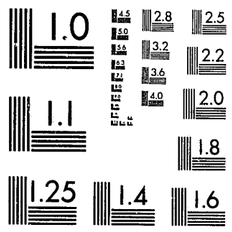

CR. Sent 1-12-84

POLICE DIRECTED PATROL: AN INITIAL NATIONAL ASSESSMENT

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June 1983

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This report was prepared for the National Institute of Justice, U.S. Department of Justice, by E. Fennessy Associates under grant 81-IJ-CX-K001. Points of view or opinions in this document are those of the author and do not necessarily represent the official position or policies of the United States Department of Justice.

ABSTRACT

This report documents an initial national evaluation of police directed patrol programs. The study presents a detailed review of the literature, quantitative results of a national survey of 170 police agencies on key issues of patrol management and directed patrol, a qualitative overview of the operational characteristics of directed patrol programs, intensive case study evaluations of directed patrol programs in the Oxnard and Sacramento (California) police departments, comparative analysis of the two programs, and identification of recommendations for further and/or related research.

The national survey indicates that almost 80% of the police agencies responding to the survey had implemented, or plan to implement, formal or informal directed patrol programs. Overall evaluation results suggest that directed patrol takes a minimum of two years for the full effects to be realized because of the need to devise improved methods to free-up sufficient time to enable basic units to undertake proactive and pre-planned, analysis-based, directed activities.

The benefits of directed patrol, as an alternative to the traditional "preventive" patrol model, appear to be quite substantial - more in terms of improved management of the patrol force however, than in terms of impact on crime, despite some program examples to the contrary. A finding of the study is that implementation of such a program for basic patrol units, while quite complex, should not degrade police call for service response capabilities if carefully planned and managed. Study results provide strong support for the "split-force" approach to directed patrol together with a coordinated program for basic patrol units.

Acknowledgements

This project was accomplished with the cooperation and help of a good many people whose assistance we are honored to acknowledge. Particular thanks are due to the two police agencies that served as host sites in this evaluation of their directed patrol programs.

In the Oxnard (California) Police Department, Chief Robert Owens and his appointed study coordinator, Lt. William Cady were very supportive of this project and were of major assistance to the project team in many ways, not the least of which was in sponsoring the national survey of police directed patrol programs. Others within the OPD whose many courtesies were much appreciated include Crime Analyst Dr. Frank Egan, Ms. Marjie Borjon, and Lt. Richard Staniland.

Chief John Kearns and Assistant Chief Jerry Finney of the Sacramento (California) Police Department made our task much easier by their encouragement of this evaluation effort. SPD study coordinator, Lt. Robert Austin of the Patrol Division, provided major assistance to our on-site evaluator throughout the evaluation, as did Sgt. Al Seivertson of the SPD Crime Analysis Unit.

Dr. W. Jay Merrill of the Office of Program Evaluation of the National Institute of Justice, in his role as Project Monitor of this grant, helped us in innumerable ways and is commended for his patience, support, and courtesy. We should also like to thank the persons NIJ selected as reviewers of the draft of this report for their useful critiques. We are specifically grateful for the exceptionally perceptive and sage review of the draft report by Dr. Vic Strecher (Dean, School of Criminal Justice, Sam Houston State University).

While any deficiencies or errors in the report are, of course, the fault of the authors, we would be remiss if we failed to mention the value of discussions and other forms of assistance from a number of persons during this study. Particularly helpful were Captain Stan Knee of the Garden Grove (CA) Police Department, Sgt. Darnell Nolan of the Oakland (CA) Police Department, Mr. Bill Gay of the University City Science Center, Mr. Jerry Miron of The Police Foundation, and Dr. Gary Cordner (University of Baltimore).

Finally, we must recognize the contributions of other EFA staff and consultants, particularly Ms. Sandy Robinson-Weber (who handled survey data reduction and processing); Professor Arthur St. George (University of New Mexico) who helped in the analysis of survey data; and, Dr. M.B. Bolton (whose readings of the draft were most helpful)

EXECUTIVE SUMMARY

This report presents an initial national assessment of police **directed patrol programs**. The primary goals of this study were to gain an understanding of the directed patrol concept, provide empirical and quantitative information on the existing state-of-the-art of directed patrol efforts, and to conduct the basic research essential for further or related research on this complex and innovative police patrol management method.

These study goals were addressed through a planned combination of project activities including an in-depth review of the police professional literature, national surveys of city and county law enforcement agencies (focusing on patrol management systems and directed patrol), and, intensive case study and comparative evaluations of the crime analysis and directed patrol programs implemented by the Oxnard and Sacramento (California) Police Departments. This evaluation project was conducted over a 23-month period extending from December 1980 through December 1982.

The police agencies used as intensive evaluation sites in this study developed their directed patrol efforts under two distinct Federal grant programs. Oxnard was involved in the Integrated Criminal Apprehension Program (ICAP) for four years and Sacramento was one of three agencies that participated in a two-year, NIJ-sponsored Field Test of the Managing Patrol Operations (MPO) Program.

This executive summary will highlight key findings from the full study with specific sections on the national survey and the two case study evaluations. In addition, this summary also sets out the major policy and operational questions related to directed patrol; and, based on information developed in this project, provides specific answers (to the extent possible) to such questions.

DEFINING DIRECTED PATROL

A police directed patrol and directed activity program can best be defined as a relatively formal, planning and analysis based, patrol management **process** that is designed to enable an agency to make optimum <u>proactive</u> use of "uncommitted" patrol time to deal with specific short and long term police problems. At the same time, in another, and very important sense, directed patrol should also be viewed as one of the key components of a rational

and flexible patrol management problem-solving **philosophy**. This study found that existing directed patrol programs vary widely with respect to underlying assumptions, aims, priorities, implementation approaches, focus, and operational strategies and methods. On the other hand, all programs reviewed shared at least three common elements: directed patrol is performed by regular patrol units during periods of uncommitted time; the activities performed on directed patrol assignments require some form of prior approval by patrol management; and, such activities are seen as assisting in the accomplishment of either short or long term agency goals.

Directed patrol received its first mention in the literature less than 10 years ago - in 1974 to be precise, and cannot as yet be viewed as a precisely defined program concept. Instead, at this current stage of development, it should most usefully be regarded as a still evolving and dynamic program concept. Directed patrol was originally developed as a means of replacing traditional random "preventive" patrol and was seen by its developers as a far more effective use of patrol resources. A good deal has been written about directed patrol, but our review of the literature found very little in the way of quantitative, objective, or scientifically-valid evidence as to its effectiveness in relation to the more traditional preventive patrol model. Thus, one of the major tasks on this study was to first develop an understanding of the extent of directed patrol acceptance and implementation in the law enforcement community. To this end, the national survey described below was conducted early in 1982.

NATIONAL DIRECTED PATROL SURVEY

A national survey of all local law enforcement agencies serving populations of 100,000 and over (supplemented by a judgement sample of additional agencies) was conducted to determine the extent and nature of current police experience with the newer approaches to patrol management generally and and with directed patrol specifically. Data was obtained from over 170 police agencies and some of the more interesting findings from these surveys are set forth below.

80% of Survey Respondents Accept Directed Patrol Concept

38.5% (65 agencies) stated that they had "formal" directed patrol programs; 46 agencies (27.2%) stated that they had "informal" directed patrol programs; 27 agencies (16.0%) stated they they were not currently engaged in such programs, but planned to do so in the near future; and 31 agencies (18.3%) said that they were presently

not engaged in directed patrol and had no plan to develop such a program. In short, over 80% of the responding agencies had accepted the value of the directed patrol model.

Over 500 Crime Analysts - $15 Million Per Year

70% of the responding agencies had full-time Crime Analysis Units. Over 500 full-time police employees were devoting their efforts to crime analysis activities - at an estimated annual cost to these agencies in excess of $15 million. Over 80% of the agencies responding stated that they had continuing access to computerized management information systems for the analysis of crime and call for service data.

Widespread Use of Service Demand Management Methods

69% of the agencies responding stated that they had implemented call screening policies and 71% indicated that they used formal call prioritization systems. Another 71% indicated that they had Tele-Serv (telephone report) Units - designed to reduce the need for the dispatch of sworn patrol officers.

Majority of Respondents Using Cost-Effective Patrol Allocation Practices

79% of the agencies responding stated that over 50% of their swing shift (1600-0000) patrol force relied on one-officer units and 73% indicated that they used proportional patrol allocation and scheduling plans to match patrol staffing to workload.

Characteristics of Directed Patrol Programs

80% of all directed patrol programs reported in the national survey were implemented between 1977 and the present (31% began in 1977-78, 36% in 1979-80, and 33% in 1981-82).

Of 69 agencies with formal or informal directed patrol programs that responded to this question: 28% indicated that their patrol officers spend less than 30 minutes per shift on such activity; 43% stated that officers spend between 31-60 minutes per shift; 15% spend 61-119 minutes; and 15% spend over 120 minutes per shift on directed patrol.

56% of the agencies with formal directed patrol also have a specialized crime suppression unit (i.e., "split force") and 62% of the agencies claiming informal directed patrol programs also employ such units.

Survey Rating of Directed Patrol Benefits

Of the 75 agencies responding to this question, "major or moderate benefits" of directed patrol implementation were reported in the following areas: increased ability to define and resolve short-term crime problems (69% of the respondents); increased ability to define patrol performance objectives (37%); improved utilization of patrol resources (71%); increased ability to evaluate patrol performance (43%); improved morale or job satisfaction in patrol (31%); improved supervision of uncommitted patrol time (48%); and, 35% reported increased arrests and clearances for Part I Crimes by their patrol forces.

Survey Rating of Directed Patrol Problems

Problems cited by 76 agencies with formal or informal directed patrol programs responding to this question were as follows: inability to consistently free-up blocks of time for directed patrol (61% of the respondents); opposition or lack of interest by middle management (29%); opposition or lack of interest by patrol sergeants (34%); opposition or lack of interest by line officers (25%); poor or inadequate levels of crime analysis support (25%); and, inadequate quantity or quality of directed patrol training (25%).

TWO CASE STUDY EVALUATIONS OF DIRECTED PATROL PROGRAMS

Brief summaries of the two intensive evaluations of directed patrol programs are provided below. There were significant differences in philosophy, objectives, and implementation approaches between the two agencies studied that are discussed in detail in this report. Also, the reader is cautioned that the results of these two case studies were not obtained in carefully controlled "experiments". Instead, a wide range of evaluation methods were used to derive the most accurate information available on the directed patrol results obtained in two on-going "real world" operational police programs.

Oxnard Directed Patrol Program

This agency serves a population of 115,000 persons and developed their crime analysis and directed patrol programs under three successive Integrated Criminal Apprehension Program (ICAP) grants beginning in 1978. The OPD employs a two-tiered directed patrol effort involving a small specialized Field Tactical Unit that devotes full-time to directed patrol as well as a "Basic

Unit" directed patrol program.

13% of Basic Unit Uncommitted Time Used For Directed Patrol

Between 31-38% of basic unit patrol time in the OPD can be defined as uncommitted. In 1979, OPD units used roughly 8% of their **uncommitted** patrol time for directed patrol. In 1980, this figure rose to 9% and in 1981 to 13%. Note that these figures are less than 5% of **total** available patrol time.

Part I Crime Decrease

Reported Part I Crime in Oxnard decreased by 14% in 1981 compared to 1980 - the largest decrease reported among all California jurisdictions with populations over 100,000. Part I Crimes have shown a continual decrease in Oxnard since the introduction of the crime analysis and directed patrol program, despite a rising and substantial increase in population.

Significant Increase in Patrol Arrests

In comparison to a baseline period, arrests <u>per</u> patrol officer during the period of directed patrol implementation for burglary increased by 26% and for robbery by 114%. Both of these figures are statistically significant at the 95% confidence level. The average number of burglary arrests by the OPD patrol force as a whole during the period of directed patrol implementation rose by 40% compared to the baseline period (from 15.3 such burglary arrests per month to 21.4) and the average number of robbery arrests per month went from 4.0 to 9.8 for an overall increase of 145%. OPD investigators also showed a statistically significant increase in robbery arrests but not in burglary arrests.

Overall Part I arrests by patrol increased by 41% during the period of directed patrol implementation compared to the baseline period.

High Level of Organizational Support For Directed Patrol

Acceptance of the directed patrol program by OPD personnel has been generally good. Evaluation Surveys of patrol personnel show that roughly 50% of those surveyed regard the directed patrol program as an improvement over past practice. Less than 3% view this technique as worse than prior practice.

SACRAMENTO DIRECTED PATROL PROGRAM

This agency serves a population of 285,000 persons and began the implementation of the operational phase of their directed patrol program in May of 1980 under a grant from the National Institute of Justice as part of the Managing Patrol Operations (MPO) Field Test. The workload of Sacramento's patrol force, as measured by "unit utilization" on calls for police service, was considerably higher than that experienced in the Oxnard Police Department.

Despite this factor, the Sacramento Police Department (SPD) chose to implement a modified version of the San Diego Community-Oriented-Policing (COPS) model (which involved district and sector profiles) as their vehicle for directed patrol. A quite sophisticated agency to start with, the SPD did a commendable job of planning their directed patrol effort prior to implementation. The outcomes of directed patrol in the SPD are summarized below.

Rapid Increase in Use of Uncommitted Time For Directed Patrol

The available "uncommitted" time of SPD officers is quite limited due to a high call for service (CFS) workload (despite the fact that CFS management techniques used by the SPD are successful in diverting a considerable portion of the service demand) and a recognized shortage of patrol manpower (no increase in staffing in the last five years). On the average, uncommitted time averages between 16-38% of total time available depending on the time of day. The SPD, since directed patrol implementation, has been able to apply about 15-20% of such uncommitted time to directed patrol efforts. Moreover, since program inception, the percentage of uncommitted time used for directed patrol has shown a very consistent pattern of increase.

Annual Growth in Crime Rate Decreased

Reported Part I Crimes in Sacramento have continued to increase despite the implementation of a directed patrol program. On the other hand, the annual growth in the rate of crime increase was only 2.9% in the year following directed patrol implementation compared to an average annual increase of 6.6% in the crime rate over the prior 8 years.

No Significant Change In Volume of Patrol Arrests

No statistically significant change occurred in the arrests made by individual SPD patrol officers since initiation of directed patrol compared to a baseline period.

Number of Crime Patterns Identified

An evaluation of Crime Pattern and Series Reports issued by the SPD Crime Analysis Unit shows that they were able to discover patterns in about 25% of the burglaries; 14% of the robberies; and 10% of the rapes reported to the department.

Arrests were reported in 43% of the 157 Crime Pattern and Series Reports issued by the CAU in 1980 and in 54% of the 161 such reports issued in 1980. Patrol officers were involved in 60% of these arrests. However, an analysis of actual arrest reports indicates that officers engaged in directed patrol activity accounted for only about one-fourth of these arrests. The majority of the arrests by patrol resulted from information from citizens, calls for service, and alarms.

Resistance Encountered To Directed Patrol Program

The SPD has encountered some resistance to the directed patrol effort (despite a major committment to training in this area) from mid-management, patrol supervisors, and officers based, primarily, on a perception that workload is already too heavy.

Again, these findings were not based on the evaluation of a controlled experiment but were derived from the evaluation of a very complex operational program using a range of data sources and collection methods. On balance, there is little question that implementation of directed patrol in the SPD has resulted in vast administrative and management improvements, but the heavy workload of the agency and the ambitious nature of the department's directed patrol program may require several more years of experience before the actual results of the program can be fully measured.

BASIC FINDINGS OF THE EVALUATION PROJECT

In the section that follows, overall study findings have been combined to provide reasonably definitive answers to a series of the most common types of questions regarding directed patrol encountered during the course of this project. The answers are the best that can be provided at this time given the paucity and limitations of the data available.

What benefits can a police administrator expect from the implementation of a directed patrol program?

First, the evaluation information available indicates that it takes several years of considerable effort and operational experience for the full benefits of directed patrol to be realized. Second, no program of which we are aware can guarantee a reduction in crime. With these caveats in mind, this study finds that the following types of benefits can be reasonably expected from the development of a directed patrol program: (1) a general improvement in the logic, rationality, planning, and delivery of patrol services; (2) a better definition of crime, traffic, and service problems; (3) an improvement in the exchange of crime related information between all divisions of a department; (4) improved coordination of patrol and investigative efforts; (5) a refined ability to define and measure overall patrol performance; (6) an improved degree of control over the uncommitted time of patrol personnel for attainment of departmental goals; (7) the institution of flexible patrol tactics tailored to the specific short and long range problems facing the department; and, (8) a means for assessing individual performance and accountability of patrol managers and supervisors.

The impact of directed patrol on <u>actual</u> patrol productivity and crime control capabilities is far less easy to evaluate. Several of the programs studied in this project show some quite remarkable gains in terms of crime reduction, arrests, clearances, and related measures. Less dramatic changes were noted in other sites. However, due to methodological constraints, it is not possible to attribute such changes **solely** to directed patrol efforts. On the other hand, it is possible to say that none of the directed patrol programs we studied resulted in a degradation of patrol performance. For example, in our two case study sites, there was no increase in officer sick-days or citizen complaints during the directed patrol effort compared to a baseline period in each agency. In short, on the basis of the information available to us, we strongly recommend the implementation of directed patrol programs.

What are the central elements of a directed patrol program, in what order should these elements be implemented, and how long should it take for full program implementation?

Directed patrol is the operational or "on the street" component of an <u>integrated</u> patrol management system. The central elements of this system must be in place to give the directed patrol element its greatest chance of success. Specifically, the key focus of this approach is the use of the **time** of the agency's patrol force. Appropriate amounts of patrol time must be made available when and

where it is needed for pre-planned and proactive directed patrol purposes.

This means that there must be specific improvements in an agency's management of the calls for service demand, crime analysis services in support of patrol operations, allocation of patrol resources, management of the criminal investigation function, monitoring and evaluation systems, and, finally, in the design and implementation approach used for the directed patrol effort. Improvements in the CFS management system are designed to free-up additional patrol time for directed activity and to permit the performance of such directed activity. Specific changes to be made in this area include the development of differential response options. These options may include such techniques as call screening and diversion to more appropriate agencies, more precise call categorization and priority classes, use of telephone report units, use of para-professional units to handle certain calls not requiring the presence of sworn officers, mail-in reports, scheduling of appointments for delayed response, designation of directed patrol assignments as having the same priority as non-emergency calls for service, alarm ordinances with teeth, and service denial for clearly inappropriate requests for police services. This should be the first element of the program to be addressed.

Improvement of crime analysis services to support directed patrol efforts can proceed at the same time as can the consideration of the Managing Criminal Investigations (MCI) Program Model. The intent of the latter is to assure that the patrol officer has a clearly defined role in preliminary investigations due to the time implications of this role. Based on prior experience with the Managing Patrol Operations (MPO), Integrated Criminal Apprehension Program (ICAP), and the Differential Police Response (DPR) Program, it is estimated that 12-24 months will be required to adequately address these elements.

Improved allocation and distribution of the patrol force can then be undertaken once the elements above are operational and should account for the expected time requirements generated by the new CFS management methods as well as patrol officer time for preliminary investigation. The allocation process can be aided by the use of mainframe computer models of the patrol operation such as Patrol Car Allocation Model, Hypercube Queueing Program, or microcomputer versions of these programs (i.e., Patrol/Plan and Beat/Plan). We also recommend that patrol supervisors have considerable discretion in the use of their patrol units within a sector.

Once the actions described above are taken, it is estimated that it should take at least six-months to properly design, develop, and plan for directed patrol implementation. Another 6-12 months must be allowed for experimentation and testing of the directed patrol

approach chosen. Following this test period, the program should be modified as appropriate based on experience, and full operation of the program can begin. In summary, directed patrol, if developed properly, can take as long as two to four years to be completely integrated into the management and operational fabric of a police organization.

What are the organizational implications of a directed patrol program?

In brief, some resistance is likely in the middle-management and supervisory levels of a police agency to this type of program. Directed patrol is appealing to top management because it promises to increase management control of patrol operations, to improve definitions of responsibility and accountability, and aims to strengthen the crime control capabilities of the department. However, in practice, it results in a decentralization of operational and tactical decision-making to lower (usually more appropriate) levels of the organization, adds some paper work, challenges many long-held beliefs, makes mid-managers and supervisors more responsible and accountable for patrol and individual work efforts, and simply requires more thought and work on their part.

Formal and well-designed training (coupled with early internal "marketing" of the program) is, of course, one way of attempting to defuse potential resistance. Participation by personnel from all ranks of the department in the actual directed patrol design effort is yet another useful means of overcoming such resistance. But, from what has been observed in this study, more essential still is the development and continuing use of directed patrol monitoring and evaluation systems by management to assure that proper emphasis is placed on the program. Lack of on-going management follow-up and emphasis on the directed patrol program was definitely a problem in in several of the agencies reviewed in this study. The erroneous assumption that a program is successfully implemented once the policy and procedure statement is written and the initial favorable publicity garnered is quite obviously an endemic problem in any bureaucracy.

One other innovative method for possibly eliminating, or reducing the intensity of such resistance, could also involve the eventual integration of individual directed patrol rating factors into the police department's performance and promotional evaluation system.

As a practical matter, a police administrator should also plan to train <u>all</u> command and supervisory personnel in the department in crime analysis and directed patrol, not just patrol personnel, both to facilitate program operations as well as to account for internal promotions and transfers.

Should a police agency develop a specialized or "split force" patrol unit as part of its directed patrol program?

Based on this study, it is strongly recommended that this type of unit be established to work specific crime patterns and series identified by the Crime Analysis Unit and to supplement the directed patrol efforts of the regular uniformed patrol force. In no event should more than a one-shift (working flexible hours) split force unit be created. In most cities under 500,000 persons there should be enough reasonably definitive crime patterns that require tactics not suitable for use by basic patrol units (i.e., decoys, low-visibility surveillance, stake-outs, etc.) to make effective use of this split force unit. In general, except for specified emergencies, this unit should have no responsibilities whatsoever for normal response to calls for service. Some data is available, however, that indicates that immediate "incident-oriented" patrol investigations by this type of "structured" unit can be useful.

While jurisdictional needs will vary, this unit should be staffed at a level of from 3-5% of the size of the patrol force. Care must be taken to coordinate the activities of this unit with the on-going directed patrol effort.

What impact will directed patrol implementation have on an agency's call for service response capabilities?

Based on the specific experience of our intensive evaluations of the Oxnard and Sacramento directed patrol programs, the impact is negligible for Priority 1 calls. If the Management of Service Demand Program described above is implemented, somewhat longer response times for lower priority calls should be experienced. On the other hand, in the two agencies studied in this project (who devoted between 13-30% of uncommitted time to directed patrol), we found no deterioration at all in CFS response times compared to baseline data. Some organizational problems can be expected when a directed patrol assignment is ascribed the same priority as a non-emergency call for service.

What is the "best" way to implement a basic unit directed patrol program and what should be the focus of this type of program?

The level of uncommitted time available is a key factor in making this determination. Analysis of data in the test sites found that it was difficult to free uninterupted basic unit patrol time for

directed activities of over 45-minutes duration at the times when it is most needed. This analysis showed that the probability of a directed patrol assignment being interrupted for a dispatch was close to 50%. By contrast, and influenced by dispatching rules (i.e., intersector or interdivisional dispatching, multiple unit dispatches, etc.), this analysis showed that the least degradation of both response and directed patrol capabilities is achieved by completely freeing a small number of patrol units (the analysis was based on a 10% diversion) per shift to exclusively work on directed patrol. These units would have no dispatch responsibility while engaging in the directed patrol assignment. In brief, this study convinces us that a directed patrol program that includes a small "split force" unit to work very well-defined crime patterns and series combined with a multi-level basic unit directed patrol effort (e.g., freeing 10% of the basic units for periods of time so that they can work specific directed patrol assignments combined with pre-planned directed activity by the remainder of the basic patrol force during their uncommitted time) offers the most desirable approach to program design and operations.

