printing Office, 1967) p. 99.

4. Jerome H. Skolnick, Justice Without Trial (New York: John Wiley and Sons, Inc., 1966) p. 49.

5. Paul Jacobs, "The Los Angeles Police: A Critique" in Atlantic Monthly, December, 1966) pp. 95-101.

6. Paul Chervigny, Police Power (New York: Vintage Books, 1969).

7. Philip Cheilik and Sheila Perlaky, "The Institute's Program on Police Patrol and its Relation to Previous Work in the Field" (Washington, D.C.: National Institute of Law Enforcement and Criminal Justice, June, 1970) p. 2.

8. Task Force, op. cit., p. 146.

9. James Q. Wilson, "The Police in the Ghetto" in Robert F. Steadman, ed., The Police and The Community (Baltimore: The Johns Hopkins University Press, 1972) pp. 51-80.

10. Ibid.

11. W. Eugene Groves and Peter H. Rossi,"Police and Perceptions of a Hostile Ghetto: Realism or Projection" in Harlan Hahn, ed., Police in Urban Society (Beverly Hills: Sage Publications, 1971) p. 180.

12. James Q. Wilson, op. cit., p. 56.

13. Donald F. Norris, Police Community Relations: A Program That Failed, (Lexington, Mass.: Lexington Books, 1973).

14. David J. Bordua and Larry L. Tifft, "Citizen Interviews, Organizational Feedback and Police-Community Relations," in Law and Society Review, November, 1971, pp. 156.

15. Robert Wasserman, et. al., Improving Police-Community Relations (Washington, D.C.: LEAA, 1973) p. 24.

16. Rita Mae Kelly, et. al., The Pilot Police Project: A Description of a Police-Community Relations Experiment in Washington, D. C., (Kensington, Maryland: American Institutes for Research, 1972) p. 320.

17. Robert Wasserman, op. cit., p. 24.

18. R. L. Hoobler, et. al., Community Profiling and Police Patrol: Final Staff Report of the Community Profile Development Project, October 31, 1974.

19. Leon Festinger, A Theory of Cognitive Dissonance (Stanford, Cal.: Stanford University Press, 1962).

20. Bordua and Tifft, op. cit., p. 165.

END