What is a reasonable percentage of uncommitted patrol time of basic patrol units that can or should be devoted to pre-planned directed patrol activity?

In terms of the overall amount of uncommitted time, it appears reasonable to expect that most police agencies can and should be able to devote a minimum of 15% of uncommitted patrol time to crime analysis based directed patrol. Of course, uncommitted time will vary by shift and will take at least one year of experience to reach this 15% recommendation. It is not reasonable, we believe, to expect basic units to devote more than 35% of uncommitted time to directed activity.

What directed patrol tactics are being used and how effective are they for crime control purposes?

Based primarily on the two test sites assessed in detail in this evaluation, it was found (not surprisingly) that basic patrol unit directed activities mainly involved high-visibility area surveillance, saturation, and aggressive patrol practices in those locations identified as experiencing upward surges of criminal activity. The primary objective of this tactic was the suppression of criminal activity by police presence or the apprehension of suspects. The major focus of such efforts were aimed at the crimes of burglary and robbery.

Split force or specialized directed patrol units used a far more diverse array of tactical options aimed at the interception of crimes in progress. In addition, specialized directed patrol units in both test sites spent considerable time on the apprehension of persons wanted on felony warrants. Comparative measurement of the effectiveness of these varied tactics was far more complex and was simply not conclusive. One tactic that did show considerable promise in both agencies for helping to reduce daytime residential burglaries was a continuing emphasis on truancy enforcement.

Surveillance of suspect individuals known to be active criminals was, by contrast, a not particularly cost-effective tactic. In general, aggressive patrol practices (focusing on traffic stops and field interviews) appeared to be somewhat more productive than simple high-visibility or saturation patrol as a crime control tactic. The range of arrests (not necessarily for directed patrol target crimes) varied greatly from 1 arrest for every 10 hours of directed activity to 1 for every 30 hours.

Did patrol personnel in the two test sites rate directed patrol as more or less effective than their traditional pre-program preventive patrol practices?

Directed patrol was viewed in far more positive terms by the patrol officers responding to evaluation surveys in Oxnard than by their counterparts in Sacramento. In Oxnard, about half the respondents regarded directed patrol as a major or moderate improvement over prior preventive patrol practices compared to only about one-fourth of the Sacramento officers. Further, as one possible explanation, over 40% of the OPD officers stated that they made at least one burglary arrest while on directed patrol. By contrast, only 29% of the SPD reported burglary arrests while performing directed patrol activity. In addition, a somewhat higher percentage of OPD officers responding to the survey rated their patrol supervisor's interest and enthusiasm for directed patrol as being above average than did the SPD officers.

What were the major problems encountered in evaluating the test site directed patrol programs?

A diverse and complex range of methodological issues presented barriers to successful evaluation. These problems are briefly noted here and in more detail in the text of the report. They are not merely of academic interest - as a police chief who wants to know how well or how poorly the directed patrol effort is going will face the same difficulties as we did in reaching a valid conclusion in this regard.

First, a very basic and as yet unresolved problem was in simply determining how much time basic unit officers devoted to their directed patrol assignments. None of the data collection systems used by either of the test sites (for program management purposes) or by the evaluation staff was deemed completely satisfactory for determining this variable. For clearly defined directed patrol "operations" this was not a great problem. However, for day to day or "informal" directed patrol none of the time accounting systems (i.e, daily activity reports, reporting time on directed patrol to the dispatcher, special forms, surveys, etc.) was able to provide either consistent or complete information. This time information is a basic requirement for detailed evaluation of directed patrol costs and results achieved, the efficacy of tactics used, and related measurements. In this study, we used all of the data available from these various time accounting systems to compliment one another and provide validity checks on the estimates of time devoted to directed patrol.

A second perplexing problem was in developing useful and valid baseline information on patrol productivity and arrest performance. The difficulty here is that it frequently takes an agency several years to bring a directed patrol program into full operation. Thus, by the time the evaluation has ended, the baseline data is often four or more years old. Over this long a period the agency under study has been affected by multiple internal and external events that are virtually impossible to identify or account for in the evaluation and to separate their effects of the program intervention from such "other" significant and complex events.

Third, the multiplicity of tactical options, the relatively small number of crimes in given geographical areas, and the difficulty in determining the exact outcomes of a given series of directed activities were also found to be significant evaluation barriers.

A fourth, and by no means trivial, problem was in simply determining how an arrest occurred and who should receive credit for the arrest and subsequent clearances, if any. This problem is reviewed at some length in the case study chapters of this report.

Finally, the impact of various police intervention strategies on identified crime patterns and series presents some particularly challenging measurement patterns. Again, the nature of this evaluation problem is discussed in detail in the case study chapters.

RECOMMENDATIONS FOR FURTHER OR RELATED RESEARCH

Our basic recommendation to NIJ is that a large-scale field evaluation of directed patrol is not warranted at the present time. We do recommend that NIJ provide support for relatively small quasi-

experimental evaluation studies of specific approaches to directed patrol implementation and operation. The reasons that influenced us in making this recommendation are set forth below.

First, one reason for such research would be to determine if directed patrol is, in fact, a superior alternative to the tradional preventive patrol model. An examination of the results of the national survey data in Chapters III and IV indicates that the majority of the police agencies surveyed have already arrived at this conclusion. Specifically, almost 80% of the agencies surveyed either had already implemented formal or informal directed patrol programs or planned to do so in the near future. In short, the evidence currently available to these agencies on the merits of directed patrol appear to be sufficiently compelling to preclude the need for a major and most likely very costly experimental evaluation of this innovative patrol management program. Further, due to the widespread and growing adoption of directed patrol, it is going to be increasingly difficult to find a test site that is not already "contaminated" from an experimental viewpoint.

Second, such an experimental study is also premature at this point because there is no <u>one</u> universally accepted model of directed patrol to be tested. As the literature review, ICAP and national surveys, and test site evaluations show, there are a wide range of directed patrol models (some of which are unique to a specific agency) existing. While all share certain common program elements (i.e., the use of crime analysis for tactical deployment of patrol officers, planning of pro-active assignments, etc.), the manner in which police agencies have designed and implemented their directed patrol efforts are truly legion. Further, as this study has shown, directed patrol is best viewed as a <u>part</u> of an **integrated** approach to the management of patrol resources. In brief, future research on directed patrol <u>must</u> include consideration of techniques used for management of service demand, allocation and deployment practices, investigative management techniques, crime analysis, and monitoring and evaluation systems. And, as we learned during the course of this evaluation, considerable research and evaluation studies are currently underway on the development of more advanced approaches to virtually all of these elements of the patrol management and service delivery system. Therefore, it is our firm conviction that further experimental study of directed patrol <u>alone</u> is premature at this time.

There are several related areas that require consideration and this study has identified a number of quite specific research needs and opportunities that could profitably be pursued by the National Institute of Justice that would be of major benefit to the law enforcement community. These needs, in our assessment of priority order, are briefly outlined below.

Project A: Development of a Prescriptive Package for the design and implementation of a police directed patrol program

One of the things we discovered during this study was the intense interest of police executives and planners for a "how to" type of manual for the implementation of a directed patrol program. One of the most highly regarded publications of the NIJ in the police field is the 1977 report on Improving Patrol Productivity. However, this report is now somewhat dated, and a very real need exists to develop a similar manual that builds on the experiences of the DPR, ICAP, MCI, MPO, this study, and related efforts, and which discusses directed patrol as part of an integrated approach to directed patrol design, development, and implementation in the context of the overall patrol management system. It is also recommended that development of this manual be supplemented by a 5-day training course similar to those presented under the NIJ-sponsored National Criminal Justice Executive Training Program in Advanced Criminal Justice Practices.

Project B: Development of an "actuarial" data base on patrol officer output and productivity

It is strongly recommended that the NIJ sponsor a study to determine averages and ranges for patrol officer work output, productivity, and performance in a sample of police agencies of different size and geographical location. As we found in this study, there are no data bases of this type available that would allow one to compare patrol officer performance to any type of average or standard to determine if an agency is above or below the norm in similar sized police departments. Such a data resource would be of exceptional value to police administrators and researchers, evaluators, planners, and municipal administrators. It could also be of considerable benefit in assessing agency performance in terms

of crime rates, arrests, and clearances as well as in determining agency staffing requirements.

Project C: Evaluate the ability of Crime Analysis Units to recognize crime patterns and assess the validity of their predictions as to the probable times and locations of future offenses in the pattern or series as a basis for the planning of directed patrol assignments

Apprehension-oriented directed patrol is based on the, as yet, untested assumption that police crime analysis units, based on the assessment of prior trends, patterns, and series of robberies and burglaries can predict - at least in general terms - the locations, possible targets, and times of future offenses. A key assumption of directed patrol is that this predictive information can be profitably be used to plan specific directed activity to intercept such crimes in progress or prevent their occurrence by police presence. Research studies are needed to test the validity of this assumption under operational conditions. It would not be a particularly difficult study to plan or carry out, could be conducted at a reasonable cost, and would be of enormous value to the police community and particularly to those agencies now engaged in, or planning to implement, a directed patrol program.

Project D: Conduct an evaluation of police patrol apprehension capabilities and performance

While some work has been done in this area in the past, a study is needed to provide baseline data on the circumstances under which burglary and robbery arrests are made by police patrol officers. This study should involve an analysis of a fairly substantial number of patrol arrests related to these offenses in a sample of 3-5 police agencies serving populations between 100,000 --500,000 persons. This specific goal of this study will be to determine exactly how an arrest was made and clearances recorded for burglary and robbery offenses. the primary aims of the study will be to determine how credit should be allotted for making such arrests - with emphasis on the "quality" of each arrest - and which patrol or police tactics are most productive in this regard.

TABLE OF CONTENTS

T A B L E O F C O N T E N T S (continued)

C H A P T E R O N E

INTRODUCTION, OBJECTIVES, ORGANIZATION

CHAPTER 1

INTRODUCTION, OBJECTIVES, AND ORGANIZATION

Introduction

This report provides an initial national assessment of police directed patrol programs. The study was conducted with grant support from the National Institute of Justice (NIJ) of the United States Department of Justice. The grant was awarded to E. Fennessy Associates (EFA) as part of a competitive solicitation under the General Evaluation Program administered by the NIJ Office of Program Evaluation. The project began in December 1980. A draft final report was sent to NIJ in November 1982 for internal and external review. After modifying the draft in response to this critique, the final report was submitted to the National Institute in June 1983. This chapter briefly describes the background and aims of the project and sets forth the organizational structure and content of this report.

Background For The Study

The 1980 Program Plan of the National Institute of Justice indicated that research dealing with the "allocation and utilization of police resources" was one of its major priorities. This project was designed to respond to this priority through an initial national evaluation of police directed patrol programs.

With the aggregate cost of law enforcement in the United States currently in excess of fifteen billion dollars per year, any approach that shows promise of improving the cost effectiveness of police field services is an issue of legitimate national significance. More specifically, in virtually all full-service law enforcement agencies, between 60-80 percent of the budget is devoted to the provision of police patrol services. Recent studies (Gay, et al, 1977) indicate that roughly 40-60% of the on-duty time of patrol officers can be defined as "uncommitted" (i.e., time when an officer is not handling call for service work, administrative duties, or related tasks). In the past, this residual, or uncommitted, time was presumably used for the performance of "preventive" patrol.

However, in recent years a number of major and controversial research studies have raised serious questions regarding the

effectiveness of the police preventive patrol model. The Kansas City Preventive Patrol Experiment (Kelling, et al, 1974), for example, provided evidence that the rate of crime, arrest rates, and citizen fear of crime are largely unresponsive to changes in the level and intensity of random police patrols. These studies set in motion a search for alternative means of enhancing police patrol performance. One of these proposed improvements has come to be termed "directed patrol".

Police directed patrol programs as an alternative to the more traditional random preventive patrol model are of relatively recent origin (first reports on this program concept appeared in 1974). Directed patrol programs are designed to make more effective use of "uncommitted" patrol time. The basic concept involves the replacement of some portion of random patrol time with a formal analysis-based program of proactive field service activities directed toward the solution of specific crime, traffic, and service-oriented problems.

However, as will be seen in the literature review later in this report, while much has been written about the presumed benefits of directed patrol, there is virtually no quantitative and scientifically-valid evidence available that convincingly demonstrates the superiority of this method over a traditional patrol services delivery model.

Thus, this study was designed to provide an initial in-depth assessment of the current state of the art of police directed patrol programs across the nation and to undertake an intensive process and outcome-oriented evaluation of two existing and well-regarded directed patrol programs. The primary objectives of the project are described below.

Objectives of the Project

Our original grant application to NIJ stated that the primary objectives of the proposed study were as follows:

1. Conduct a quantitative comparative evaluation of two alternative approaches to the design and operation of police directed patrol programs in terms of the impact of each alternative on patrol productivity and effectiveness.

2. Develop and test enhanced methods for evaluating police field operations programs.

3. Develop, based on the lessons learned in this project, a "true" experimental design for assessing the value of police directed patrol programs.

The latter objective was included in realistic recognition of the resource constraints (less than 2 professional man-years) on the study as well as the fact that, while ambitious, this project was still only an interim step in defining the issues and nature of the directed patrol concept that necessarily must be be accomplished prior to undertaking a complex and (presumably) quite costly directed patrol field experiment.

These objectives remained essentially the same throughout the study, but were expanded to include the collection of all available reports and data on existing police directed patrol programs and their operational characteristics. This special collection effort was performed in order to provide information that would be immediately useful to the law enforcement community as well as to develop a more comprehensive national perspective for the study. A more detailed exposition of study objectives and methodology is contained in a formal work plan and evaluation design submitted to NIJ in April 1981.*

The two California police agencies that served as the test sites for this evaluation were the Oxnard and Sacaramento police departments. These sites were selected for quite specific reasons. First, both had directed patrol programs that had been in operation for over one year. Second, the directed patrol programs of each agency had been developed using different planning models and implementation approaches. More precisely, Oxnard had developed its directed patrol effort under three successive Integrated Criminal Apprehension Program (ICAP) grants from the U.S. Law Enforcement Assistance Administration. By contrast, the Sacramento directed patrol effort was based on the Community-Oriented-Policing (COPS) "model" (pioneered by the San Diego Police Department) and was designed and implemented under a National Institute of Justice grant as part of the Managing Patrol Operations (MPO) Program Field Test. Third, project staff had been involved in the evaluation of the MPO program in Sacramento as well as the ICAP program in Oxnard and had considerable knowledge of both agencies.

E. Fennessy: Directed Patrol Project Evaluation Design and Work Plan, Interim Report to the Office of Program Evaluation (National Institute of Justice), Grant 81-IJ-CX-K001, Fennessy Associates, San Francisco, April 1981

While most are defined in the text, it has been necessary to use a variety of abbreviations and acronyms in this report and it will prove useful to provide a glossary here to assist the reader. This glossary is contained in Exhibit 1-1.

The organization and structure of this report may appear somewhat confusing at first but the reader should be aware that it follows a definite pattern of logic. Specifically, the report is designed to meet the needs of NIJ research and evaluation administrators as well as provide the types of policy and operational information needed by law enforcement executives, planners, line managers, and educators. Hence, the report structure moves from the consideration of general issues related to directed patrol to more detailed and specific operational issues and, generally, seeks to convey the same sequence of knowledge accumulation that we followed in developing our understanding of this innovative and complex patrol management concept. Therefore, this report is organized as described below.

Chapter II presents a detailed review of the literature related to patrol management and directed patrol. This chapter traces the developmental history of the directed patrol model, reviews available quantitative and qualitative studies and reports dealing with directed patrol, and provides a conceptual framework for the evaluation study including the identification of key evaluation issues and questions. Evaluation methodology is set forth and discussed in the context of the major chapters of the report.

Chapter III describes and sets forth the quantitative results of a national survey of law enforcement agencies conducted under this evaluation projects that addresses issues of patrol management, differential response strategies, resource allocation, crime analysis, and directed patrol. This chapter was designed to provide an overview of the extent and nature of directed patrol implementation throughout the country.

Chapter IV contains a broad, and admittedly selective, overview of directed patrol programs implemented in various sized police agencies. The intent of this chapter is to provide a summary of "real world" operational issues, questions, lessons learned, and problems encountered in implementing a directed patrol by a number of selected police agencies.

Chapters V and VI provide lengthy and detailed summaries of the intensive case study evaluations conducted in the Oxnard and Sacramento police departments. These case studies assess agency characteristics; organization; patrol operations and workload

analysis; directed patrol planning, implementation, and operations; and, evaluation results.

Chapter VII, the final chapter of this report, provides a brief comparative analysis of the directed patrol programs and results achieved in Oxnard and Sacramento and also sets forth specific needs for further or related research that was identified during the course of this evaluation project.

Appendix A lists references and notes for the literature review. Appendix B contains a copy of the National Directed Patrol Survey Form. Appendix C provides copies of the Patrol Survey Instruments administered in both test sites during this evaluation project. Finally, Appendix D illustrates the crime analysis evaluation methodology we used in the study.

EXHIBIT 1-1

Glossary of Abbreviations Used In This Report

Call For Service:	CFS
Integrated Criminal Apprehension Program:	ICAP
Managing Patrol Operations Program:	MPO
Crime Series Notification (Sacramento):	CSN
Crime Pattern Notification (Sacramento):	CPN
Law Enforcement Assistance Administration:	LEAA
Sacramento Traffic And Arrest Reporting System:	STARS
Oxnard Police Department:	OPD
Sacramento Police Department:	SPD
Crime Analysis Unit:	CAU
Special Emergency Reaction Teams (Sacramento):	SERT
California Career Criminal Apprehension Program:	CCAP
National Institute of Justice:	NIJ
Field Tactical Unit (Oxnard):	FTU
Crime Suppression Unit (Sacramento):	CSU
Field Interrogation:	FI
Field Contact Card:	FC
Fiscal Year:	FY
A patrol "beat" in Sacramento:	District
A group of several districts in Sacramento:	Sector
Kansas City Preventive Patrol Experiment	KCPPE

C H A P T E R T W O

DIRECTED PATROL - REVIEW OF THE LITERATURE

CHAPTER TWO

DIRECTED PATROL - REVIEW OF THE LITERATURE

Introduction

Any evaluation of a complex police program - and directed patrol is a very complex program as this chapter will explain - requires a conceptual framework that describes what it is, where it came from, how it works, and how it relates to the attainment of the goals of the police service delivery system.

The aim of this chapter is to provide an initial statement of such a framework by presenting a review of the professional literature that bears on the issues of directed patrol. This chapter is divided into three major parts. The initial section examines the predisposing conditions that resulted in the development of the directed patrol concept. The middle section focuses specific attention on the available quantitative and qualitative studies of directed patrol implementation and results. The final section attempts to identify the operational and evaluation lessons learned from these studies as well as to provide a logical foundation for the remaining chapters of this report. Reports referenced or noted in this chapter are listed in Appendix A to this document.

PREDISPOSING CONDITIONS

According to the International City Management Association's text on Local Government Police Management, the following statements are generally accepted as the basic objectives of police patrol: (1) crime prevention and suppression; (2) crime investigation; (3) law enforcement; (4) maintenance of social order; and, (5) provision of public services [1]. Guided by these objectives, the work of a typical police patrol force was traditionally broken down into four functional activities: handling calls for service (CFS); officer-initiated activity; administrative tasks; and, preventive patrol [2]. Of course, there is a considerable degree of overlap between these functional activities. But, as one author (Gay, 1977) points out: "Although preventive patrol is the most time-consuming element in the patrol workload, calls for service are the most important factor [under a "traditional" patrol service delivery model] for directing patrol resources [3].

With the current national cost of local government police services exceeding $15 billion per year, coupled with increasing budget deficits, serious and critical attention has focused on virtually all aspects of police service delivery in recent years. And, since police patrol operations account for between 60-90% of police

budgets, law enforcement and municipal administrators are being increasingly forced to challenge many of their strongly-held beliefs and assumptions regarding the basic goals, methods, and effectiveness of the police patrol function.

Prior professional debate within the field primarily centered around technical issues related to the most efficient means of delivering patrol services (i.e., 1 or 2 officer cars, resource allocation and deployment systems, tactics, and the like). Over the last several decades the focus of police concern has shifted to an increased emphasis and questioning of the basic underlying assumptions and principles of the patrol function. To be more specific, a growing body of evidence has become available that strongly suggests that the traditional commitment of between 40-60% of available patrol time to random preventive patrol is a less than effective use of scarce police resources. To understand this criticism, it is first necessary to briefly review the nature and goals of the police patrol mission.

American police systems were developed based on the design principles that underly the first "modern" police force created in England by Sir Robert Peel's Metropolitan Police Act of 1829. The "Instructions and Police Orders" issued by the first Commissioners of Scotland Yard under this Act stated that the principle object to be attained by the police is the prevention of crime. They also stated that the "public tranquility" is far better served by this crime prevention orientation than by the detection and punishment of the offender after he has succeeded in committing the crime. These "Orders" also stress that: "....the absence of crime will be the best proof of the efficiency of the police". [4]

This "prevention" orientation was adapted to the realities and conditions of America of the late 19th Century and, although shaped and modified by the social, economic, and technical forces of the first 60 or so years of the 20th Century, served as one of the central axioms of police patrol management. The basic theory of police preventive patrol (at least since the replacement of foot by motorized patrols) was to establish an image of police "omnipresence" in the minds of the public. This "image" was to be constantly reinforced by the random movement of a uniformed police patrol officer in a marked police patrol vehicle through an assigned beat.

According to one analyst (Chaiken, 1979), this type of patrol method was expected to reduce crime through four major effects: 1) a prevention effect (by interupting a crime before its completion); 2) a special deterrence effect (by dissuading arrestees from future crimes); 3) a general deterrence effect (by persuading the general population that the risks of crime exceed the

benefits); and, 4) an incapacitation effect (by removing the offender from the streets for the period of arrest and custody.) [5].

During such routine preventive patrol, which was to be performed between responding to calls for service, the patrol officer was to inspect various crime "hazards" on his beat (i.e., checking for unlocked doors, observing activity at known potential "trouble" spots, etc.). The officer was to remain constantly alert for any suspicious activity that would require police intervention. In short, the patrol officer was held responsible for whatever crime occurred in his assigned area and was granted considerable flexibility in initiating his own activities.

A recent article (Auten, 1981) on police patrol and crime prevention provides a useful summary of the four key elements of preventive patrol as follows:

> 1. Officers were assigned beats, areas in which to conduct their patrol activities.
>
> 2. Officers were clothed in a distinctive uniform which made them highly visible.
>
> 3. Officers patrolled their assigned areas in a random manner.
>
> 4. The tasks the officers performed while on patrol were determined by their own initiative.[6]

There were a number of flaws in this theory as this writer points points out. First, most police departments have very few officers on patrol at any given time in relation to the population they serve and it is simply not possible for these limited numbers of officers to move randomly through a jurisdiction and create an impression of omnipresence. Second, many of the crimes that they are supposed to prevent occur at locations where an officer cannot conduct motorized patrol such as inside houses, businesses, parks or other places inaccessible to the patrol vehicle. Hence, only some portion of crimes are "suppressible" by patrol. Third, considerable evidence exists that some offenders give little or no thought to the possibility of being caught so random patrol won't deter them. Finally, Auten describes the "scarecrow" effect which states that a random patrol unit is only effective within a very short radius whenit is readily visible to potential offenders. And, as Auten stresses, an officer is supposed to perform preventive patrol only when between calls for service.

In short, while performing preventive patrol an officer usually was doing two things: waiting for the next dispatch to a call

for service or waiting for something to happen within his field of vision. As a strategy, preventive patrol was primarily **reactive.** [7]

On the other hand, many police agencies and individual officers developed a variety of what can best be termed **proactive** means to address specific types of crime problems. The Metro Division of the Los Angeles Police Department, for example, was formed in the early 1930's as the "tactical" arm of the police to control known patterns or surges of crime through the application of intensive high-visibility patrol of an area, low-visibility stake-outs of potential crime targets, or area/person surveillance. And, while many able people worked to enhance the probability of success of this traditional preventive patrol model over the years (i.e., the development of so-called "hazard" formulas for matching the allocation, scheduling, and distribution of patrol personnel by time and areas of greatest need; application of game theory principles to optimize patrol crime deterrence; development of the selective traffic enforcement theory which applied enforcement effort at those times, places, and violations determined by analysis of data to be related to accidents; use of police dogs; alternative and varied patrol modes ranging from bicycles to helicopters, etc.), little or no attention was devoted to the evaluation of the crime control effectiveness of the concept of preventive patrol itself. The intuitive logic of this concept appeared to be accepted as a "given" by all but a few iconoclasts who were generally ignored by the majority of their more traditional colleagues. [8]

Thus, at least until the mid-1960's, the prevailing view for most of this century was that patrol power was the "backbone" of the police service (Leonard, 1964, O.W. Wilson, 1963) and that police crime prevention and control capabilities could only be improved by additional patrol manpower resources. This view was sharply stated in a 1964 management study of a midwestern police agency quoted in the Police report of the President's Crime Commission as follows:

> The more men and the more cars that are visible on the streets, the greater is the potential for preventing crime. A heavy blanket of conspicuous patrol at all times and in all places of the city tends to suppress violations of the law. [9].

However, as noted previously, there were individuals, both within and without the law enforcement community that were not convinced by their own experiences, logic, or the scanty evidence available that preventive patrol did, in fact, "prevent" anything. Some of the earlier studies that attempted to develop scientific evidence on patrol effectiveness concentrated on what their authors thought would be a measurable issue - the effect of police patrol on traffic violations and accidents.

The reasons for this choice of research focus are of substantial importance to this discussion and deserve further note. First, there was a strong tradition of quantitative analysis in the area of police traffic services operations fostered by the managers of the Northwestern University Traffic Institute (a research and training center on police operations founded in the 1930's). Next, research funds to address traffic-related issues were more readily available. Finally, computers were becoming increasingly available to researchers in social science areas by the mid to late 1950's and such computers were vital to processing the large volume of of data that had to collected in a police field experiment. A useful and critical review of these studies was recently completed by the University of Michigan's Highway Safety Research Institute (Joscelyn, 1979) and this review provides an excellent overview of methodology and results. [10]

The nature, operational and methodological problems, findings, and problems encountered in these studies will not be discussed here other than to note that they had a very significant impact in raising the level of critical dialogue on, at least, the traffic-related aspect of preventive patrol by calling into question its effectiveness and backing these assertions up with quantitative evidence. Several of these early studies (i.e., Shumate's work in Wisconsin in the early 1960's) were quite controversial because they indicated that simply adding more officers to traffic patrol would not result in the outcomes that some police officials had been using to justify their annual budgets. On a positive note, these studies showed that field experiments could be performed in the area of police operations. Of equal importance, the performance of these field studies stimulated interest on the part of many astute police personnel and researchers to question some of the other long-held police assumptions and to call for additional scientific evaluation of basic police programs.

In addition, the social upheavals of the 1960's (i.e., the riots, protests, rising crime, etc.) produced a climate ripe for change. On top of this, many practices that were widely regarded as useful within the police community were being severely limited by court decisions (i.e., Miranda, Mapp, Escobido, etc.). And, of singular importance, the initial stirring and challenges of newly-formed and agressive police employee organizations were being felt. The cumulative pressure of these social, technical, and organizational changes placed enormous demands and strains on police executives and set the stage for, as one organizational theorist (Lewin, 1951) has termed it, an "unfreezing" of the traditional responses and patterns that had been set in place over the years [11].

New theories and methods of organizational management were also evolving during this decade both from the social sciences (i.e, participatory management, psychological testing, etc.) as well as from that group of disciplines that became known as the management

sciences (i.e., systems analysis, operations research, statistics, etc.). With the introduction at all levels of government of the management science methods pioneered in the military and space programs, such as planning-program-budgeting-systems, cost benefit and cost effectiveness analysis, and program evaluation, police managers were being challenged to set goals, examine alternative ways of meeting such goals, and devise new methods for measuring their agency and functional performance. Many of these police managers and their staffs found themselves becoming more and more critical (e.g., Ahearn, 1972; Igleburger, et al, 1973) of their own organizations as they struggled with these new concepts. [12]

Key Forces For Change

This "reexamination" of our systems of crime control and criminal justice began to further accelerate in the mid-1960's due to a variety of events beginning with the creation of the Office of Law Enforcement Assistance (OLEA) at the Federal level and its support of several key studies. During this same period, the President's Commission on Law Enforcement and Administration of Justice - the first major national assessment of crime and criminal justice since the Wickersham Commission in the 1930's - began to release its series of groundbreaking reports.

This was followed in short order with the "declaration" of a "war on crime", passage of the "Safe Streets Act of 1968, creation of the U.S. Law Enforcement Assistance Administration, establishment of the Police Foundation under a $30 million grant from the Ford Foundation, and, of real importance, the first of two annual law enforcement science and technology conferences held at the Illinois Institute of Technology in 1967 and 1968.

These events, fueled by a very substantial commitment of money for research, education, and justice system assistance served to attract growing numbers of talented researchers to the problems of law enforcement as well as to acquaint the police with the capabilities of science and technology. Of equal importance, the rising educational standards for police personnel, coupled with Law Enforcement Education Program (LEEP) grants to well over 1,000 universities and colleges, have combined over the last 10-15 years to produce a cadre of law enforcement executives, supervisors, and officers that have a far greater appreciation for the benefits and limitations of the scientific approach than did their colleagues from earlier years.

The issue of preventive patrol was a topic of considerable interest to the 1967 President's "Crime" Commission (particularly the Police and Science and Technology Task Forces). They stated:

> Police on "preventive" patrol cruise the streets to look for crimes in progress. Presumably, this activity prevents crime because it poses a threat of detection and immediate apprehension. However, there is little evidence on how much crime is thereby prevented or on how much would be prevented by alternative patrol tactics. [13]

Analysis studies conducted by the Commission's Science and Technology Task Force in support of their consideration of preventive patrol found, for example, that an individual patrol officer can expect an opportunity to detect a burglary in progress no more than once every three months and a robbery no more often than once every 14 years. [14]. A similar study (Elliot, 1976) in Syracuse found that roughly half of the Part I offenses reported to the Syracuse Police Department occurred in locations where they could have been observed by a patrol unit. He analyzed patrol staffing, patrol deployment, and preventive patrol practices and estimated that the SPD patrol force could be expected to make on-scene arrests only in 21 of the 5000 reported Part I offenses. Using actual data, he subsequently found that they actually made 31 such arrests. [15] In short, there seemed to be a need for a reassessment of the preventive patrol function.

Following the establishment of LEAA in 1968, that agency decided on a major effort to attack stranger-to-stranger "street crime" and developed a $40 million dollar grant program known as the High Impact Program for that purpose. Considerable stress was placed on the need to thoroughly analyze crime data to properly allocate grant resources. A similar LEAA-funded effort known as the Pilot City Program echoed the need for formation of local crime analysis capabilities. State-level LEAA planning agencies also began the funding of local crime analysis-based "crime specific" police programs. [16] Most of this activity was concentrated during the period from 1969-1975.

The period from 1965 to the present has thus far produced a fairly impressive array of research and experimentation that has been of major help in aiding a truly significant reassessment of the police service delivery system. More specifically, research on police response time and its relationship to criminal apprehension [17] have not only provided intriguing findings, but they have directly or indirectly made major contributions to such related activity as the development of highly complex mathematical models and simulations of police patrol allocation, deployment, and scheduling [18]; development of computer-aided dispatch and management information systems [19]; and, development of new concepts

for **managing** the demand for police service. [20]

The growing use of computers at all levels of the law enforcement system, as well as a virtual revolution in computer hardware and software design, has enabled police agencies to gain control of their data resources for management, planning, and operational purposes as well as to overcome jurisdictional limitations by providing instant access to massive data bases at the Federal level (i.e., NCIC), Regional and State levels. [21] Rapid access to such data has also created new classes of police specialist personnel with skills in systems design, operations research, policy and program evaluation, and statistical analysis. These specialists, in turn, have injected new methods of viewing the nature of police problems into the traditional management and operational decision-making systems of the police organization.

One of the more significant findings of the 1960's, at least to non-police persons, was the realization that crime control and law enforcement occupied far less police time than generally thought. In fact, a significant percentage of patrol time was found to be devoted to so-called "social services" (i.e., domestic disputes, landlord-tenant disputes, mental cases, drunks, and related order-maintenance and public service tasks). These study efforts appeared to indicate that the police were performing these tasks simply because they were the only ones available to handle them due to their around the clock availability and authority. [22] In brief, the very nature of the police role and associated responsibilities became the subject and focus for a wide range of critical and often enlightening theoretical and field studies. [23]

Significant Research Projects

Without question, most persons in the police field would agree that the most significant study of this highly productive period, with respect to the patrol function, was the Police-Foundation sponsored Kansas City Preventive Patrol Experiment (KCPPE) that was published in 1974. [24] While still a controversial topic (for many political and methodological reasons), this study received wide national publicity and the perception of most readers was that the study found that police preventive patrol had no effect on crime. A closer reading of the study itself indicates that, on the basis of the data collected, the rate of crime, arrest patterns, and citizen fear of crime were largely unresponsive to changes in the level of intensity of police patrol. Other studies bearing on the issue of level of patrol intensity include those of Chaiken [25]; Press [26]; Dahmann [27]; and, Bright [28].

Some of the efforts prior to the release of the KCPPE report are also of interest. Specifically, in 1966 the St. Louis Metropolitan

Police Department attempted to "split" the patrol force in several of its districts - based on detailed analysis of CFS workload, prediction of demand, and provision of crime analysis information - into two parts: one part would be responsible strictly for handling CFS (roughly 70% of the patrol officers assigned) and the remaining 30% of the patrol officers would focus their efforts on conspicuous preventive patrol in high crime areas. [29] The project was eventually abandoned due to organizational problems according to the project director. However, the concept itself attracted the interest of the Operations Research Task Force of the Chicago Police Department (Bottoms, et al., 1972), whose theoretical studies and simulations of patrol operations, arrived at a recommendation that the CPD implement a split force patrol program. [30] The final report of this group contained an excellent quantitative analysis of the preventive patrol concept and one of its recommendations to develop CFS screening and prioritization policies to handle up to 30% of such calls by alternative means anticipated much of the current interest in this topic. Elliot's work with the Syracuse Police Department on Interception Patrol is also of interest as is Garmire's (1972) advocacy of the "split force" concept. [31]

During the early 1960's, several British police organizations began to experiment with a concept known as "Unit Beat Policing" that was designed to increase community support of the police, increase the flow of crime-related information; and, at the same time, enable the police to rapidly respond to CFS. [32] This type of program appealed to a number of innovative police officials in the U.S. and considerable experimentation with a modified version of this concept, that came to be termed "Team Policing" began in 1968 with the establishment of Crime Control Teams (CCT) in Syracuse, New York.

Case studies (Sherman, et al., 1973) of seven of the more widely-regarded team police programs (i.e., Dayton, Holyoke, Richmond, New York City, Detroit, Los Angeles and Syracuse) were set forth in a report prepared by the Police Foundation that received national distribution. [33]. As described in this report, team policing involved the following central elements: geographic stability of assignment of teams of police officers to small neighborhoods; maximum interaction among team members; and, maximum interaction between team members and the community they served. Other related and supporting elements included: unity of supervision; lower-level flexibility in policy-making; unified delivery of services; and, combined investigative and patrol functions. Several of these team policing experiments rejected the notion of "preventive" patrol. Specifically, as described in the case study of the Dayton Team Policing Program:

> Preventive patrol was to be eliminated to enable members to undertake problem-oriented police activities. By eliminating the requirement for patrol, time was to be available for officer-initiated activities that would permit the exercise of individual officer discretion in dealing with the community, establishing relationships with opinion makers, and constructively dealing with issues of concern to neighborhood residents. [34]

The Police Foundation and LEAA sponsored a major team policing experiment in Cincinnatti (COMSEC) that was evaluated by the Urban Institute. [35] Evaluation results were relatively positive with regard to reductions in the rates of certain crime, cases cleared, and various measures of citizen and officer reaction. However, certain of the central elements of the program were later modified and conditions returned to normal as a move toward management centralization robbed the program of its vitality. Strong support for the concept of team policing as an alternative was expressed in the report of the Police Task Force of the LEAA's National Advisory Commission on Criminal Justice Standards and Goals (NAC) in a 1974 report. [36] Prescriptive Packages on Team Policing were widely distributed by LEAA [36] and the concept was assessed in some detail in a 1977 report by Gay under the National Evaluation Program (NEP) of the National Institute of Law Enforcement and Criminal Justice [37].

A parallel approach for upgrading patrol crime control impact that received considerable attention during the late 1960's and continuing through the 1970's involved the creation of police tactical or "specialized" units. A very detailed report on Specialized Patrol was issued as a "prescriptive package" by LEAA in 1977 and set forth the following definition of this term:

> Specialized patrol is defined as the activities of officers who are relieved of the responsibility of handling routine calls for service in order to concentrate on specific crime problems. Specialized patrol operations commonly involve the use of decoys, saturation patrol of particular areas, aggressive patrol tactics, and surveillance of suspects and possible crime locations [38].

As this publication points out, specialized patrol operations are designed to handle crime problems that require more concentrated and coordinated attention than can be handled by the regular patrol force and/or require tactics (i.e., surveillance, decoys,

stakeouts, etc) that cannot be used by uniformed patrol officers in marked vehicles. [39]

Some of the officers assigned to these units will perform regular patrol duties and operate in a tactical mode as problems arise; others are assigned on a full-time basis. As noted earlier, police agencies have recognized the need for such specialized patrol since the 1930's and many of the larger jurisdictions have long employed them (e.g., a survey of 29 large cities in 1961 showed that 18 of them had tactical units that varied widely in terms of duties, objectives, hours-worked, and staffing levels [40]).

As a result of both LEAA's "crime-specific" focus as well as the grant funds available to local police organizations, vast numbers of specialized patrol projects were implemented between 1968 and the present. One of the central features of such projects was their emphasis on the use of sophisticated crime analysis services to support specialized patrol operations. A variety of studies were undertaken to define the role and functions of the crime analysis unit, develop enhanced crime analysis methodologies, improve the quality and content of basic source data, and increase the use of computers in the analysis process. [41]

One of the more ambitious research efforts dealing with specialized patrol operations was conducted in Kansas City with Police Foundation support in 1972 and 1973 and involved a comparative evaluation of three approaches to criminal apprehension. The first approach assessed was the creation of a "Crime Information Center" (that developed and continually updated "mugbooks" on known serious offenders and provided this information to all line units of the department). The second apprehension strategy evaluated was the use of "Perpetrator Oriented Patrol" (POP) by a squad of 14 officers drawn from the KCPD's Tactical Unit. This strategy involved the systematic surveillance of targetted individuals known to be actively involved in criminal activity. The final apprehension strategy examined was known as "Location Oriented Patrol" (LOP) and was designed to use crime analysis information to place a special unit of 14 officers (also drawn from the KCPD Tactical Unit) in high-crime areas with the intent of intercepting crimes (primarily burglary and robbery) in-progress.

The results of the study, one of the first to examine the effectiveness of specific tactics (rather than simply evaluating the impact of increases or decreases of police manpower), were of considerable interest. Specifically, the provision of CIC information on key offenders to members of the regular patrol force increased the arrest rate of such offenders. Both the POP and LOP strategies were found to be superior in terms of arrest productivity than the regular patrol force. This result was not particularly surprising, since these units spent all their time on arrest-

oriented activity while patrol had myriad other duties). Finally, while Location Oriented Patrol was judged to be somewhat more effective than Perpetrator Oriented Patrol, neither approach appeared to offer a substantial improvement over the usual mix of prior tactical unit activities. [42]

As noted, many specialized patrol projects were undertaken and evaluated during the 1970's. Some of the more notable efforts included the New York City Police Department's Street Crime Unit (an evaluation of which showed 10% decreases in robbery and 13% decreases in grand larceny from persons attributable to unit efforts) [43]; the State of Virginia's High Impact Target (HIT) Program involving eight local jurisdictions that formed specialized patrol units [44]; Maryland's Concentrated Crime Reduction (CCR) Program [45]; Los Angeles County's 70-officer Multijurisdictional Burglary Program (involving intense plainclothes surveillance of active criminal suspects) [46]; Detroit's STRESS Unit [47]; and, the Miami STOP Program [48]. Useful summaries of such efforts are contained in a series of reports issued under the LEAA National Evaluation Program (NEP) including Sowder's Specialized Patrol Projects [49]; and, Reinier's Crime Analysis in Support of Patrol. [50] Other reports that also address particular features of patrol crime control efforts include Schack's Specialized Patrol [51]; White's Police Burglary Prevention Programs [52]; and, Ward's Police Robbery Control Manual [53].

Several equally important studies of police preventive patrol operations during the mid-1970's should be noted. The San Diego Police Department served as host agency for three of these efforts including a study of one and two officer patrol cars [54]; field interviews [55]; and, the Community Oriented Policing (COP) Program. [56] The first of these studies provided quantitative evidence that 1-officer patrol units performed as well as 2-officer units, were substantially more effective, and also had a safety advantage. The second study assessed the impact of patrol field interrogations on crime in a small, but well designed experiment. The study found that certain types of "suppressible crime" were deterred by field interrogations. This study is important because it provided objective evidence of the worth of a specific tactic used by the regular (as opposed to specialized) patrol units in controlling crime. The COP Program will be discussed later in this chapter because it represents one means of implementing a directed patrol effort.

Other research found evidence that an "aggressive" patrol style that stressed increased enforcement intervention (i.e., traffic stops, field interrogations, etc.) was an effective technique for crime control. These studies also present some statistical evidence that there is a strong negative correlation between arrest rates for specific offenses and the rate at which offenses

occur. [57] Again, the importance of these studies is that they address things that a regular patrol unit can do. In short, this research strongly suggests, as James Q. Wilson put it: "....the police may affect crime rates less by how many of them are on patrol than by what they do there." [58]

A significant ommission in the this discussion of predisposing conditions that resulted in the development of the concept of directed patrol is mention of the significance of what can best be termed "sociological" research on the police function. An astute review of police patrol research by Gary Cordner found that the results of these types of studies cannot be easily summarized as can the typical experimental or quantitative assessment of the effectiveness of a particular police patrol program or concept. On the one hand, as Cordner notes, these studies were primarily based on observational methods by single, or in rare cases multiple, observers and their greatest weakness lies in the subjectivity of their reported findings. By contrast, this is also their greatest strength because of the relative richness of detail, perception, and interpretation of the complexity of the realities of police work. This body of work served to identify many vitally important theoretical and practical concepts that are of major assistance in understanding the powerful normative influences on police organizations and officers that affect both their behavior and the delivery of police services in a community. Cordner's article provides an excellent summary and assessment of studies of this nature. [59]

A unique approach to the issues of preventive patrol was provided in a state-of-the-art report (Schell, et al, 1976) on this topic prepared under the National Evaluation Program. [60] This report provides a comprehensive presentation of preventive patrol goals, objectives, and related assumptions. Another area of productive research meriting attention, since it has implications for the choice of directed patrol activity is that of police crime prevention programs. More to the point, these programs represent a blend of both community relations and "target hardening". Noted efforts in this area that have involved a committment of patrol officer time (in addition to that of specialized staff) cover a wide range and include such strategies as security surveys of businesses and residences, police sponsored and supported programs for organizing community and neighborhood crime prevention associations, property marking programs (e.g., Operation Identification), development of minimum security standards for new and existing buildings, introduction and enforcement of standards for alarms, victim/witness programs, and citizen crime reporting programs. The utility of these type of police-initiated or supported crime prevention programs has been assessed in various reports issued by NIJ under their National Evaluation Program. [61]

Yet another guiding theory of the traditional patrol management model, that police should rapidly respond to all calls for service from the public, was also challenged (in various studies from 1976 to the present) as the result of a the Kansas City Response Time studies [62]. These studies concentrated on the relationships between rapid response and criminal apprehension on the one hand and citizen satisfaction on the other. These reponse time studies found that only a small percentage of calls were of an emergency nature and that only around 3-4% of the total arrests for serious offenses could be attributed to rapid response due to the fact that there were substantial delays between actual commmission of such offenses and the time they were reported to the police. [63]

A second finding of major importance was that, as suggested in earlier studies, citizen satisfaction with police response was a function of the difference between citizen expectations of when a police officer could be expected to arrive and when they really did arrive. [64] In addition, researchers found that the majority of callers were not averse to non-mobile (i.e., telephone reports, mail-in reports, etc.) responses to certain types of incidents such as a "cold" burglary being reported for insurance purposes [65]. Several studies indicate that as much as 30% of the calls being dispatched could be handled by a non-mobile response and that 55% could receive delayed responses (see also Knee & Heywood, 1983. [66]

Other studies assessed the utilization of trained civilian empl-oyees to handle a variety of police tasks to free sworn officers for more appropriate duties. Well designed studies of programs implemented in Worcester and Fort Lauderdale make this point. [67]

Finally, a series of studies of the police investigative function challenged the effectiveness of existing practices. Greenberg's work in various California police agencies (between 1972 and 1977) resulted in the development of a crime "solvability" model which helps to select those cases that have the highest probability for solution through further investigation (and also indicates that about 40% of the crimes reported have little hope for successful investigative activity). The central role and importance of the patrol officer and the quality of the preliminary investigation of a crime was clearly established in these studies. [68] A major study of the criminal investigation process (Chaiken, et al, 1975) served to further establish the importance of the patrol officer's work at the crime scene. [69] A Managing Criminal Investigations (MCI) Program Model (that blended these and other concepts) was developed, field tested, and evaluated by the National Institute of Justice. [70]

The intent of this section has been to outline the major research findings and events over the past several decades that have culminated in the present interest in the concept of directed patrol. In summary, the period from the early 1960's to the present has

upen far and away the most productive in the history of U.S. law enforcement in terms of research and experimentation. The knowledge developed during this era has challenged the efficiency and effectiveness of many traditional police policies, programs, and practices.

Above and beyond the specific findings of these studies, there has been a virtual revolution in police thinking resulting from this so-called "golden age" of law enforcement. As one of the reviewers of this document noted, the parallel developments of **practice** and **analytical knowledge** (or "art" and "science") have begun to merge. Prior to these two decades of research and development, most of the major police texts (i.e., O.W. Wilson's Police Admin-Administration, V.A. Leonard's Police Organization and Management, among others) were (and no criticism is intended) virtually "cookbooks" that provided prescriptive guidance to several generations of police leaders. The prescriptions were based on hard-won experience however, rather than scientific evidence. And, while much of this guidance is as valid today as it was when these books were first released, it is also true that many of the central assumptions of these theorists (particularly in regard to line operations) are currently being questioned in a more critical and scientific manner.

Identification of such problems areas has served to stimulate the design, development, and testing of a wide range of new concepts and programs for enhancing the management and performance of the police service delivery system - one of these new programs has come to be termed **directed patrol.**

DEVELOPMENT OF THE DIRECTED PATROL CONCEPT

While there may be some dispute as to who is responsible for coining the term directed patrol, there is little question that it received its first national publicity with the release of a report (Kenney and Berke, 1974) by the New Haven, Connecticut, Police Department describing that agency's "Directed Deterrent Patrol Program". [71] The original intent of the project was to develop a patrol procedure, based on crime analysis, that could reduce street crime without increasing the size of the patrol force. This report flatly states:

> Administrators at the New Haven Department of Police Services believe that routine random preventive patrol neither successfully deters crime nor decreases citizen fear of crime. The failure of this traditional police patrol method prompted the department to seek alternative deployment methods.

The directed patrol program originally developed relied heavily on a computer system that produced 28-day crime trend reports for each of 21 designated "neighborhoods" in the City and provided geocoded maps by crime type to permit temporal and geographic analysis. Computerized reports were also developed to show the activity patterns of all patrol units in terms of time devoted to calls for service, internal functions and out-of-service, broken down by 4-minute increments.

This data was reviewed by a planning team on a regular basis who determined which types of crimes showed increases from the trends with respect to locations and times. Based on this analysis, the planning team prepared detailed written instructions for the types of directed activities to be performed (these activites were called "D-Runs". Written copies of the D-Run instructions were given to all patrol officers. These D-Runs were then initiated by the Dispatch Unit. The Communications Supervisor notified the dispatcher at the time each D-Run was scheduled and specified the D-Run number and assigned unit. A noteworthy departure from past practice was the fact that D-Run assignments were assigned the same priority as a call for service and could be cancelled or aborted only under special circumstances (i.e., emergency situations).

Another significant feature of the New Haven program was its use of "feedback" forms that had to be completed at the end of each D-Run by the patrol officer. In general, the distinctive features of the New Haven program were its rejection of traditional preventive patrol, availability of computerized crime data, reliance on crime analysis data for developing directed activity plans, use of a planning team to coordinate the program, distrbution of written instructions, dispatch control of the D-Run initiation, assignment of same priority to D-Run activity as to CFS, and the development of a formal system for monitoring implementation and results. The initial results reported by the NHPD on their directed patrol effort were inadequate from a scientific viewpoint, but nonetheless received widespread national publicity (i.e., 24% decrease in commercial burglaries; 75% decrease in purse snatching in D-Run areas, etc.) [72] New Haven still has a directed patrol program, but has abandoned, as will be mentioned, the much-criticised "D-Runs" in favor of a more flexible approach.

In Kansas City, when results of their Preventive Patrol Experiment were becoming known, the department initiated a major planning effort to make better use of the time traditionaly used for random preventive patrol. By 1975, a report on this planning effort was complete and formed the basis for implementation of directed patrol in one patrol district [73]. A number of cities surrounding New Haven also developed and implemented directed patrol efforts on a regional basis, supported by a central computer system, that they termed the "Innovative Patrol Operations Project", presumably to avoid the "robots on patrol" connotation that some critics

ascribed to the NHPD D-Run Program (i.e., little or no reliance was placed on the ability of patrol officers to plan their own preventive patrol efforts). [74]. Again, the results reported by the program developers were quite impressive, but a very weak evaluation design was employed.

Concurrent with these projects, Law Enforcement Assistance Administration officials in the Police Division of the Office of Criminal Justice Programs began to view police patrol operations in broader and more programmatic terms as the results of the various research and evaluation efforts started to become available. What is vitally important to recognize is that these officials (principally Mr. Robert Heck and James Vetter) and their technical consultants from the Westinghouse National Issues Center and the University Research Corporation developed the outlines of an integrated theory of patrol management. Their initial model blended a variety of previously diverse elements (i.e., crime analysis, crime prevention, resource allocation and deployment, etc., into a discretionary grant program that was termed the Patrol Emphasis Program (PEP). The first PEP grants were awarded in 1976. As stated in the grant manual:

> Projects within this program must be directed toward increasing the police agency capability to place patrol manpower in a more effective position to prevent criminal attack and/or apprehension of the criminal. The applicant must demonstrate the willingness to support a broad area of agency effort from the Crime Analysis Section through the crime prevention effort to the patrol force. The support is intended to assist the agency to maintain and harmonize these related efforts into a working habit. [75]

While certain of the cities receiving PEP grants were evaluated by independent evaluators, the program as a whole was not assessed in a rigorous manner. However, this was a moot point because the PEP program was basically absorbed and expanded into a far broader LEAA-funded effort known as the Integrated Criminal Apprehension Program (ICAP) in 1977. ICAP represented the "integration" of two complimentary programs - the "Prosecutorial Career Criminal Program" and PEP. The former program was based on a variety of common sense, operational, and research findings that showed that "career criminals" were responsible for a disproportionate share of real and reported crimes in relation to their numbers (e.g., an interview-based study of 49 convicted and incarcerated armed robbers by the Rand Corporation found that these individuals were responsible for over 10,500 serious crimes over the course of their criminal "careers").[76] Other studies by the Institute

for Law and Social Research using the data available from the Prosecutor's Management Information System (PROMIS) plainly showed that significant problems were being encountered at the police level of entry into the CJS in terms of cases being lost because of insufficient evidence, poor preliminary investigations, and so forth. Another PROMIS based study of police officer arrest productivity in a large city (Forst, et al, 1977) found that only a small percentage of total officers were responsible for felony arrests that resulted in convictions. [77]. In any event, it appeared to be an effective move to combine the PEP and PCCP programs under a general Career Criminal Program and to provide for specific ICAP grants to police agencies.

The ICAP effort had two primary objectives: 1) increased criminal apprehensions by the police; and, 2) increased capability by police to detect and apprehend the career criminal. However, as the program began to evolve, it became clear that its primary purpose was to collect and "integrate" all proven concepts that would contribute to police patrol (and later, investigative unit) effectiveness and efficiency. Between 1977 and the present over $50 million in LEAA funds were used to support the police ICAP effort. It is quite important to identify the key assumptions that operatively guided the ICAP effort. The listing below is based on both experience with the program as well as a wide range of documents developed by LEAA staff and their contractors:

- Little attention has been paid to enhancing and directing patrol operations.

- Directed patrol strategies will be more effective in terms of apprehension and will be more satisfying to police personnel than traditional "preventive" patrol efforts.

- Directed patrol will involve pre-programmed activities as opposed to present random patrol strategies

- Better management of both patrol and investigative resources is essential.

- Information gathered by patrol officers is the key to suspect identification and apprehension.

- Analysis of existing operations will lead to policies and procedures that promote enhanced preliminary investigation, meaningful case screening, expedite follow-up investigations, and encourage better working relationships between the

police and prosecutors.

- Police decision-making with respect to resource allocation and operations must be formalized and involve quantitative and qualitative analysis to a far greater degree than in the past.

While ICAP was an evolving concept that grew and changed over the six years of its existance at the Federal Level (ending with the termination of LEAA), the core of the program was a structured approach to police service delivery that was characterized by: formal planning, decisions based on empirical information and structured methods, decisions components measurable and subject to manipulation based on feedback and evaluation, operational identity of an analytic capacity, prediction-oriented and active empirical perspective, and uniformity and consistency of overall direction. [78] Central to this structured approach was the absolute necessity for a Crime Analysis and Operations Analysis function in a police department. Figure 2-1 is taken directly from an early ICAP publication and illustrates the ICAP Model logic and program objectives.

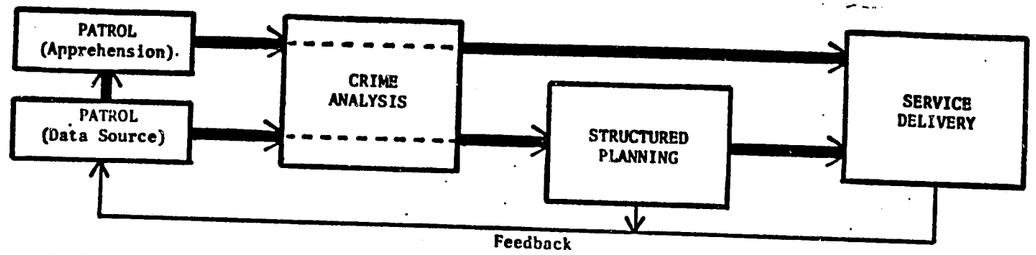
One of the first major tests of an alternative to traditional preventive patrol was the "Split Force" experiment (Tien, et al, 1978) conducted by the Wilmington, Delaware, Division of Police Services and evaluated by Public Systems Evaluation, Inc. [79]

This study tested the effects of separating the preventive patrol and call for service response functions in a police patrol force. More specifically, the "basic" units of the split force were responsible for answering all calls for service. The "structured" units of the split force concentrated their efforts on crime analysis supported directed patrol. A variety of research concepts were involved in this test included the use of sophisticated computer models (e.g., Patrol Car Allocation Model and Hypercube Queuing Model) for determining the number of basic units required and proportional allocation and deployment; "push-pull" scheduling (overlapping scheduling in relation to demand); the use of "adaptive response sectors (i.e., changing beat boundaries by hour of the day); implementation of call prioritization systems and formalized CFS response delays; conversion of half of the department's patrol units from two to one-officer cars; and, fixed position assignments for basic units. The actual "split" involved the designation of 27 patrol units as "basic" cars and 16 patrol units as "structured" cars. The reported results of the Split Force Experiment were mixed but were generally positive.

The evaluators concluded that split force patrol: increased the

Figure 2-1

Integrated Criminal Apprehension Program Model



Data Collection

Improve timely records management support.

Analysis

Improve analysis for planning purposes.
- Strategic
- Tactical
- Operations

Improve analysis of crime patterns
- Patterns
- Offender/MO

Increase identification of serious offenders among arrestees or suspects.

Improve completeness and accuracy of known-offender file.

Planning

Improve planning process -- establish links from analysis.

Improve decision process.

Increase use of crime analysis in deployment planning.

Improve informational feedback to police on case dispositions.

Service Delivery

Improve police procedures at scene of crime.
- Investigation/ Evidence
- Victim/Witness

Improve timely initiation of investigative followup of serious crimes.

Improve screening and assignment of cases.

Improve continuity of criminal investigations of serious reported crime.

Improve efficiency and timeliness of warrant services.

Increase number and proportion of patrolmen making good arrests for serious offenses.

Improve use of feedback information on case dispositions to improve further police/prosecutor investigations and case preparation.

Source: Integrated Criminal Apprehension Program: Status Report on Program Implementation and Development, Law Enforcement Assistance Administration, U.S. Department of Justice, Washington, D.C., January 31, 1978.

efficiency of the WPD's CFS response function (i.e., slightly lower response times, decreased workload imbalance, etc.); partially contributed to a 6% decrease in reported Part I crimes and a 9% decrease in Part II crimes; produced significant increases in Part I crime arrests (+4%) and clearances by patrol (+105%) - that were attributed primarily to the immediate incident-oriented investigations by the structured force and to directed patrol secondarily; and, caused no significant change in citizen satisfaction with police service. The evaluation also found that management of CFS demand through screening and formal delays was an effective practice. However, there were also some negative findings, including a dramatic decrease of 61% in Part I crime clearances by detectives, less communications between investigators and patrol personnel, and an overall decrease in Part I crime clearances by the department of 28%. It should also be noted that Wilmington had over 3 police employees per 1,000 population (a ratio that is far higher than the national average for cities of this size) and is less than 16 square miles in area.

Another study (Gay, 1976) that received considerable mention was an evaluation of the Cleveland Heights (Ohio) Police Department Patrol Emphasis Program by the University City Science Center [80]. This program featured the implementation of improved patrol allocation and deployment, introduction of a complex "push-pull" scheduling system (presumably this was the first reported use of this system), development of crime and workload analysis capabilities, reassignment of detectives to uniform patrol, and of prime importance, implemeentation of a far more intensive and aggressive crime control effort by patrol. By reallocation of officers, the agency was able to free up blocks of officer time that were used for crime analysis-supported directed patrol (they basically tripled the number of units assigned during peak crime and service times). The primary directed patrol strategy used was high visibility "saturation" patrol of high-crime areas. Evaluation results were distinctly favorable with respect to program results.

A detailed study of an alternative model for directing patrol activity was completed in 1975 that described the San Diego Community Profile Project [81]. The "profile" element was part of a far-reaching effort known as the Community-Oriented-Policing Program. This project had considerable scope, but its implications for the implementation of directed patrol were of substantial interest. The COPS model sought to decentralize tactical decision-making to the level of patrol supervisors and officers through the "Beat Profile". Each officer was required to prepare a rather comprehensive profile of their assigned beat in terms of community structure, social, economic, and crime conditions. In the course of this profile effort, which was updated quarterly, the officer generates the data needed to plan problem-oriented tactics. The intent of this effort, of course, was to eliminate random and

unsystematic patrol efforts and replace them with pre-planned directed activities that address the unique problems of each officers' beat. A Resource Center was established to provide officers with current crime and related information to assist their directed activity planning on a daily basis. Again, while inevitable problems were encountered in this far-reaching and unique program, an independent evaluation of the program in 1976 was quite favorable.

Next, while not an evaluation per se, one of LEAA's most acclaimed and widely distributed reports was released in 1977. This was a Prescriptive Package on Improving Patrol Productivity that was divided into two volumes (Vol 1: Routine Patrol and Vol.2 Specialized Patrol) [88]. These reports were both descriptive and prescriptive in nature and summarized all that was known at the time about patrol operations. And, of significance, these reports accepted the results of the KCPPE with respect to the "preventive" patrol function. A specific quote from this report adequately portrays the rejection of the traditional model of preventive patrol:

> Several features of random patrol have seriously impaired the ability of departments to address adequately the crime and order maintenance problems of their communities. Perhaps the greatest shortcoming of reactive patrol has been an almost universal failure by departments to analyze both the patterns and characteristics of criminal activity as a basis for determining patrol tactics. In the absence of hard data and careful analysis, routine patrol has lacked purposeful direction and has most often been conducted in a haphazard manner. Although officers may patrol an area based on their "street knowledge", few attempts are made to guide where officers patrol on the basis of regular and systematic crime analysis. And, in many departments officers are not provided with crime maps or reports that analyze or identify crime patterns. And if these materials are made available, watch commanders and first-line supervisors seldom make use of them as primary tools for directing patrol activity. Too frequently, officers are free to roam unguided through their beats even though some areas in thr beat or elsewhere in the community have greater crime or order maintenance problems [82].

The report went on to recommend that police agencies develop directed patrol programs to replace some or all of the time devoted to traditional random preventive patrol. However, the report stresses that a directed patrol program will be effective only

if an overall program of patrol management is adopted that includes proportional allocation, deployment, and scheduling; elimination of certain non-productive practices (i.e., better reporting systems, streamlined arrest and court procedures, etc.); development of strong crime analysis capabilities; improved means for managing service demand including prioritization policies capable of distinguishing true emergencies, use of non-mobile responses, etc.; development of evaluation systems, and so forth [83]. This report expressly recommends that every police agency should strive to have patrol officers spend roughly 25% of their time conducting crime-specific directed patrol.

Over time, approximately 40 police agencies were awarded ICAP grants. These agencies, in turn, served as laboratories for the operational evaluation of this model for police improvement. They were supported by an excellent technical assistance, evaluation, training, and dissemination system. Early in the ICAP "era" LEAA supported a nationwide seminar program known as the National Criminal Justice Executive Training Program that provided training in Managing Patrol Operations (MPO) to close to 1,000 senior police officials. The curriculuum of this course bluntly stated that "preventive" patrol was more a state of mind than an activity and that the likely results of adherence to this practice were:

- Uninformed/non responsive patrol
- Inequitable levels of service
- Inappropriate priorities of attention
- Self-determined delays in service
- Lack of a service/problem solving capability
- Potential escalation of pressing field problems [84].

In addition to the books and manuals that were prepared for the MPO Training Program [92], LEAA also commissioned a series of ICAP manuals that provided both justification and specific guidance for all aspects of ICAP implementation, including manuals on communications, crime analysis, patrol operations analysis, evaluation, records, training, and related issues. And, as the results from the National Institute of Justice-sponsored Field Test of the Managing Criminal Investigations (MCI) Program became available, they too were incorporated in the ICAP model. In brief, never before in the history of U.S. policing had such a wealth of policy and operational guidance been made available to local police

agencies. In addition, several states, California being the most prominent example, established state-funded replications of the police ICAP grant programs for its local jurisdictions funded at substantial levels (i.e., $2.5 million) directly from general funds [85].

In 1978, the National Institute of Justice also initiated a three city Field Test of the Managing Patrol Operations (MPO) Program in Charlotte, North Carolina; Sacramento, California; and, Albuquerque, New Mexico. A detailed test design was prepared to guide the grantees in implementing this complicated program over a scheduled period of 18-months. Drawing upon prior research, this test design had two principal assumptions:

> A. By systematically matching deployment to workload conditions and by managing the demand for police services, departments will be able to free a greater portion of patrol resources which can then be devoted to directed activities defined in resonse to local crime and problem analysis; and,
>
> B. The efficacy of patrol allocation strategies is largely dependent on the ability of police policy-makers to set realistic patrol performance objectives and to design strategies consistent with those objectives.

While the implementation of directed activity programs aimed at specific crime, traffic, or community service problems was the ultimate aim of the field test, an underlying emphasis was to evaluate the operational utility, costs, and relevance of three mathematical models for the allocation, deployment, and scheduling of patrol forces (i.e., PCAM, Hypercube, and Computerized Work Scheduling). The test design provided for a six-month planning period followed by a 12-month implementation period. In support of the two principal assumptions of this effort, the Test Design stated that:

> The emerging view, supported by a growing body of research, is that the calls for service response and directed patrol activities should have equal priorities as patrol functions and that this should be be reflected in efforts to increase the efficiency of the calls for service response so that additional resources can be allocated to directed activities. The design of call prioritization systems is consistent with this view. So is the development of computer programs that tie allocation to the time, location, and volume of demand. [86]

An extensive program of training and technical assistance was provided to the three MPO sites and the overall project was evaluated in an, as yet unreleased, report (McEwen, Fennessy, and Connors) submitted to NIJ in January 1982. [87]

It should be specifically noted that the MPO Field Test was not an experimental or impact-oriented evaluation project. Instead, its purpose was primarily to determine the extent to which the program achieved its goals and objectives and to identify conditions which inhibit or facilitate successful implementation of the MPO Test Design.

The primary goal of the MPO Field Test was to enhance the ability of police policy-makers to achieve patrol performance objectives. The specific objectives of the Field Test were to:

> A. Increase the efficiency of the call for service response and thereby increase the portion of patrol resources devoted to what traditionally been called random patrol;
>
> B. To replace random patrol with field service activities directed toward specific crime and service-oriented problems; and,
>
> C. Develop the ability of police policy-makers to define realistic patrol performance objectives and to formulate allocation strategies that serve those objectives, through training designed for that purpose.

In furtherance of the Field Test goal and specific objectives, each of the grantee police agencies was required to: define patrol performance objectives; undertake CFS workload analysis; consider alternative methods for handling calls; use computer models to develop an improved patrol plan; develop or enhance crime analysis capabilities to support patrol operations; and, implement directed patrol activities. Without question, the grantees were required to plan and implement an extremely complex and ambitious program in a very brief (18-month) period of time. While the degree of goal and objective achievement varied by site, the MPO Field Test evaluator found that virtually all of the primary program goals were achieved. A key finding was that each of the grantees were able to implement crime-analysis supported directed activity programs within the schedule. In general, the sites were able to devote between 8-13% of their "uncommitted" patrol time to the performance of directed activities.

A related finding was that a crime analysis unit cannot totally support directed activity for all patrol personnel. Only a limited number of "workable" patterns can be identified and some require the employment of apprehension-oriented tactics (i.e., decoys, stakeouts, etc.) that are not suited for uniformed officers in marked units. Thus, it is necessary that directed activities also address a wide range of both traffic and community service activities to provide all patrol officers with this type of work.

Other findings of interest were that considerable resistance was encountered at various organizational levels of the test sites, particularly among mid-management and supervisory personnel, to directed patrol implementation. Aside from the normal resistance to any substantial change in the way that work is performed, directed activity implementation challenged traditional training and beliefs - particularly that some directed activity has the same priority as some CFS; required more effort to define objectives and activities; and, stressed accountability. The evaluation report contains a wealth of detailed findings and recommendations that cannot easily be summarized, but must be viewed in light of the unique organizational structures, management and operational philosophies, resource limitations, and related conditions and constraints that prevailed at the test sites.

Within the last several years, a number of evaluation projects have assessed police programs that included a directed patrol component. More specifically, several case studies of ICAP Cities were prepared by the University City Science Center as part of their NIJ-sponsored national evaluation of the ICAP program.

The first of these case study evaluations (Gay & Beall, 1981) dealt with the ICAP grant undertaken by the Stockton Police (CA) Department. The Stockton ICAP project was implemented over a four-year period and included the development of a crime analysis unit, improved calls for service management (including the staffing of a telephone report unit), analysis of patrol allocation and deployment, enhanced investigative services, extensive training, and directed patrol.

However, the central element of the directed patrol effort in the City of Stockton involved the formation of a patrol "strike force", which was staffed by patrol personnel from an 8pm to 4am overlap watch who were not assigned to specific beats. This strike force ranged in size between 4-10 officers, depending on call for service workload. The unit concentrated its efforts on extended surveillances, decoy operations, stakeouts, occasional saturation patrol in specific areas, searches for felons with outstanding warrants, and tactical support of investigative and "Sting" operations.As reported in the evaluation, this strike force was involved in 48 "missions" over a 20-month period. Details were

provided on the missions as follows:

> Twenty-three of the missions identified particular suspects, usually with outstanding warrants appearing in daily crime analysis bulletins, 22 were based on CAU-reported crime series, two were search warrants, and one was a special request. Twenty-eight of the missions resulted in 49 related arrests. One decoy mission conducted jointly with patrol in response to strong-arm robberies of elderly males in a high crime area resulted in 33 additional arrests for robbery or grand theft from a person...Because strike force missions often involved extensive surveillance or saturation patrol in high-crime areas, there are usually 30-40 non-mission related arrests per month made by the strike force. [89]

However, for a number of reasons, patrol-wide implementation of directed patrol had not occurred at the time of the evaluation. Some directed activity, referred to as Patrol Missions had been undertaken based on specific crime analysis bulletins. The evaluation report did not focus on impact evaluation of directed activity.

The second case study focused on the ICAP program of the Memphis Police Department (Gay and Beall, 1981). Again, considerable effort was devoted to the full range of ICAP activities (i.e., crime analysis, patrol allocation, telephone report units, enhanced preliminary investigations by patrol, etc.). A good deal of work was also devoted to the planning of a directed patrol program. The directed patrol program was to be tested in one of the city's four patrol districts prior to department-wide implementation. Unfortunately, after extensive work in developing the district program, the pilot directed patrol effort was never implemented. The causes cited by the evaluators for this situation included "political" problems (due to the expected election of a mayor who was expected to shake up the entire command structure of the department), a seeming reluctance to undertake new programs until the outcomes of the election, a lack of clear cut and decisive management guidance of the implementation process for directed patrol, and an unwillingness to commit the additional patrol officers to the pilot experimental district as required by the district's directed patrol plan.

The evaluation did indicate, however, that one result of the ICAP was that district commanders were given the authority to field plainclothes units in 1979. Prior to that time, the philosophy of the department was that patrol officers were to be deployed only in uniform and available for dispatch at all times. In fact, one

of the district commanders assigned 9% of his patrol officers to a "split-force" type of plainclothes unit with the primary objective of attacking street crime - a quite significant shift of personnel away from random patrol and CFS response and into directed patrol. No evaluation of the impact of these plainclothes units was provided in the case study. [90]

All ICAP grantees were required to contract for local evaluation services as a grant condition in addition to cooperating with the national program evaluators. Unfortunately, with the demise of LEAA many of these reports were lost and very few of these potentially rich sources of information on directed patrol could be obtained and reviewed. The quality and level of detail in those local evaluation reports available varied widely with respect to providing descriptive and quantitative data. The results obtained by several of the better local evaluations are reviewed below.

Cordner (1979) conducted a comprehensive evaluation of the Pontiac (Michigan) Police Department's ICAP grant, that incorporated the use of a quasi-experimental design for the assessment of the directed patrol program implemented by that agency. [91] He later published several articles describing both the experimental results obtained as well as some more subjective commentary of his views on problems encountered in implementing a directed patrol program. [92] Pontiac's directed patrol strategy was initiated originally in 1977 and went through a number of changes during the three year period covered by this evaluation. Initially, the PPD's Planning and Analysis Unit designed "D-Runs" based on analysis of crime data. These D-Runs were given out by the dispatch unit at a rate of about one per hour and instructed patrol officers to perform a D-Run in a specific location and to watch for a specific offense. During the first year or so of this effort, according to Cordner, no data was collected on the levels of directed patrol or the results obtained.

However, the program was revised in February 1978 and responsibility for the design of the D-Runs was given to operational patrol personnel. Meeting once a week, supervisors and officers from each patrol shift reviewed crime analysis data and planned the specific directed activities that would be performed that week. They designed detailed directed patrol assignments that specified target areas and target crimes (mainly robbery, burglary, thefts from autos, and auto theft) and that provided considerable information on suspect, suspect vehicles, and offense characteristics. Police officers were also required to file written reports describing directed patrol activity, tactics, and results.

A major change occurred in September 1978 when a special unit was formed solely to perform directed patrol. The unit was not set up as a result of dissatisfaction with the system then in place.

Instead, in order to save the jobs of patrol officers who were going to be laid off due to a fiscal emergency facing Pontiac, the department was able to use Comprehensive Employment and Training Act (CETA) funds to pay these officers. Due to CETA regulations, these funds could not be used to employ people in the same job they were doing before they were laid-off. Hence, the creation of a unit whose sole job was to do "directed patrol". This unit was staffed with between 9-12 officers over a 33-week period ending in May 1979 when the laid-off officers were rehired by the City. The CETA D-Run Unit was abandoned at this time and the pre-CETA D-Run program was reinstituted.

Cordner used a wide range of data collection methods and analysis methods in this evaluation. He assessed the relationship (using weekly data) between such measures as directed patrol minutes, number of directed patrol target areas, directed patrol car stops and FI's, directed patrol arrests, and number of directed patrol arrests and changes in reported index crimes citywide and changes in target crimes in directed patrol target areas. While the data analyses conducted must be examined with care, Cordner's findings were intriguing. First, in comparing the weekly change in target crimes over the three comparison periods (i.e., pre-CETA D-Run program, CETA D-Run Unit, and post-CETA D-Run program), he found similar decreases in target crimes for the first two periods and a smaller decrease in the last period. In short, he suggests that a five-fold increase in the level of directed activity during the CETA period had no additional effect on target crimes in target areas. The lower level of directed patrol in the post-CETA period was associated with a diminished effect on target crimes in target areas.

A multiple regression analysis of the relationships between the key variables did not account very well for weekly changes in target crimes. Based on this analysis, Cordner concluded that factors other than directed patrol were needed to explain any substantial portion of such weekly changes in the target crimes. Further study of this data, that is carefully qualified by the author, suggests that the number of directed patrol arrests are significant and that for each additional directed patrol arrest the number of target crimes in directed patrol target areas decreased by .75 per week (i.e., 3 less target crimes for each 4 target crime arrests).

One of the findings of this evaluation was that what officers do while on directed patrol has more effect on target crimes than simply how much time they spend on this activity. In general, while the author qualifies his results by indicating that they were not obtained in a controlled experimental setting, this study provides additional evidence in support of the effectiveness of pro-active or "aggressive" patrol practices.

In a related 1980 article in Police Magazine Cordner cautions against certain types of directed activity programs that do not allow the increasingly better educated and ambitious patrol officers of today a significant degree of involvement and autonomy in carrying out their work. He suggests that some police managers see the downfall of random patrol as an excuse to gain greater control over their patrol officers and that they may use "directed patrol" simply for that purpose. The gist of the paper is that anyone that favors a purely mechanical "robots on patrol" approach to directed patrol is making a serious error.

An evaluation of the Colorado Springs ICAP program also provides quantitative information on crime analysis based directed patrol [93]. This evaluation project used a "before/after" design to assess overall ICAP results. Detailed information is provided on the operational support of patrol and investigative services by a first-rate Crime Analysis Unit (known as the Operations Support Unit). The directed patrol program of the CSPD consists of a split force specialized "Anti-Crime Squad" and an on-going program of directed activity by the regular patrol. The first year evaluation of this program found that only one of the three patrol watches was actually performing any directed patrol. The second year evaluation found a fully-developed directed patrol program in place. The original CSPD objective was to allocate 40% of patrol time free for directed patrol through call demand management methods. This objective was achieved in 21 of the 24 months studied.

However, the actual amount of total patrol time devoted to directed activity averaged around 10%. The program was based on preparation of Crime Specific Memorandums (CSM) by the analysis unit. Four levels of directed patrol activity were used as shown in Exhibit 2-1. Patrol supervisors were required to prepare a Coordination Memorandum (CM) outlining patrol tactics, locations, times, and results for each CSM issued.

In 1979, 55 CSM reports were issued and the same number of directed patrol operations undertaken - an average of roughly one per week. During the first eight months of 1980, a total of 46 CSM reports were issued and directed patrol operations conducted - an average of roughly 1.5 per week. The majority of operations resulted in a termination of the specific crime pattern addressed. Less than 10% of all operations resulted in arrests for the target offense. The evaluator was unable to determine the level of patrol times devoted to "informal" directed activity based on crime analysis information. However, there was an increase of 36% in the volume of arrests by patrol over the baseline period and an overall increase of 14% in the number of Part I Crimes cleared by the department compared to the baseline.

A variety of other ICAP evaluation reports were also noted that

Exhibit 2-1

Directed Patrol Dedication Levels
Colorado Springs Police Department

Level	Definition	Availability for Dispatch
I.	initiated by watch commander a. officers are in undercover vehicles or non-conventional transport or on foot b. officers are in street clothes or disguise c. officers are in fixed or mobile surveillance where their absence represents a threat to community safety	assigned officers may be dispatched only when conditions exist that threaten death or grievous bodily harm if immediate response is not made
II.	initiated by watch commander or field supervisors a. officers are in unmarked police vehicles or have delayed access to transportation b. officers are in street clothes c. officers are assigned to fixed or mobile surveillance where their absence could result in a predictable loss of property and failure to apprehend a felony suspect	may be dispatched to any priority 1 calls for service: a. in progress serious crimes b. helping other officers c. crimes where lives are in jeopardy d. alarms, disturbances and injury accidents
III.	initiated by watch commander or field supervisors a. officer is assigned to fixed or mobile surveillance based on the probability of interdiction or deterrence of a criminal event b. officers assigned as a result of an administrative order based on "political considerations" c. officer is in unmarked vehicle or has limited access to transportation	may be dispatched in response to all priority 1 (see above) and priority 2 level calls: non-emergency, non-critical situations
IV.	initiated by officer a. during periods free from other assignments b. directed at interdicting or deterring criminal activity of some predictability	may be dispatched in response to priority 1 & 2 calls, may request 5 to 10 minute delay before responding to priority 3 & 4 calls (minor incidents or nuisances)

Source: Kristann Jones: Colorado Springs Integrated Criminal Apprehehension Program - Final Report: Year Two, Cost Benefit Associates, Colorado Springs, CO, 1980, p.56

contained analysis of directed patrol planning and/or limited implementation including studies by Arthur Young & Company [94]; Fennessy Associates [95]; Ernst & Ernst [96]; Memphis State University [97]; and, Old Dominion University [98]. A quite detailed paper was prepared by Schnelle and others (1980) on the Nashville ICAP directed patrol effort (that included a feature enabling patrol officers to propose specific directed activity efforts for themselves). [99]

During the planning for the MPO Field Test, a National Institute of Justice technical assistance contractor (Abt Associates) conducted on-site assessments of a number of departments that had implemented directed patrol programs [100]. Of particular interest was their comments on the Kansas City directed patrol program. The central figure in this effort was the patrol supervisor under a deliberate program to decentralize tactical decision-making to the most appropriate level. This project emphasized a "participatory management" approach and the directed patrol plan was developed by a task force selected from all ranks. The program was implemented initially in one district. A key finding of this review was that "free" patrol time varied by day and hour and was not available in large blocks. In order to increase free patrol time it became necessary to employ differential CFS response and prioritization strategies. It also became necessary to de-emphasize beats and to adopt a "sector" strategy so that on a given day a sergeant might assign three units strictly to calls for service work and his two remaining patrol units to directed patrol.

This program established a need to allow sector sergeants the flexibility to decide how best to use their resources for both CFS response to calls and directed activity. A coordinated approach was developed between the central crime analysis unit and division level crime analysts to provide a continual flow of pattern and trend information on target crimes to patrol supervisors. Three types of directed patrol strategies were employed: community education (i.e.,dissemination of crime analysis flyers to residents in target areas, crime prevention meetings and displays, formation of block watches, property marking, and security surveys); tactical deployment (decoys, "safe walkways" that involved heavy patrol of specific areas, use of tactical alarms, and monitoring of garage sales); and, enhanced case processing aimed at improving patrol investigations (including use of solvability factors, concealed cameras, identi-kits, and description aids).

Preliminary assessment of this program showed that between 20-25% of patrol time was used for directed activity. Some decreases in target crimes were noted. Increased apprehensions by detectives resulted from the higher quality of preliminary patrol investigations. Problems noted were community apathy to directed activity education efforts, a strong need for training of patrol sergeants

in this approach, the very minor benefits of prevention activity, a need for timely crime analysis information, and a need for built -in monitoring and feedback on the program.

An apprehension-oriented directed patrol model is currently being tested in the Third Precinct of the Minneapolis Police Department with external grant support. The program is being evaluated by a firm that is planning a replication of the KCPPE under contract to the National Institute of Justice. Three levels of directed patrol activity are being tested within the district: precinct directed patrol (assignment of marked vehicles freed from dispatch responsibilities to conduct high-visibility patrol at various times of the day in high crime areas); sector directed patrol (marked units available for dispatch spend uncommitted time in areas identified by crime analysis); and, precinct directed surveillance (patrol officers work in plainclothes and unmarked vehicles for surveillance of target areas). A precinct crime analyst provides day-to-day crime trend and pattern information to supervisory personnel in support of the program. Actual numbers of officers assigned to these activities vary as a function of manpower availability and current workload. A very preliminary internal report shows that, over an 8-month period, roughly 700-800 hours per month were used for directed activity. An average of 19 felony and 22 misdemeanor arrests per month were recorded during this period by officers on directed patrol. [101]

An article on the experiences of the Charlotte, North Carolina, Police Department (one of the three MPO Field Test sites) with directed patrol provides additional insight on what happened after the field test ended [102]. Several of the findings in this review are quite significant. First, the department established an expeditor or telephone report Unit under the MPO grant as part of its efforts to improve management of service demand. During the first ten months of operation the unit provided some form of service to over 46,000 callers. The authors of this article estimate that this unit's efforts resulted in a reduction of over 7,500 dispatches that would have been made prior to its existance. Further, by adopting an improved call prioritization system under MPO, the CPD decreased the number of emergency dispatches by roughly 3%. They also adopted a 50-minute delayed response system for certain types of routine calls that accounted for 53% of total CFS workload. As a result of these measures, as well as improved patrol force allocation, the CPD was able to devote 17.4% of total patrol time to directed activities (their original goal was to use 25% of patrol time for this purpose). Over a six-month period, Charlotte police officers spent 55,104 man-hours on directed activity - the equivalent of having 12.6 officers assigned to directed activity every hour of the day. However, only 12,240 hours of such activity were devoted to implementation of formal directed patrol tactical plans based on specific crime problems identified by the Crime Analysis

Unit.

Outcome information was available on 23 directed patrol tactical plans implemented during a six-month period in 1980. In 16 of the 23 cases, there were substantial decreases in reported offenses in the target areas. Reported offenses remained constant in two of the operations and actually increased in 5 target areas, despite substantial levels of directed activity. A total of 36 arrests and 24 case clearances were directly attributable to directed patrol and another 9 arrests and 43 case clearances were indirectly related. The authors conclude that the CPD directed patrol program has more often resulted in a displacement or dispersement of crime than it has in arrests. They caution that the program has not been in operation a long-enough time to render a conclusive judgement on its effectiveness, but that it has definitely resulted in more informed and better management of CPD patrol resources. Note also that less than 30% of the directed activities reported were based strictly on crime analysis. The other 70% of the directed activity time was used for a variety of crime prevention, special details, order maintenance, and traffic control and enforcement purposes.

Other reports identified and reviewed dealing with the concept of directed patrol include two articles appearing in the IACP's influential monthly publication The Police Chief. These articles dealt with an evaluation of a small directed patrol effort in the Martinez, California, Police Department [103] and with a summary description of the Montpelier, Vermont, directed patrol program [104]. Charlotte and Sacramento also produced final reports that addressed directed patrol under the MPO program. [105]. Further, the International City Management Association reported on the experiences of an Iowa community of 14,000 persons in replicating the New Haven Directed Deterrent Patrol Program [106]. Finally, the evaluation contractor for the California Police Career Criminal Apprehension Program - a state funded replication of the LEAA ICAP design in 8 police agencies submitted a report on the first-year results and problems of these sites in designing directed patrol programs [107].

This review of the directed patrol literature was aimed at determining the extent to which the program concept had been subject to rigorous scientific evaluation as well as to assist in defining the logic and assumptions that guided the development of such programs. The basic conclusion that can be drawn from this review is that, despite the existence of some, quite persuasive, studies that found that directed patrol increases patrol arrest output as well as provides for more objective-oriented uses of the patrol force, there is, as yet, little scientifically-valid evidence that directed patrol is any more effective in terms of accomplishing basic police objectives than was, or is, the traditional random preventive patrol model. This conclusion simply means that only

a very limited number of of unreplicated studies of rather unique directed patrol efforts have been conducted up to this point, and while generally positive, they do not provide definitive answers to the question of program effectiveness.

It would also appear that most programs reported in the literature have attempted to undertake two-tiered directed activity programs: a general program for all patrol officers who continue to have responsibility for call for service response but undertake some directed patrol during uncommitted time; and, "specialized" or split force units that can undertake operations that require longer time committments or unique tactics. Considerable evidence is available to support the utility of the latter approach (at least in terms of arrest productivity and crime displacement or diversion to other crime types) than there is, with several notable exceptions, regarding the more complex patrol-wide directed activity programs.

The section that follows discusses the lessons learned from prior efforts, clarifies some definitional issues, presents an initial evaluation framework for directed patrol assessment, and identifies numerous policy and operational questions that still need to be answered.

SUMMARY OF DIRECTED PATROL OPERATIONAL AND EVALUATION ISSUES

The continuing use of the term "preventive patrol time" necessitates a more precise definition. Some of the studies noted have defined preventive patrol time as the residual time remaining after accounting for time devoted to dispatch work, officer-initiated activity, and administrative tasks. Using this common definition, estimates of the amount of preventive patrol time have ranged as high as 60% of total patrol time.

Chaiken, among others, cautions that it is important to make a distinction between "uncommitted" and "preventive patrol" time because an officer's uncommitted time can always be interupted by a dispatch assignment [107]. As part of the Kansas City Preventive Patrol Experiment, observers found that 60% of the time of patrol officers was "uncommitted". However, they also found that this uncommitted time could be classified in four ways: mobile police-related; nonpolice-related; stationary and contact personnel; and, residual (which included a variety of administrative tasks such as vehicle maintenance, court-time, etc.). Cordner (1978) reports on an observer-based study of the use of uncommitted time in a mid-western police agency. [108] He found that 55% of patrol time was "uncommitted" in this city. Of that 55%, only about 39% was spent

on various types of patrolling. A total of 21% of total patrol time was spent taking "breaks". Another finding was that there was considerable variation in the use of such uncommitted time by time of the day (i.e., most actual patrolling during day watches, most self-initiated activity on swings, and more "breaks" on the night shift). He also found that attempting to characterize police work into such categories as crime-related and non-crime related was quite difficult since much of the patrol activity had an ambiguous quality. Only 13% of patrol time in this study could clearly be defined as crime-related. Similar patrol "time" studies are summarized by Whitaker, et al (1980).

These findings have significant implications for directed patrol programs since the operational objective of such programs is the replacement of a portion of "uncommitted" preventive patrol time with pre-planned directed activity. And, as Chaiken points out, there is no way to reduce uncommitted time without affecting other characteristics of the patrol system such as response time to service calls. [109].

A second related issue, when considering the implementation of a directed activity program by the entire patrol force, is also related to the CFS response function. This issue is that, as Cawley and Miron state, noncommitted patrol time is difficult to "collect" [for directed patrol purposes] because it "batches", frequently when least needed; and, it does not occur in intervals of sufficient duration. [110] These authors feel that the aggregate total of uncommitted patrol time must be considered as <u>total agency</u> time that should be productively used to achieve the defined missions of the agency. With this perspective in mind, they stress that management decisions are required in using uncommitted patrol time to enhance the role and functions of the patrol officer on routine patrol or to create specialized patrol (i.e., split force) to address short-term specific goals.

Further, a truly complex evaluation problem is in measuring the impact of new flows of crime-related information to a patrol officer as the result of the creation of a crime analysis unit. The following example may illustrate this point. With the advent of a crime analysis unit, an officer receives specific information on a suspect vehicle and suspect descriptions thought to be involved in a series of residential burglaries. He is then assigned to a directed patrol activity in the area where the crime analyst thinks that the burglars will operate. He completes the assignment with no results. Two hours later after answering a dispatch in another area of his beat, he spots the suspect vehicle and decides to stop it for an obvious traffic violation. In the course of doing so, he finds drugs in the car and makes an arrest of the occupant on that charge. The pattern of burglaries ends immediately after this arrest. How does one measure this sequence of events or even determine their relationship to the original crime

pattern? Clearly, access to new crime-related information has had an effect here, but should it be classified as enhancing officer-productivity, special deterrence, general deterrence, incapacitation, or all of these effects?

Third, one of the great difficulties encountered in this study was in simply defining the term "directed patrol". This difficulty rests more with how it is to accomplished than with what is supposed to do. For example, the definition provided in the MPO training programs of directed patrol was stated as follows:

> Directed Patrol means that the activities that are to be performed by patrol units during blocks of noncommitted time are: (1) activities that are initiated and/or approved by patrol managers and, (2) are activities directed at accomplishing either a specific and defined short-term objective or are activities directly contributing to the accomplishment of approved long-term mission objectives.[111]

This is a fairly general definition, but it stresses the following important points: directed patrol is performed during periods of uncommitted time by patrol units; these activities require some form of <u>prior</u> management approval; and, such activities can be seen as accomplishing either short or long-term agency objectives.

A search of the published professional literature disclosed a wide range of desired directed patrol outcome objectives (with regard to impacting external problems) as well as internal process objectives (improved management of patrol resources). Exhibit 2-2 illustrates the scope of such objectives.

A distinction can and should be made between the terms directed patrol and directed activity. While there is no particular consistency of usage of these terms in the literature, our understanding of the terms is as follows: directed **patrol** refers to the tactical deployment of patrol personnel, on the basis of analysis of hard data, to perform pre-planned activities designed to address specific crime, traffic, or community service problems in specific geographically defined areas; directed **activity** refers to the use of uncommitted patrol time to perform pre-planned activities that seek to accomplish broader, more general, and difficult to measure agency objectives (i.e., community relations, neighborhood watch, etc.). However, it should be noted, that directed patrol in its earliest usage was intended to refer specifically to a pre-planned, analysis-based, patrol activity program that had crime control (particularly on-scene apprehension) as its primary goal. Over time the concept was broadened to include all planned patrol activities that were designed to accomplish agency and patrol aims relating to traffic and service, as well as crime control.

EXHIBIT 2-2

Program and Process Objectives Noted In The Literature

Program Level Objectives

.....

1. Develop a program to enable patrol officers to perform pre-planned crime, traffic control, or community service activities during periods when they are not engaged in dispatch or related work.

2. Assure that pre-planned directed patrol activities are based on valid and timely crime analysis data and information.

3. Develop procedures to assure that at least 25% of the available time of patrol officers is devoted to the performance of pre-planned directed activities.

4. Increase the ability of patrol management to control the activities of the patrol force to assure that such activities are directed towards the attainment of the short and long range aims and objectives of the department.

5. Test the efficiency and effectiveness of various patrol tactical options through a pre-planned directed patrol program that is developed in response to specific problems identified through an analysis process.

6. Replace random patrol with field service activities directed to the solution or amelioration of specific crime, traffic, and community service problems.

7. Increase the rationality and effectiveness of patrol decision-making processes through the development and use of quantitative data and analysis techniques to support both short and long term tactical and strategic deployment of patrol resources.

8. Increase patrol officer productivity through the initiation of a directed patrol program that deploys officers to those times and places where their chance of taking effective action against identified problems is the greatest.

9. Increase the ability of patrol management to define patrol performance objectives and to achieve such objectives by enhancing their ability to manage their resources in light of such objectives.

.....

EXHIBIT 2-2 (Continued)

Program Level Directed Patrol Objectives

.....

10. Convert the patrol operation from a "reactive" to a "pro-active" operation through the development of a directed patrol program.

.....

Process Level Directed Patrol Objectives

.....

1. Develop a stronger sense of commitment on the part of patrol officers to the solution and or control of crime, traffic, or community service problems existing on their beats.

2. Increase officer job satisfaction by providing for their input to the planning and development of the tactical directed activities that they perform.

3. Provide for a stronger degree of accountability of first-line supervisors for the particular crime, traffic, and community problems in their areas of geographic responsibility.

4. Increase the ability of first-line supervisors and patrol managers to monitor and supervise the activities of officers under their command through introduction of a directed patrol program.

5. Increase the technical and conceptual skills of patrol personnel in developing effective strategies and tactics for dealing with crime and related police problems.

6. Develop and maintain continuing feedback and monitoring systems that provide patrol managers with decision-oriented information on the effectiveness and efficiency of the various strategic and tactical options at their disposal.

7. Break the cycle of rigidity and traditionalism that characterize the typical patrol operation by introducing an effective, change-oriented, posture of pro-active directed patrol that is tailored for dealing with continually changing problems.

8. Enhance the quality and quantity of information flow related to crime and criminals within the police department as the result of a linked crime analysis/directed patrol program.

.....

Basically, a directed patrol and directed activity program can best be viewed as the end product of a rational and integrated patrol management plan for service delivery. Such a plan stresses the development of strategic and tactical patrol objectives, responsive allocation policies, prioritization of effort, analysis-based decision systems, coordination and direction, decentralization of day-to-day tactical decisions to the most appropriate level of the police organization, and continuing monitoring and evaluation of performance. In short, rather than conceptualizing directed patrol as a discrete program with fixed components, it is best viewed as a flexible problem solving methodology that is tailored to "real world" situations. As such, both the implementation and evaluation of directed patrol mandates the consideration of all of the components of the patrol management system because of the interdependencies of these components. For example, if the allocation of patrol officers to shifts is equal and the demand for service varies, it is exceptionally difficult to free-up sufficient patrol time for directed activity.

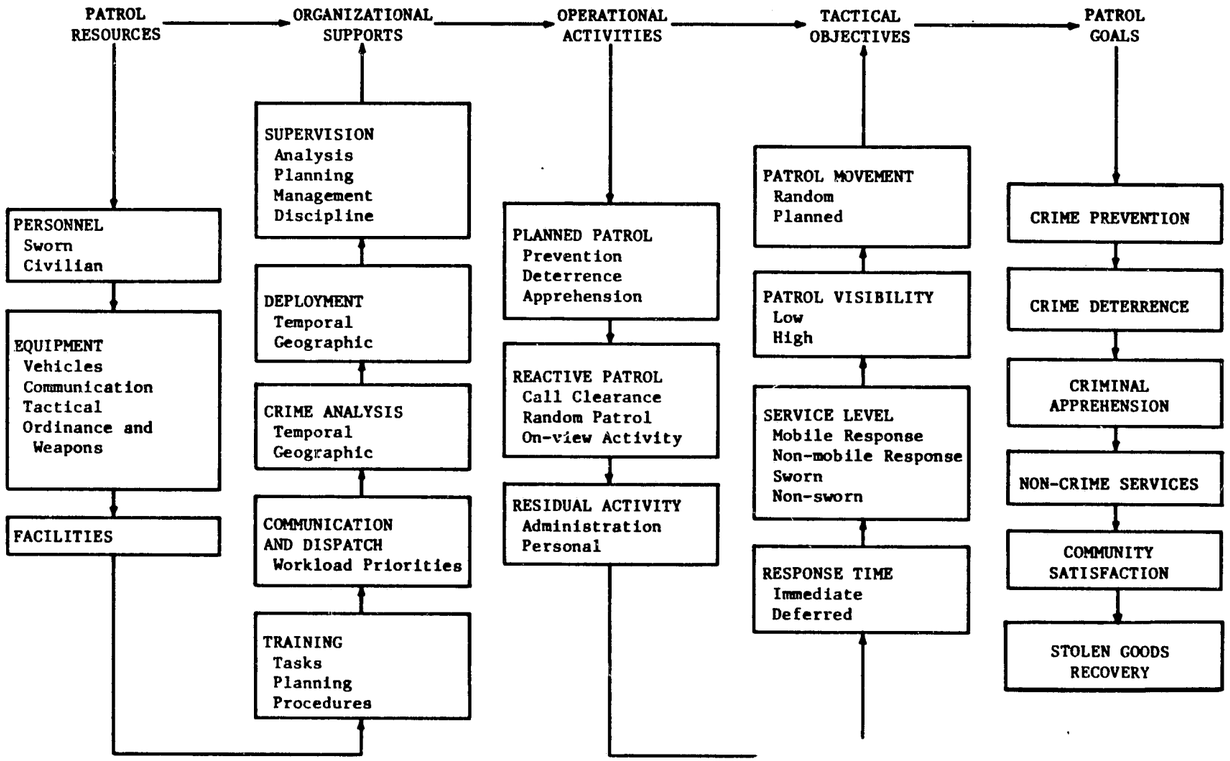
Similarly, in the absence of productive and effective crime analysis support of patrol operations, it is virtually impossible to define problems and plan and monitor directed activity assignments in any meaningful way. Exhibit 2-3 provides a useful overview of the central elements of a patrol management "system" which was developed by Gay and others. [112]

With this conceptualization of directed patrol in mind, it is necessary to have an analytic framework for evaluation that accounts for the operational programs that influence its actual implementation in practice. McEwen (1982) developed this type of evaluation model during the Managing Patrol Operations (MPO) Program Field Test and it has equal applicability here.[113] Note that this model concerns itself primarily with the extent to which the central elements of a patrol management system are in place and how such elements shape the potential and actual performance of directed patrol activity. Without such a framework, it would not be possible to determine how well or how poorly an agency had engaged in directed patrol. At the same time, it should be noted that this model concerns itself primarily with implementation and operations and not with the measurement of directed patrol impact on target problems. Impact evaluation is a far more complex issue and will be discussed later in this report.

The evaluation framework developed during the MPO Field Test envisions a six-component patrol management process and is shown in Figure 2-1. Each component of this model is then described briefly, together with examples of its interdependency and relationship to other components. The order of presentation is important since the findings from the MPO Field Test Evaluation indicate that the **sequence** of component implementation is critical.

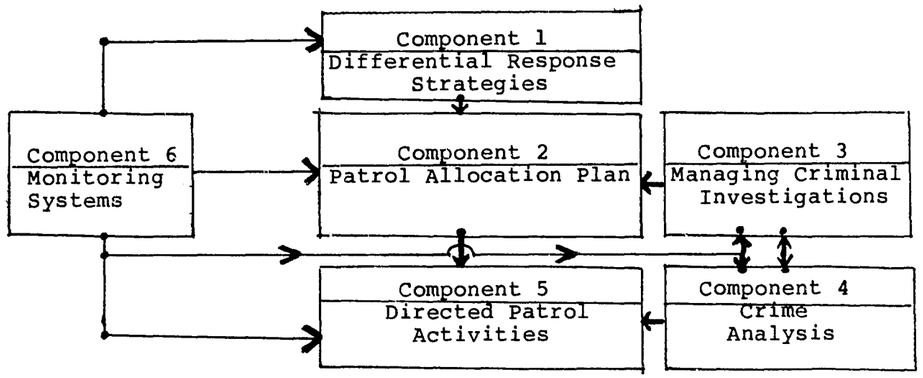
EXHIBIT 2-3

Model of the Patrol Sub-System



Source: William Gay, et al: Improving Patrol Productivity: Routine Patrol (Volume I) Prescriptive Package, National Institute of Law Enforcement and Criminal Justice, Washington, D.C., July 1977, p.148.

Figure 2-1
Evaluation Framework For Assessing Directed Patrol



Compenent 1: Differential Response Strategies

This component is concerned with the extent to which the agency has consciously developed a system to manage the demand for police service. Elements to be considered include call screening and call prioritization policies as well as the range of alternative responses used for a call for service (i.e., immediate mobile response or delayed response, non-mobile responses such as taking certain types of calls or reports by phone, referrals, denial of service, walk-ins, and mail-in reports). The use of non-sworn personnel to handle certain types of calls is also of interest. The importance of this component is that these strategies can have a significant impact on the volume of calls assigned to field units and on the geographic distribution of such calls. This component is also of importance in developing a patrol allocation and deployment plan.

Component 2: Patrol Allocation Plan

This component is concerned with the spatial and temporal allocation and distribution of officers and units in terms of demand for service and workload. The patrol allocation plan concerns itself with the best allocation of available patrol resources to achieve department objectives with respect to such factors as: minimizing response time to emergency calls for service; equalizing workload among units, or having units busy on dispatch work for no more than a predetermined amount of time, among other things. The impact on the level of directed activity is, of course, closely related to the time available for such activity and the efficiency

of the patrol allocation plan is a key determinant of the time available.

Component 3: Managing Criminal Investigations

The role of the patrol officer in the preliminary investigation of crimes must be viewed in terms of the agency's overall program for managing criminal investigations. The MCI programs have determined that the extent and quality of preliminary investigations by the patrol officer is a key factor in apprehension, case screening by solvability factors for determining follow-up investigations, and the most appropriate allocation of patrol and investigative manpower resources. An expanded role in preliminary investigations has the potential of increasing the amount of patrol time devoted to this activity and that, in turn, has an impact on meeting the objectives of the patrol allocation plan. Allocation plans can then make allowance for the greater average service times on calls requiring higher levels of patrol investigative activity. Again, the investigative role of the patrol officer has a direct bearing on the time available for directed activity and, as in the MPO Test, one site viewed an enhanced preliminary investigation by patrol officers as an actual directed activity assignment.

Component 4: Crime Analysis Support of Patrol Operations

The nature of crime analysis services, the timeliness of such services, and, the quality of such services are crucial to the successful implementation of a directed activity program. Crime analysis support of patrol operations can vary greatly, as has been found in evaluations of ICAP and MPO sites. The nature and quality of the crime analysis data base, the capabilities of crime analysis staff, the placement of the unit, the types of products produced, dissemination mechanisms, and the like all require careful consideration both for directed patrol implementation and evaluation. Specific attention must be paid to productivity of such units with respect to the frequency and validity of crime analysis targetting information, choice of directed activity tactics, and the evaluation of the effects of such assignments on the identified problems.

Component 5: Directed Patrol Activities

A central assumption of the patrol management system described here is that the use of uncommitted time for directed patrol is a better use of such time than traditional random patrol. As this literature review has shown, there was a wide variance in the

types of directed patrol programs. These programs included everything from a dispatch-directed, crime control oriented, effort (that allowed very little input from individual patrol officers) - as in the orignial New Haven "D-Run" approach - to the broadly conceived San Diego Community Profile approach, where the role of the patrol officer in defining problem-oriented activities for free patrol time was paramount. In short, the degree of emphasis placed on the diversion of patrol personnel to either "split force" or "specialized" patrol units or to the patrol-wide use of directed activities require different types of evaluation methods. Further, the evaluation of short-term crime specific directed patrol is a quite different matter than the assessment of directed activities designed to achieve more long-term police objectives. Key evaluation problems involve the determination of actual "uncommitted" time, measurement of the amount and quality of the use of such time for directed activity, specification of directed activity targets and results, among many others. One example of a problem encountered in this evaluation should be mentioned. This deals with the assessment in changes in the target crime clearance rates of an agency due to directed patrol. Specifically, the in-progress apprehension of a burglar by an officer on a directed patrol assignment may be recorded as one burglary arrest and one burglary clearance. However, say that this individual then admits to 50 other burglaries, only 2 of which occurred in the directed patrol agency jurisdiction and the rest in one or more other jurisdictions. This fact will not impact the test site jurisdiction's clearance rate for burglary offenses reported except for the 3 that occurred in the jurisdiction. The remaining 47 offenses will simply not be counted in the evaluation.

Component 6: Monitoring Systems

The patrol management system described here places major emphasis on an analysis-based and structured decision-making process. This approach is dependent on the development of data systems capable of providing managers with feedback on the performance of all patrol system compenents. This feedback information is required to continually monitor the degree of achievement of objectives and to enable patrol managers to adjust and or modify the components as needed. This monitoring process is a vital component of the patrol management system and, again, is viewed as a key determinant of directed patrol management, operations, and evaluation. By way of illustration, if patrol units are deployed to control a series or pattern of crimes over a four-week period, and detectives arrest the persons responsible during the second week of this directed patrol assignment, without informing patrol (as can easily happen in a large agency), subsequent effort on this directed patrol effort will be wasted. A monitoring system is needed to prevent

this from happening and the existance of such systems is a key evaluation factor.

In summary, the six-component patrol management system model described above shows the internal police elements of a fully-developed directed patrol program as well as provides an analytic framework and rationale for evaluating the operational performance of this type of program. As noted earlier, evaluation of the full impact of directed patrol is far more complex and will be the topic of discussion in later parts of this report. Exhibit 2-3 was developed by a member of the project staff during the the Managing Patrol Operations (MPO) Program Field Test to illustrate the nature and complexity of the issues that require consideration in the evaluation of MPO and directed patrol programs.

This review of the literature has raised a variety of issues and questions that require consideration in any evaluation of a police directed patrol program. An initial listing of such issues and questions is contained in Exhibit 2-4. As will be seen later in this evaluation report, we were able to address some but not all of these questions and issues.

Chapter III that follows presents the results of a national survey of police agencies conducted under this evaluation survey that was designed to provide a quantitative overview of patrol operations generally and a specific analysis of the scope, nature, and extent of directed patrol implementation. A more detailed and qualitative survey and analysis of directed patrol programs, policies, and procedures of selected jurisdictions is also presented in Chapter IV that provides the sort of operational information that will be interest to police managers and planners.

MPO CONCEPTUAL FRAMEWORK FOR EVALUATION

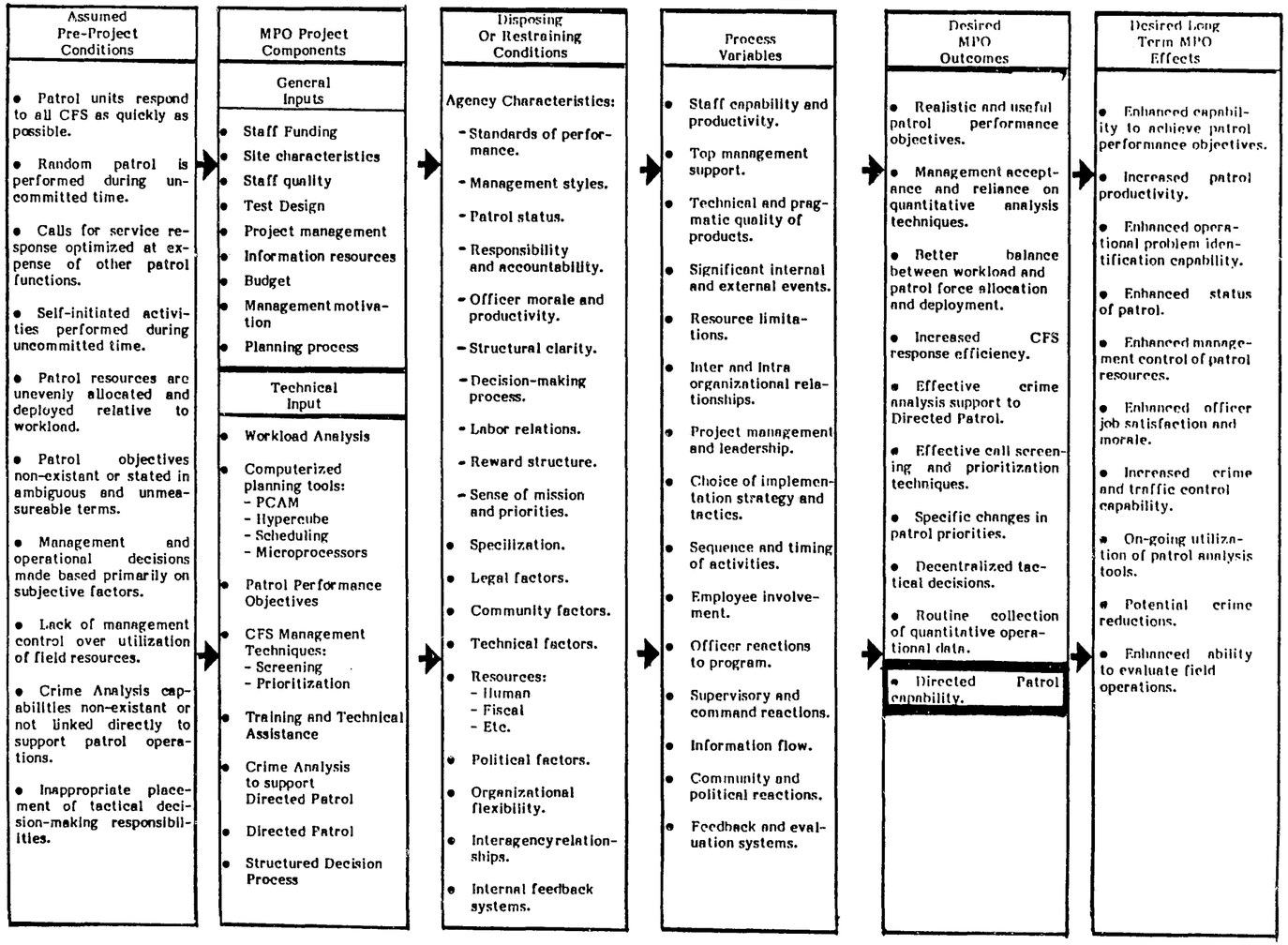


Exhibit 2-3

EXHIBIT 2-4

EVALUATION ISSUES AND QUESTIONS

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1. How much time can or should be devoted to directed activity by regular patrol units? Some reports indicate that as much as 25% of total patrol time should be used for directed patrol activity.

2. Can a crime analysis unit identify a sufficient number of "workable" patterns/series to support an around the clock program of directed activity?

3. How valid are the predictions of a crime analysis unit as to the future location and times of target offenses?

4. What is the level and types of training needed for all ranks in a patrol division to assist in the successful implementation of a directed patrol program?

5. How can patrol managers and supervisors evaluate directed patrol programs in an on-going operational environment and what level of staff effort and resources is needed to perform this monitoring and evaluation function?

6. What changes in organization structure, roles, and responsibilities result (both intended and unintended) from the development and implementation of a directed patrol program?

7. Can police agencies free-up sufficient blocks of line patrol officer time to undertake directed activity at those times and places that the crime analysis unit indicates a need for such activity?

8. Should police agencies create specialized directed patrol or split force units in addition to implementing basic unit directed patrol programs? What types of crime patterns should be worked by the specialized units? By the basic units?

9. What directed patrol tactics are most productive against different types of problems?

10. What are the effects of a directed patrol effort on patrol apprehension and productivity? What impact does such a program have on police-community relations?

11. Does the introduction of a directed patrol program exert a deleterious impact on patrol response times?

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CHAPTER THREE

NATIONAL SURVEY RESULTS

CHAPTER 3

NATIONAL SURVEY OF POLICE DIRECTED PATROL PROGRAMS

Introduction

This chapter presents quantitative data on the results of several surveys of police agencies throughout the United States on the use of directed patrol. The purpose of these surveys was to provide a national perspective on the extent of directed patrol implementation, the types of directed patrol programs, and the perceived benefits and problems of such programs.

While directed patrol has been the subject of numerous reports and studies, little or no detailed information was available on the response of the police community as a whole to this alternative to the traditional police preventive patrol model. Our review of the literature disclosed only one, rather limited prior survey on this issue. Thus, it appeared important for comparative evaluation purposes to develop both quantitative and qualitative data on the nature and scope of directed patrol efforts around the country. This type of information establishes a framework that enables one to judge the importance of the concept of directed patrol from a user's viewpoint. The results of these surveys also provide considerable policy and operational insights that will be of benefit in understanding the more intensive evaluation of the two directed patrol programs presented later in this report.

A secondary goal of the surveys described below relates to the policy orientation of this evaluation project. More accurately, this project was designed to provide results that are useful, not only for the design of future evaluation studies of directed patrol effectiveness, but that are also of practical and current benefit to the police community. Many of the respondents to these surveys clearly indicated that they were deeply interested in obtaining detailed information on the experiences of other police agencies with directed patrol that they could use to assist them in the design, planning, and management of their own directed patrol programs.

Two types of surveys were undertaken during the course of this project. The first was a mailing to all municipal/county police agencies (and selected Sheriff's departments) serving populations over 100,000 as well as to a judgement sample of smaller jurisdictions. The second survey was a mailing to all cities that were awarded grants under the (late) U.S. Law Enforcement Assistance Administration's Integrated Criminal Apprehension

Program (ICAP) or the Police Career Criminal Apprehension Program of the State of California (P-CCAP) - since both programs stress crime analysis and directed patrol. This chapter sets forth quantitative survey results. Operational issues are reviewed in Chapter 4.

Survey Design And Administration

The first survey (referred to hereafter as the "national" survey) was conducted in cooperation with the Oxnard Police Department. After a literature review that was designed to identify key issues related to directed patrol concepts, the evaluation staff developed a rather lengthy and complex survey instrument. This instrument was pre-tested and reviewed by personnel from both the Oxnard and Sacramento police departments as well as several external consultants. This review indicated that the survey form needed to be revised and shortened so that a responding agency could complete it in as brief a time as possible. Reviewers in both agencies, based on their own very extensive experience in filling out such forms, stated that the brevity and ease of completion of such forms were the prime factors in determining whether or not they would take the time to respond. Based on this guidance, as well as specific ideas, comments, and suggestions, a revised, and much less involved, survey form was developed and satisfactorily pre-tested.

Chief Robert Owens of the Oxnard Police Department agreed to sponsor the survey out of his department and mail it out under the OPD letterhead. Evaluation staff subsequently printed the survey forms and handled all details of the mailing. A mailing list, that was intended to contain the name and address of police chiefs in all cities with populations over 100,000 persons was obtained via the courtesy of Hallcrest Systems, Inc. of McLean, Virginia. This firm had developed and used the same list for a 1981 survey relating to the interaction of police and private security. Hallcrest also provided us with a listing of Sheriffs' jurisdictions serving 100,000 or more persons. Survey packages (containing the survey form, a cover letter signed by Chief Owens, and postage-paid and addressed return envelopes) were then mailed to the 167 police executives in cities over 100,000 (according to the 1980 Census). An additional mailing was sent to a sample of 30 Sheriffs (selected on the basis of size of the jurisdiction, law enforcement responsibilities - they had to provide full police services including patrol, and reputation as an innovative agency) and 40 municipal police agencies serving less than 100,000 persons. These smaller police agencies were selected for a variety of reasons ranging from published reports indicating a directed patrol program, innovative reputation, or simply to get coverage in a state where there were no cities over 100,000, such as South Dakota.

In all, a total of 237 survey forms were mailed in January 1982. Survey forms (a copy of which is contained in the Appendix to this report) and respondents were requested to return the forms to the Oxnard Police Department prior to March 1, 1982.

At the conclusion of this period, the OPD turned over a total of 153 completed survey forms to the evaluation staff for analysis Thus, a very gratifying response rate of approximately 62 % was achieved (153 out of 237) in this nationwide survey.

These survey forms were then coded and keypunched and processed using the various cross-tabulation and statistical features of the Statistical Package for the Social Sciences (SPSS).

The second survey was conducted in September 1981 and was simply a 2-page letter to the project directors of the 48 ICAP/PCCAP programs requesting information on their crime analysis and directed patrol programs (including copies of any policies, procedures, quantitative data and/or evaluation reports, and training outlines). While only 19 responses were received to this survey (a return rate of roughly 40%), many of these responses were quite detailed and much pertinent material was received. There was some overlap on these surveys, since many of the ICAP/PCCAP cities had populations in excess of 100,000 persons and responded to the national survey as well. With regard to determining the extent and type of directed patrol programs in place, it was deemed useful in several instances to combine the results of the two surveys (relating to particular issues) into an aggregate data set. A considerable number of follow-up telephone calls were also made to survey respondents to clarify certain answers. In the section that follows, the results of the national survey (supplemented in part by the ICAP and PCCAP and other related data) are set forth.

National Survey Results

Exhibit 3-1 provides a regional and state by state listing of the number of agencies responding to the national survey. A second column in this Exhibit lists a number of agencies that did not respond to the national survey but from whom we obtained information on whether or not they were engaged in a directed patrol program.

Responses were received from agencies located in 42 of the 50 states and from the District of Columbia. No responses were received from agencies in eight states: New Hampshire, Rhode Island, North Dakota, Mississippi, Wyoming, Montana, South Carolina, and West Virginia. The aggregate population of these

EXHIBIT 3-1

FREQUENCY COUNT OF AGENCIES PROVIDING INFORMATION ON DIRECTED PATROL BY REGION AND STATE

Region and State	National Survey	Other Source	Total
Connecticut	2	1	3
Maine	0	1	1
Massachussetts	2	0	2
New Hampshire	0	0	0
Rhode Island	0	0	0
Vermont	1	0	1
Sub-Total:New England	5	2	7
New Jersey	2	0	2
New York	4	0	4
Pennsylvania	2	0	2
Sub-Total: Mid-Atlantic	8	0	8
Delaware	0	1	1
District of Columbia	1	0	1
Maryland	3	0	3
Virginia	10	0	10
North Carolina	3	0	3
South Carolina	0	0	0
West Virginia	0	0	0
Georgia	5	0	5
Florida	9	1	10
Sub-Total: South Atlantic	31	2	33
Alabama	4	0	4
Kentucky	1	1	2
Mississippi	0	0	0
Tennessee	2	0	2
Sub-Total: East-South Central	7	1	8
Arkansas	0	1	1
Louisiana	2	0	2
Oklahoma	1	0	1
Texas	10	0	10
Sub-Total: West-South Central	13	1	14

Exhibit 3-1 (Continued)

Region and State	National Survey	Other Source	Total
Iowa	1	1	1
Kansas	4	1	5
Minnesota	1	0	1
Missouri	4	1	6
Nebraska	1	0	1
North Dakota	0	0	0
Sub-Total: West-North Central	10	3	14
Illinois	4	0	4
Indiana	2	0	2
Michigan	4	0	4
Ohio	6	0	6
Wisconsin	1	1	2
Sub-Total: East-North Central	17	1	18
Arizona	5	0	5
Colorado	6	0	6
Idaho	1	0	1
Montana	0	0	0
Nevada	2	0	2
New Mexico	1	0	1
Utah	1	0	1
Wyoming	0	0	0
Sub-Total: Mountain Region	16	0	16
Alaska	2	0	2
California	36	6	42
Hawaii	1	0	1
Oregon	5	0	5
Washington	2	0	2
Sub-Total: Pacific Region	46	6	52
Overall Totals	153	16	169
Percent	90.5%	9.5%	100.0%.

CONTINUED

1 OF 4

eight missing states is equal to less than 5% of the total population of the United States. Thus, at least one response was received from police agencies in states where 95% of the U.S. population resides. Thirty-eight of the 50 largest cities in the U.S. provided data for the survey.

The population served by responding agencies, in aggregate, was approximately 46 million people, or about 20% of the U.S. population in 1980. Table 3-1 shows the percentage distribution of national survey and total survey responses by region compared to the percentage distribution of population by region (according to the 1980 U.S. Census).

Table 3-1
Distribution of Responses By Region Compared To Population By Region

Region Name	% U.S. Population/Region	% Survey Responses	% of Total Responses
New England	5.4%	3.3%	4.1%
Mid-Atlantic	16.3%	5.2%	4.7%
South Atlantic	16.2%	20.3%	19.5%
East-South Central	6.6%	4.6%	4.7%
East-North Central	18.4%	11.1%	10.7%
West-South Central	10.5%	8.4%	8.3%
West-North Central	7.1%	6.5%	7.7%
Mountain	5.1%	10.5%	9.5%
Pacific	14.3%	30.1%	30.8%
Total	100.0%	100.0%	100.0%

As this table shows, the distribution of total responses is fairly close, relative to regional populations for New England, South-Atlantic, East-South Central, West-South Central, and for the West-North Central Regions. Total survey response, relative to population, is considerably lower for the Mid-Atlantic and the East-North Central Regions and disproportionately higher for the Pacific (due, we suspect, to the large number of responses from California police agencies that resulted from the fact that

the survey originated from an in-state (i.e. Oxnard) police department) and Mountain Regions.

Table 3-2

Distribution of National Survey and Total Survey Responses by Jurisdictional Population

Population of Jurisdiction	National Survey		Total Survey	
	Number	%	Number	%
Under 50,000	4	2.6%	8	4.7%
50,000-74,999	11	7.2%	13	7.7%
75,000-99,999	16	10.5%	18	10.7%
100,000-249,999	74	48.4%	78	46.2%
250,000-499,999	27	17.7%	30	17.8%
500,000-999,999	17	11.1%	18	10.7%
Over 1,000,000	4	2.6%	4	2.4%
Total	153	100.0%	169	100.0%

The distribution of responses by size of population served by the police agencies is shown in Table 3-2 for both national survey and total responses. In terms of size, roughly 80% of the agencies that provided data for this national survey of directed patrol served populations of 100,000 or more. The exceptional response and coverage of the survey is sufficient, we believe, to permit one to make some careful generalizations from this data, particularly with respect to urban police agencies with populations over 100,000. It should be noted that 20 of the 169 agencies have county-wide jurisdiction. Six of these 20 are "county police departments" with appointed rather than elected chief executives and the remaining 14 agencies are Sheriff's Departments. All but 2 of these 20 agencies are, for the most part, heavily urbanized jurisdictions (i.e., the Los Angeles County Sheriff's Department, Prince Georges County, Maryland, Police Department, etc.). A listing of agencies providing data for this survey is contained in the Appendix to this report.

The national survey form consisted of 26 questions (some with multiple parts). However, while many issues were covered in the survey, the key question - for the aims of this study - was the status of the responding agency with respect to directed patrol. The next section will array the response to this question.

Agency Status With Respect To Directed Patrol

Responding agencies were provided with the following definition of the term "directed patrol" in the Survey Form.

> **A directed patrol program is designed to replace some portion of the time traditionally devoted to "preventive" or "random" patrol (i.e., the time when patrol units are not busy with dispatches or related work) with pre-planned activities that direct patrol units to specific places at defined times to to engage in specific work on the basis of crime, traffic, or social problem analysis.**

After reading this definition, respondents were asked to read the following four statements and to check the the statement that most accurately describes their agency in terms of directed patrol:

> 1. Our patrol force is currently engaged in a formal, crime analysis-supported directed patrol program.
>
> 2. Our patrol force is engaged in directed patrol on a limited and primarily informal basis (i.e., we do it, but there are no specific written policies, we do not have a full-time crime analysis unit, no specific training has been provided, etc.)
>
> 3. We are not currently engaged in a directed patrol program but we plan to implement this type of program in the near future.
>
> 4. We are not currently engaged in a directed patrol program and have no plans to do so.

Table 3-3 displays the response of the 153 agencies responding to the national survey combined with information obtained from an additional 16 agencies by the evaluation staff broken down by size of jurisdiction.

Table 3-3
Agency Status With Respect to Directed Patrol

Size of the responding Jurisdiction	Formal Directed Patrol Program	Informal Directed Patrol Program	Not Now, But Plan to do so, near-term	No DP Program and no plan to do so now or later
Under 50,000	6	2	0	0
50,000-74,999	4	4	2	2
75,000-99,999	7	5	1	5
100,000-249,999	25	23	16	15
250,000-499,999	17	3	5	5
500,000-999,999	5	7	2	4
Over 1,000,000	1	2	1	0
Total	65	46	27	31
Percent of Total	38.5%	27.2%	16.0%	18.3%

Examination of this data shows that less than 20% of the agencies responding were not engaged in a directed patrol program and had no plans to do so. Close to 2/3 of the responding agencies were engaged in directed patrol on either a "formal" (38.4%) or "informal" (27.3%) basis. The remaining 16% of the police agencies responding were not engaged in directed patrol at the time of this survey (January 1982) but had plans to develop such a program in the near future. Of the 130 jurisdictions serving populations over 100,000 persons, approximately 37% had formal crime analysis-supported directed patrol programs in operation (48 out of 130). Another 27% of the agencies in this size range claimed that they were engaged in "informal" directed patrol. It would not be appropriate to generalize from the data from jurisdictions below 100,000 population because of the nature of the sample. Table 3-4 shows directed patrol status of responding agencies by region.

Table 3-4
Directed Patrol Status By Region

Region of U.S.	Formal D.P.	Informal D.P	Plan D.P	No D.P Plans	N	% Formal
New England	5	1	0	1	7	71%
Mid-Atlantic	3	2	1	2	8	38%
South Atlantic	11	9	7	6	33	33%
East-South Central	4	1	1	2	8	50%
East-North Central	6	5	2	5	18	33%
West-South Central	6	4	3	1	14	43%
West-North Central	7	3	2	2	14	50%
Mountain	3	9	2	2	16	19%
Pacific	21	12	9	10	52	40%
Total	65	46	27	31	169	39%

Except for the New England data - which shows a high percentage (but a small number of respondents) of agencies reporting formal directed patrol programs (71%) - and the Mountain States - which reported a considerably lower percentage of formal directed patrol programs, the distribution of these programs appears to range between 33-50% for the rest of the nation. Based on this survey, about 1 in every 5 agencies appears to have little interest in directed patrol.

A probing question was addressed only to those agencies that stated that they were *not* engaged in either formal or informal directed patrol at the time of this survey. This question asked them to review a series of statements relating to that decision and to indicate which applied to them (as well as an open-ended statement that requested any "other" reasons for current status). A total of 61 valid responses were received from 47 of agencies (some listed more than one reason). These reasons were broken down into the categories that follow in Table 3-5.

Table 3-5

Reasons For No Directed Patrol Program

Reason For No Directed Patrol	Number	% of Total
A. Current patrol efforts are viewed as quite effective and efficient and we have no need for this type of program.	3	4.9%
B. CFS workload is to heavy for us to free-up time for D.P.	20	32.8%
C. We need more and better info and evidence on the costs and benefits of directed patrol before we would consider implementation	18	29.5%
D. Directed patrol, as we understand the program concept, is too costly to implement in the present fiscal climate	1	1.6%
E. Other reasons (i.e., we have team policing and it would not work here, "union" problems, patrol chief could care less, "organizational problems", no computer, etc.)	19	31.1%
Total Responses	61	100.0%

The responses cited for not implementing directed patrol by these agencies fell into three major categories, two of which were fairly distinct and one which was quite ill-defined. Roughly 33% of the total responses stated that CFS workload was too heavy to permit the agency to free-up sufficient time for directed patrol. A more detailed review of survey data provided by these agencies indicated three things: 1) most operated two-man cars, 2) few had call-screening or prioritization policies; and, 3) few had defined non-mobile response programs (i.e., telephone report units, etc.). It might be suggested that the CFS workload of at least some of these agencies was "too heavy" because they were not doing a very good job of managing service demand. A second, and more legitimate reason, is that many of these agencies felt that they needed more

and better cost-benefit information on the directed patrol concept before they would implement the program (about 30% of the agencies cited this as a reason). The third category (checked by 31% of the respondents) was "Other" and the written comments were quite diverse and most likely unique to that city.

In the section that follows, survey responses will be provided on the scope of crime analysis services, management of service demand, computerized data systems to support patrol planning, and other issues related to the management of the patrol function in agencies responding to this national survey.

This data is provided to provide some perspective on the degree of implementation of advanced police management practices that are viewed as essential to the development of effective police directed patrol programs.

Crime Analysis Support of Patrol Operations

Three questions on the survey dealt with the provision of crime analysis services. The first question asked if the responding agency had any employees assigned full-time to the analysis of crime patterns, trends, and offender activity. Response to this question is shown in Table 3-6.

Table 3-6
Crime Analysis Units

Question	Yes	Percent	No	Percent	Total
Does this Agency Have any employees assigned full-time to the crime analysis function	101	70%	43	30%	144

As this table shows, 70% of the agencies that responded to this question state that they have a Crime Analysis Unit (or, at any rate, full-time crime analysis capabilities). A more detailed breakdown of the number of crime analysis units by agency size, and percent of total responding agencies with such units is set forth in Table 3-7.

Table 3-7
Number of Crime Analysis Units By Population Served

Population of Jurisdiction	Number of Agencies Responding	Number of Crime Analysis Units	% w/Crime Analysis Units
Under 50,000	4	2	50.0%
50,000-74,999	8	4	50.0%
75,000-99,999	14	10	71.4%
100,000-249,999	70	41	58.6%
250,000-499,999	27	25	92.6%
500,000-999,999	17	15	88.2%
Over 1,000,000	4	4	100.0%
Total	144	101	70.1%

As one would expect, only 6 of the the 12 agencies serving populations under 75,000 persons indicated that they had full-time crime analysis capabilities (50%). However, given that there were virtually no police personnel assigned to this function in the early 1970's, the fact that 101 out of 144 police agencies report that they now have this capability indicates the rapid development of this speciality - one of the absolute prerequisites for the proper planning of directed patrol activities.

Among the 101 agencies reporting such units, 89 (88.1%) have sworn officers assigned to the performance of crime analysis duties. A total of 211 sworn police officers were performing crime analysis on a full-time basis in these 89 agencies. A total of 84 of the 101 agencies have full-time civilian personnel in their crime analysis units. Some have both sworn and civilian personnel or one or the other which accounts for the difference between the totals above and the total number of such units. The aggregate number of full-time civilian crime analysis employees was 286. In summary, close to 500 full-time crime analysis personnel (sworn and civilian) were at work in 101 police agencies as of January 1982.

The organizational placement of crime analysis units was also of interest. Usable survey responses were available on this point for

97 agencies and were as follows:

Patrol Division:	19	19.6%
Technical Services:	8	8.2%
Chief's Staff:	11	11.3%
Investigations:	12	12.4%
Administrative Serv.	37	38.1%
"Other":	10	10.3%
Total:	97	100.0%

Next, the survey respondents were requested to provide information on the types of products and services provided by their crime analysts. Four output choices were contained in the survey form and the response to this question was as follows:

Type of Activities Performed	Yes	No	Total	Percent
A. Prepares reports identifying crime patterns or series	94	7	102	92%
B. Provides statistical information on crime frequency, trends by time, type, and location	99	3	102	97%
C. Provides investigative leads to line units (i.e., suspects, suspect vehicles, modus operandi information, etc.)	88	10	98	90%
D. Provides a continuing flow of crime analysis information to support the daily tactical deployment of patrol units.	87	14	101	86%

Based on the response to the last item, it would appear quite clear that at least 87 of the 144 agencies responding to this question are engaging in some forms of day-to-day crime analysis supported directed patrol activity. This data indicates that the crime analysis operations of a majority of the responding agencies are geared to the support of field operations and are not simply "adninistrative" analysis units. The next section will review survey response to questions related to managing service demands due to their importance in freeing-up time for directed patrol operations.

Managing Service Demands

Three questions were asked on the survey that were directly related to managing service demand. The first of these questions was stated as follows: "Does this agency have a formal written policy for screening calls for police service (i.e., types of requests for police service for which the department will or will not dispatch a patrol unit)"? A total of 150 valid responses were made to this question. The breakdown of these responses was as follows: 104 agencies (69.3%) replied that they they did have a formal written policy for screening requests for police service and 46 (30.7%) stated that they did not have such a policy.

A similar question was asked with regard to the existance of a formal written policy on the prioritization of calls for service (i.e., certain types of emergency calls or conditions require the immediate dispatch of a police unit, other types must be dispatched within so many minutes, others can receive a delayed or appointment response, etc.). Out of 152 valid responses to this question, 108 agencies (71.1%) stated that they did have a formal written call prioritization policy, and 44 (28.9%) replied that they did not have such a policy.

The third question in this series dealt with telephone report (or "Tele-Serv) units and was stated as follows: "Does this agency have an Telephone Report Unit (i.e., a group or unit of police employees that takes certain types of citizen reports over the phone or provides appropriate referrals in order to reduce the need for dispatch of patrol units)"? Out of 151 valid responses to this question, 102 agencies (67.5%) replied that they did have this type of unit and 49 (32.4%) replied that they did not.

Later in this chapter, when more detailed information is presented on those agencies with formal directed patrol programs, additional survey data will be presented on specific changes made by these agencies in the course of developing such programs.

Computerization of Workload and Incident Data

Police agencies were asked to respond to the following question on the national survey: "Does this agency have a computerized information system that provides police managers with access to data on calls for service by time, type, and location; officer activity; reported crime by time, type, and location; and, traffic accidents by time, type, and location"? Replies to this question are shown in Table 3-8.

Table 3-8

Computerized Workload/Incident Data

Computer Access to:	Yes	%	No	%	Total
Calls for Service by Time, Type, Location	121	80%	30	20%	151
Officer Activities	96	64%	54	36%	150
Reported Crime By Time, Type, and Location	129	85%	23	15%	152
Traffic Accidents By Time, Type, and Location	117	78%	34	23%	151

With regard to computerization of police incident and workload data: 90% of the 51 agencies with populations above 250,000; 70% of the agencies with populations between 100,000 and 249,999; 56% of the 14 agencies with populations from 75,000-99,999; 75% of the agencies serving 50,000-74,999 persons; and, 100% of the four agencies with populations under 50,000 had access to computer systems capable of providing access to calls for service data.

With regard to the other vital planning information, virtually all of the jurisdictions with computer systems used them to process data on reported crime. Considerably fewer of the respondents with computer systems had access to data on officer activity and traffic accidents.

In summary, assuming that a directed patrol program is the operational result of a data-based analysis and structured decision process, this survey indicates that well over 2/3 of the responding police agencies had computer systems at least potentially capable of supplying most of the the necessary workload and incident data needed to support this program model. This is not to say that manual data systems could not also provide the needed information or to make a quality judgement on the adequacy of existing computer capabilities of the agencies surveyed.

Resource Allocation Related To Workload

As noted earlier, proper allocation and utilization of patrol resources in relation to workload is deemed to be one of the key ingredients necessary to capture sufficient patrol time for

directed patrol. One element of effective patrol resource utilization is the use of one-officer patrol cars. A survey question dealing with this issue was stated as follows: "Are the majority (over 50%) of patrol units on duty on a typical swing (4-12PM) shift in this agency 1 or 2 officer units"? The response to this question was as follows: 121 (79%) stated that the majority of their patrol units were one-officer units; 21 (14%) used a majority of two-officer cars; and, 11 (7%) did not answer the question. A breakdown of responses by jurisdictional size is provided below:

- Under 50,000 (4): 75% one-officer units.
- 50,000-74,999 (8): 100% one-officer units.
- 75,000-99,999 (12): 92% one-officer units.o 100,000-249,999 (64): 91% one-officer units.
- 250,000-499,999 (25): 72% one-officer units.
- 500,000-999,999 (17): 82% one-officer units.
- Over 1,000,000 (4): 75% one-officer units.

These answers show that police agency respondents, in all size ranges, use a majority of one-officer patrol units on their swing shifts and one can reasonably infer that this is their general policy for all other work shifts.

A second element of proper patrol management is proportional allocation of patrol officers relative to workload; which, due to officer safety and other considerations, can only be approximate. Several questions on the survey addressed this issue. The first was stated as follows: "Are an equal or nearly equal number of patrol personnel in this agency allocated to each major shift"? Valid responses were received from 147 agencies with 37 (25%) stating that an equal number of patrol personnel are allocated to each major watch. The remaining 110 (75%) of the respondents replied "no" to this question and were asked which of a series of descriptive statements shown in Table 3-9 best describes the allocation of patrol officers to shifts in their agencies:

Table 3-9
Allocation of Officers To Work Shifts

Allocation System	Number	%
A. More officers on the swing (4-12PM) shift than on the day or midnight shift	80	72.7%
B. More officers on the the day shift (8-4PM) than on the swing or midnight shift	3	2.7%
C. More officers on the midnight shift (12-8AM) than on the day or swing shift	4	3.6%
D. Other allocation system (i.e., set at the "team" level, staggered watches with continual periods of overlap, etc.	23	20.9%
Total	110	100.0%

The greatest number of equally staffed patrol watches were found in the larger cities, particularly in cities over 250,000 people. The next question asked about the type of schedule worked by patrol officers. This is an important question for the purposes of resource allocation because the 4-10 schedule (four ten-hour days, three days off) simply requires more officers to staff one position around the clock compared the more traditional 5-8 type of schedule (i.e., five 8-hour days on, two off). The number and distribution of valid replies to this survey question are shown below.

Type of Schedule	Number	Percent
4-10 Schedule	37	24.5%
5-8 Schedule	75	49.7%
Other (i.e, 6 on 5 off, etc.)	39	25.8%
Total	151	100%

The percentage of all sworn officers in an agency assigned to patrol duties is clearly another important factor in determining patrol workload and performance. Only responses from municipal agencies were used in this determination since response from Sheriff's agencies are misleading due to their responsibility for jail operations. Table 3-10 provides the response to this question based on jurisdictional size range.

Table 3-10
% of Sworn Officers Assigned To Patrol

Size of Jurisdiction	Percent Sworn in Patrol						
	<40%	40-49%	50-59%	60-69%	70-79%	>80%	N
Under 50,000	0	0	0	0	2	1	3
50,000-74,999	0	0	2	1	2	0	5
75,000-99,999	0	1	3	8	5	1	18
100,000-249,999	1	7	24	17	10	1	60
250,000-499,999	0	2	8	8	5	0	23
500,000-999,999	0	0	4	7	2	0	13
Over 1,000,000	1	0	0	2	0	0	3
Total	2	10	41	43	26	3	126
Percent of Total	1.6%	7.9%	32.5%	34.1%	20.6%	2.4%	100

As Table 3-10 plainly shows, there are considerable variances in the percentage of all sworn officers that are assigned to the patrol function among the 126 agencies that provided valid data on this issue. For example, based on their survey response, simple calculation showed that only 34% of the total sworn officers in the Los Angeles Police Department were assigned to the patrol function. This figure seemed so far off that we thought that it was a clerical error in filling out the survey. Therefore, we made a telephone follow-up to LAPD official in Planning and Research who filled out the form to check its validity. He indicated that the reported figure was correct. For this group of agencies as a whole, this data shows that 43% reported that less than 60% of their sworn officers were assigned to patrol. Many explanations can account for these differences. For example, one agency may assign sworn officers to certain duties that are performed by civilians in another. Further, some agencies use civilian call takers and dispatchers, others employ only sworn officers in those duties. Some agencies may have specialized traffic units separate from patrol while others require the regular patrol forces to also handle traffic responsibilities in addition to their regular duties.

The next variable examined was the annual number of dispatches per patrol officer. The measure provided is fairly crude and simply involved the division of annual CFS that resulted in the dispatch of a patrol unit (as stated by the agency on the survey form) by the reported number of sworn officers assigned to patrol as reported on the survey forms. The figures thus calculated may or may not account for multiple unit dispatches. The reader should also note that the figure is based on all sworn officers in patrol. It is quite unlikely that command or supervisory officers in a patrol division respond to calls. It also does not account for two-officer units. In any event, the figure provides only a gross comparative indication of patrol workload. Table 3-11 provides this information, again broken down by size of the agency jurisdiction.

Table 3-11
Annual CFS Dispatches Per Patrol Officer

Size of the Jurisdiction	CFS Per Patrol Officer Per Year						
	<400	400-499	500-599	600-699	700-799	>800	N
Under 50,000	0	0	1	0	2	1	4
50-74,999	2	0	2	1	1	1	7
75-99,999	1	5	2	2	5	2	17
100-249,999	9	9	10	10	9	17	64
250-499,999	6	5	3	3	5	3	25
500-999,999	5	4	4	2	0	2	17
Over 1,000,000	4	0	0	0	0	0	4
Total	27	23	22	18	22	26	138
% of Total	19.5	16.7	15.9	13.0	15.9	18.9	100%

Table 3-9 provides rather conclusive evidence of the CFS workload disparity between police agencies (actual data, rather than ranges, show 227 dispatches per patrol officer at the low end to over 1,200 at the upper extreme). Clearly, the greater the level of dispatch workload, the less chance that line patrol units will have sufficient time for directed patrol activity since they will either be tied up on a dispatch or there is a greater chance that a directed activity will be interupted by another dispatch.

The way the survey form was designed, respondents that indicated that they were involved in formal or informal directed patrol programs were requested to answer an additional nine questions (questions 28-37) pertaining to such programs. If the responding agency indicated that they were not currently engaged in directed patrol on question 26, they were asked to answer question 27 (which probed their reasons for this choice) and terminate the survey at that point. Thus, the next section will only be concerned with those agencies that stated they did have some type of directed patrol program underway.

Directed Patrol Planning and Operations

The first question in this series asked the respondents to indicate the year in which they implemented a directed patrol program. Their response to this question is set forth below:

Year of Program Implementation	Formal Directed Patrol		Informal Directed Patrol	
	N	%	N	%
Prior to 1968	1	1.8%	2	9.5%
1969-1970	1	1.8%	1	4.8%
1971-1972	0	0	1	4.8%
1973-1974	4	7.2%	0	0
1975-1976	2	3.6%	0	0
1977-1978	15	27.3%	5	23.8%
1979-1980	18	32.7%	5	23.8%
1981-1982	14	25.5%	7	33.3%
Total	55	100.0%	21	100.0%

A total of 76 agencies answered the last 9 survey questions (out of 153 original respondents). Among these respondents, 55 gave specific year when they began a "formal" directed patrol program, and 21 claimed they began "informal" directed patrol in a specific year. Two agencies (one in the 100,000-250,000 and the other in 250,000 - 500,000 population range) replied that they initiated directed patrol in 1960 (or at least what we are now calling directed patrol). However, this data indicates that serious implementation of directed patrol programs by police agencies

began in the 1977-78 period with 73% of the formal and 81% of the informal directed patrol program dating from that period. While speculative, it is suggested that the various MPO and ICAP grants and training programs provided considerable impetus for the development of these programs. In any event, what is more than clear is the fact that the vast majority of these directed patrol efforts commenced after the release of (and probably in response to) the Kansas City Preventive Patrol Experment.

The next question was stated as follows: "How long did it take this agency to plan and implement its directed patrol program from initial decision to proceed to formal implementation"? The combined answers from agencies with formal and informal directed patrol programs are shown below:

0-3 Months	15	22.4%
4-8 Months	25	37.3%
9-12 Months	17	25.4%
13-16 Months	4	6.0%
17+ Months	6	9.0%
Total	67	100.0%

A more detailed breakdown for this decision to implementation period by program type is shown below:

Type of Directed Patrol Program	months					
	0-3	4-8	9-12	13-16	17+	N
Formal	9	18	13	4	5	49
Percent Formal	18.4	36.7	26.5	8.2	10.2	100%
Informal	6	7	4	0	1	18
Percent Informal	33.3	38.8	22.2	0.0	5.6.	100%

Comparing the two types of program designations shows that an average of 8.9 months were required for implementation of a "formal" directed patrol program versus 6.5 months for an "informal" directed patrol program. The experience of the earlier referenced 20-month long Managing Patrol Operations Program Field Test sites with directed patrol implementation suggests that these figures are fairly low - at least for a fully-developed formal program.

The responding agencies were asked how many of them had developed written policy and procedures to guide their directed patrol programs. Of the 52 usable responses from agencies claiming a "formal" directed patrol program, 37 replied that they did have written policy and procedures (71%) and 15 replied that they did not (29%). Of the 18 usable responses from agencies claiming to have an "informal" directed patrol program, 7 said they had written policy and procedures (39%) and 11 replied that they did not (61%).

The next question asked if the agency provided any formal classroom training to patrol command, supervisory, or line officers prior to or during directed patrol implementation. Table 3-12 sets out the response to this question by type of program.

Table 3-12
Formal Training for Directed Patrol

Type of Directed Patrol Program	Provided Training	Did Not Provide Training	N
Formal	34 (62%)	21 (38%)	55
Informal	7 (33%)	14 (77%)	21
Total	41 (54%)	35 (46%)	76

Hours of training for command and supervisory personnel ranged from 4 hours on the low end to 40 hours on the high end with an average of 9.5 hours. The range was the same for line officers but the average was 4.2 hours. In fact, only 16 of the formal programs provided any training at all to line officers and only 2 of the informal programs provided training to line officers.

Next, the survey agencies were asked the following question: "Prior to (or perhaps as the result of) implementing directed patrol, did this agency make any changes in any of the areas listed below in order to make more effective use of, or free-up additional, patrol time (check as many as apply)"? The choices were as follows: 1) call screening; 2) call prioritization; 3) crime analysis; 4) patrol allocation; 5) patrol deployment; or other (what?). The response to this question, broken down by type of directed patrol program is presented in Table 3-13. A listing of "other" changes mentioned that related to directed patrol implementation noted by the agencies follows this table.

Table 3-13

Changes Related To Directed Patrol Implementation

Changes Made in These Areas	Formal Directed Patrol Program	Informal Directed Patrol Program	N
Call Screening	28 yes/22 no	9 yes/10 no	69
Call Prioritization	29 yes/21 no	10 yes/ 9 no	69
Crime Analysis	39 yes/11 no	9 yes/10 no	69
Patrol Allocation	38 yes/11 no	12 yes/ 7 no	69
Patrol Deployment	43 yes/ 7 no	11 yes/ 8 no	69
Other	13 yes/37 no	5 yes/14 no	69

Changes listed under the category of "other" by the responding agencies included such things as: dispatch procedures, computer programs, new offense reports, telephone report units, use of community service officers for some calls, mail-in reports, elimination of certain duties (i.e., funeral escorts, blood runs, etc.), team conferences, scheduling, elimination of some two-officer cars, sector-wide fluid patrol, providing supervisors with authority to designate certain cars as "split force" units for directed activity, creation of a specialized patrol unit, use of overtime pay for volunteer directed patrol officers, reduction/ elimination of the traffic unit and reassignment of officers to patrol, etc. As Table 3-13 shows, for formal programs the most changes were required in the following areas - in descending order: patrol deployment, crime analysis, patrol allocation, call prioritization, and call screening. For informal directed patrol, again in descending order, changes were needed in the following: patrol allocation, patrol deployment, call prioritization, crime analysis, and call screening.

Respondents were next asked to provide estimates of the amount of time devoted to directed patrol in their agencies. This was, at best, a very rough estimate since virtually none had any solid data relating to this measure. More specifically, the question was stated as follows: "On the average, how much time does the typical patrol officer in this agency, devote to directed patrol per shift"? Four choices were provided: "less than 30-minutes; 31-60 minutes; 61-120 minutes; and 120+ minutes." Table 3-14 displays the response of the agencies under formal and informal programs.

Table 3-14

Estimates of Patrol Officer Time Devoted To Directed Patrol

Estimated Directed Patrol Minutes Per Patrol Officer Per Shift	Formal Directed Patrol Agency	Informal Directed Patrol Agency	N	%
Under 30 Minutes	11 (26%)	6 (32%)	17	28%
31-60 Minutes	15 (36%)	11 (58%)	26	43%
61-119 Minutes	8 (19%)	1 (5%)	9	15%
120+ Minutes	8 (19%)	1 (5%)	9	15%
Total	42 (100%)	19 (100%)	61	100%

While the percentage of directed patrol time estimates above 61 minutes are considerably greater under the formal programs (i.e. 38% vs 10% under the informal programs), the combined estimates show that the 71% of the officers devote less than 1 hour per shift to directed activity. Even under the formal programs, these estimates indicate that 62% of the officers devote less than one hour per shift to directed patrol.

Overall, the average amount of time on directed patrol per officer for the 42 agencies with formal directed patrol programs was 65.1 minutes per shift. Under a 5-8 schedule, this would mean that 13% of total patrol time was devoted to directed patrol; under a 4-10 plan, these estimates show that 11% of total patrol time was devoted to directed activity. The average time per officer per shift on directed patrol was 43.7 minutes for the 17 informal directed patrol agencies. This averages out to 9% of total patrol time devoted to directed activity under a 5-8 plan and 7% under a 4-10 plan.

We felt it would be useful to know the basis of these time estimates, so the agencies were asked how they kept track of the amount of time devoted to directed patrol by their patrol officers. A total of 55 agencies with either formal or informal directed patrol programs provided useful answers to this question. To be more specific, 12 (22%) said they used dispatch cards; 20 (36%) relied on standard officer activity reports; 10 (18%) used special forms; and, 13 (24%) used some other method or wrote marginal notes that they did not attempt to measure directed patrol time.

Several indicated that they required field sergeants to submit weekly reports on directed patrol activity.

The agencies stating that they were currently engaged in formal or informal directed patrol were also asked if they had a specialized patrol crime suppression or tactical unit that devotes full-time to such activity. This question was important since this type of specialized patrol unit is yet another (essentially directed patrol) alternative that is being employed to increase the crime control effectiveness of the patrol force.

A total of 75 agencies responded to this question, with 43 (57%) stating that they had such a unit and 32 (43%) stating that they did not have this type of unit. The breakdown of this response by type of program is shown below:

Type of Directed Patrol Program	Has Tactical Unit	No Tactical Unit	N	%
Formal Directed Patrol	29 (56%)	23 (44%)	52	71
Informal Directed Patrol	13 (62%)	8 (38%)	21	29
Total	42 (58%)	31 (42%)	73	100

The relative percentage of tactical crime suppression or specialized patrol units is quite similar for both formal and informal directed patrol program agencies. One interpretation of this data would be that 56% of the agencies with patrol-wide directed activity programs also employ specialized patrol crime suppression units while the other 44% rely solely on their regular patrol units for this function. For the informal directed patrol agencies these percentages were 62% with such units and 38% without.

Experience suggests that any new and complex police program will encounter various "real world" problems during its implementation. And, as the literature review in the prior chapter indicates, there were some common difficulties encountered in setting-up a directed patrol program. Therefore, survey respondents were asked to review a list of such problems and to check which of them were present during implementation of directed patrol in their agency. Out of 76 responses to this question, 57 (75%) checked at least one of the problems shown in Table 3-16.

Table 3-16
Problems Encountered in Directed Patrol Implementation

A. Inability to consistently free up blocks of patrol time to perform directed activity	46 agencies
B. Opposition and/or lack of interest by middle management personnel	22 agencies
C. Opposition and/or lack of interest by patrol supervisory officers	26 agencies
D. Opposition and/or lack of interest by patrol line officers	19 agencies
E. Poor or inadequate levels of directed patrol crime analysis support	19 agencies
F. Inadequate quantity or quality of directed patrol training	22 agencies

As one would expect, problems with capturing or retrieving sufficient blocks of patrol time was the most frequently cited problem with 46 out of 76 agencies indicating that this was a problem. The second most frequently cited problem was opposition or lack of interest in the program by patrol sergeants (34%) followed closely by middle-management opposition or lack of interest (29%). Training in directed patrol, that was deficient in either quality or quantity, was viewed as a problem by 29% of the agencies that responded. Roughly one quarter of the agencies encountered problems in the area of crime analysis or opposition /lack of interest on the part of line officers.

Finally, the last survey question listed the presumed benefits of directed patrol and asked the respondents to rate the extent to which these benefits have been realized in their agency based on experience to date with directed patrol. Note that only those agencies that claimed to have either a formal or informal directed patrol program responded to this question so the responses to this question should have a certain degree of validity. Table 3-17 provides an aggregate summary (including both formal and informal

programs) of the answers to this question. One, among other, potential sources of bias in these answers, we assume, would be e the amount of experience that an agency has with directed patrol. Note that over 50% of the respondent agencies had been involved in their directed patrol programs for less than 2 years when this survey was conducted.

Table 3-17
Rating of Directed Patrol Benefits

Presumed Benefit	Actual Benefits: Major 5	4	Some 3	2	None 1	N
A. Increased ability to define and resolve short-term crime problems	36%	33%	18%	10%	3%	72
B. Increased ability to define patrol performance objectives	18%	29%	28%	19%	6%	72
C. Improved Utilization of patrol resources	35%	36%	18%	8%	3%	72
D. Increased ability to evaluate patrol performance	16%	27%	27%	24%	7%	72
E. Improved morale and job satisfaction in patrol	4%	26%	35%	20%	11%	72
F. Improved supervision of uncommitted patrol time	22%	26%	28%	18%	6%	72
G. Increased arrests and clearances for Part I Crimes	14%	21%	33%	18%	14%	72

The answers to this question are of considerable interest. Two rating areas are particularly impressive: 1) 71% of the agencies responding felt that directed patrol implementation produced above-average increases in their ability to define and resolve short-term problems; and, almost 70% of the respondents felt that they received above average benefits in terms of improving the utilization of their patrol resources. Almost fifty percent reported above average benefits with respect to improving the

supervision of uncommitted patrol time and 47% reported above-average benefits in terms of improved ability to define patrol performance objectives.

Forty-three percent felt that there was an above-average increase in their ability to evaluate patrol performance. However, the percentage of responding agencies that reported above-average ratings of improved Part I crime clearances and improved patrol job satisfaction were lower than one would expect. While overall ratings were low in these categories, 35% of the agencies reported above average gains in Part I arrests and clearances as a result of directed patrol implementation. Very few agencies reported major gains (4%) in patrol morale or job satisfaction, but measurement of this issue is quite complex and subjective.

Chapter Summary

The key finding of this national survey is the widespread acceptance of the directed patrol concept. This survey data shows that 65.7% of the agencies surveyed had already implemented a "formal" (38.5%) or "informal" (27.2%) directed patrol program and that another 16% of the survey respondents planned to implement a directed patrol program in the near future. Only 18.3% of the responding agencies indicated that they did not have this type of program and had no plans to develop one.

A more detailed precis of survey findings is presented in the Executive Summary to this report. This chapter has concentrated on the presentation of quantitative data from the survey. The next chapter sets forth considerable descriptive and more qualitative information on the operational characteristics of police directed patrol programs.

C H A P T E R F O U R

OPERATIONAL CHARACTERISTICS OF DIRECTED PATROL PROGRAMS

CHAPTER 4

OPERATIONAL CHARACTERISTICS OF POLICE DIRECTED PATROL PROGRAMS

Introduction

The purpose of this chapter is to summarize some of the more pertinent information on the operational features of directed patrol received during the various survey activities described in the previous chapter. For example, in addition to the material received from those agencies involved in the Integrated Criminal Apprehension Program (ICAP) or the California Police Career Criminal Apprehension Program (PCCAP), many of the agencies that responded to the national survey, sent copies of their policy and procedure statements, crime analysis reports, internal studies, and comments on their programs. While much of this data could not be easily categorized, it appeared useful to include portions of it in this chapter as an additional source of perspective on the current status of directed patrol efforts across the nation.

Definitions and Terminology

As noted earlier, a good deal of semantic confusion exists as to the meaning of the term "directed patrol". As illustration, in a letter accompanying the completed survey form of the Salem, Oregon, Police Department, Chief Roy Hollady commented:

> Accepting a strict construction of your definition of directed patrol, we do not have such a program. However, when we identify a particular need to engage in **emphasized** patrol operations to correct an identified problem, we assign a certain number of units to address these problems until they are resolved or at least alleviated. It is a fairly common practice in our department and I suppose it could be best designated as **selective enforcement activity.**

Chief Hollady goes on to note that his agency has a Planning and Research Unit which performs crime analysis, among other duties, to support such "emphasized" or "selective" enforcement. However, this agency also uses rather sophisticated call for service management methods and proportional patrol allocation and scheduling. techniques. In addition, agency management relies on a variety of

computerized data systems for patrol operations planning. Despite these advanced management practices, Chief Hollady stresses that the call for service workload of his patrol operation is of a sufficient quantity that: "...[it] would not permit us to identify a number of patrol units who are not "busy" at any given time because that rhythm, if I may call it that, could be shattered at any moment." He goes on to state, in regard to directed patrol:

> Frankly, I have some problems with this concept, namely relating to the reality, at least in my experience, that it is literally impossible to "lift" a number of units at any given time who are not busy with dispatches or related work. This is not to say it might be possible or may even be effective in some jurisdictions.

Like many experienced police administrators, Chief Hollady has considerable interest in the directed patrol model, but finds that little objective information is available. As he put it: "I have read quite a bit of material related to this concept and would be most interested in learning of any agency or agencies which have implemented the program with any degree of success...We are always willing to try new programs which are even remotely successful."

These reservations, which many police officials expressed to members of the evaluation staff, clearly point up the need for further continuing analysis, evaluation, and widespread dissemination of objective information on the directed patrol model of patrol management and manpower utilization.

Another letter to the evaluation staff from the Director of Operations Planning in the Louisville, Kentucky, Division of Police (Major Edward Mercer) stated that this agency does not use the term "directed patrol" in describing their program. As he put it: "To circumvent the negative associations with directed patrol, an acronym for the term was necessary [presumably referring to the "robots on patrol" criticisms noted earlier in this report]. Thus, in November of 1979, the "Priority Enforcement Program (P.E.P)" was initiated." Other materials reviewed disclosed a wide variety of names for directed patrol including such designations as "Tactical Patrol Assignments"; "Directed Field Activity Program"; "Crime Priority Report Directed Patrol Program"; "Tactical Action Planning Program", and similar terms.

However, review of this material indicates general agreement as to

the intent of the directed patrol model, irrespective of the name it is known by in these agencies. While the original New Haven "Directed Deterrent Patrol Program" generated considerable criticism of the rather mechanical approach employed in implementing the program (i.e., written instructions to the patrol officer that, for example, told him: "park car as close to southeast corner of H Street as possible, walk west on the northeast side of K street for two blocks, turn right, etc.), a letter to the evaluation staff from the New Haven Police Department (Sgt. Walter Northrop), indicates that they have made major modifications to their initial program design. As this official describes their current program, these changes were an outgrowth of the much improved crime analysis capabilities that they developed under an ICAP grant. The New Haven Program now involves the bi-weekly provision of Crime Analysis Summaries to all patrol personnel. A typical Crime Analysis Summary dealing with residential burglaries in a particular neighborhood, for example, contains the following information:

1. Neighborhood Maps showing the location of all residential burglaries for both the current and prior period.

2. Offense frequency by day of the week.

3. Breakdown for Squads

4. Graphic information on offenses by time of day (where known).

5. Method of Operation (M.O.) data

6. Property Stolen description

7. All available suspect and suspect vehicle information.

8. Arrest information.

As opposed to the original model, which allowed the patrol officer little or no latitude in performing a directed patrol assignment, the current model allows the officer to choose his own strategy and tactics for dealing with the problem as long as they are consistent with the information contained in the crime analysis summary. An example of one of New Haven's Crime Analysis Summary Reports is contained in the Appendix to this report.

Several examples of directed patrol concept and policy definitions

are provided below to illustrate the general program concept:

> Directed Patrol is patrolling of a designated area during specific times utilizing a particular tactic. Directed patrol is a specific assignment which must be based on reliable information and directed toward an achievable objective (Source: Special Order, June 12, 1980, Metropolitan Police Department, Nashville-Davidson County, Tennessee).

> Directed Patrol is defined as any pro-active strategy which is developed and implemented for the express purpose of resolving an identified crime problem. Directed patrol strategies can be oriented toward apprehension of the offender or suppression of the criminal activity. (Source: Operations Order, March 1981, Sacramento County Sheriff's Department, California).

> Priority enforcement is defined as the activities of officers who are, for a specific period of time, relieved of the responsibility of handling routine calls for service in order to concentrate on specific crime problems. The primary purposes of priority enforcement are the deterrence of suppressible crimes and the on-site apprehension of offenders. (Source: Standard Operating Procedure, Fifth and Sixth District Priority Enforcement Program, no date, Louisville Division of Police, Kentucky).

> Directed Patrol is defined as preplanned patrol activities which are applied to a specific objective rather than reacting to problems after they occur (Source: Operational Procedure, 8/81, Modesto Police Department, California).

> The purposes of directed patrol are prevention, deterrence, and apprehension of criminal violators, as well as selective enforcement on a variety of traffic and crime problems. Directed patrol presently supplements the random patrol operation with a method of deployment that directs patrol units to target areas at specific times determined by an analysis and evaluation of crime data (Source: Standard Operating Procedure 16, January 1980, Oxnard Police Department, California).

The definitions above are generally representative of the directed patrol programs received by the evaluation staff from agencies surveyed during the course of this project.

Directed Patrol Means and Desired Outcomes

One of the more useful aspects of this survey process was the clarification of the types of outcomes that agencies sought to accomplish through the implementation of directed patrol.

At the first level, it is necessary to distinguish between directed patrol **strategies** and **tactics**. The difference between strategy and tactics was defined by one agency as follows:

> Strategy: A response to a long-standing, recurring, or broad based crime problem which requires large-scale, integrated police activities that have multiple, long-term, and broad objectives. Strategy can often be implemented by using a number of tactics.
>
> Tactics: A response to a short-term crime problem which requires only small-scale, short duration activities that have limited objectives (Source: Modesto Police Department: Manual - Managing Patrol Operations, no date, based on materials from San Diego P.D).

With these definitions in mind, the objectives of directed patrol can be identified as: Apprehension, Suppression or Deterrence, and Target Hardening ("Prevention"). The difference between the meaning of these terms, in police patrol environments, is subtle but important:

> Apprehension: The primary crime prevention benefit of this strategy is twofold: First, it puts time and distance between a likely offender and other suitable targets by containing the offender. Second, it helps make other crime prevention tactics more credible by increasing the perceived likelihood of arrest and containment.
>
> Suppression or Deterrence: This strategy aids crime prevention efforts by reducing or eliminating the opportunity for a likely offender by placing a capable guardian in the area of a suitable target. This is typically accomplished by the actions of the police who demonstrate their willingness to put down signs of criminal activity by authority of force. Visible and conspicuous presence are the usual ways that police demonstrate such force.
>
> Target Hardening: A likely offender is discouraged, turned aside, or inhibited from perceiving a target as suitable as that target becomes harder to attack, as the risk of identification or discovery becomes greater, and as the rewards associated with the target become less salient (Source: Crime Analysis and Tactical Action Planning Workshop For Managers and Supervisors, no date, Crime Analysis Unit, San Diego Police Department).

From a directed patrol standpoint, a number of **methods** can be used to divert manpower for directed patrol activity. These methods include the following:

Fluid Patrol: A patrol force is said to be fluid when the officers are not locked into specific beats. Although generally this occurs in crises, it can also be part of a plan to attack a crime problem. In effect, a sector becomes the geographic unit for patrol -- with a concentration of officers where the calls or tactical activity is the heaviest. Sometimes used with split force patrol.

Split-force patrol: By structuring patrol manpower resources into two groups: one dedicated to CFS, one dedicated to directed activity, a great deal of available manpower can frequently be generated. This technique can free-up large chunks of time needed for plainclothes or highly involved tactics.

D-Run Patrol: Specific pre-planned activities in response to a particular crime problem are treated as a lower priority call for service. By going out of service for a given period of time (usually less than 1 hour), the officers involved actually "make" the time to do what might not be possible while in service.

Self-Initiated Patrol: The time spent between CFS can be used for short duration directed patrol if the activities are of short duration and do not require the officers to go out of service. Examples include: a) fixed-post patrol (observing a specific location for a specific offense); b) suspect-oriented patrol (watching for a specific suspect or group of suspects); and, b) profile interview patrol (suspect information gathered by field interviews of those persons or vehicles matching descriptions from specific crimes or series).

These descriptions of patrol methods are drawn from a manual developed by the Modesto (California) Police Department. A further distinction is that directed patrol can occur on a **passive basis** (i.e., between calls for service) or a **dedicated basis** (i.e., when the directed activity has priority over calls for service).

While it could be considered a form of split force patrol, the creation of a full-time **crime suppression** or **field tactical** unit drawn from the patrol force is yet another alternative for diverting manpower resources for directed patrol (as has been done in Oxnard, Fort Worth, and Simi Valley, among other agencies).

As to actual patrol tactics in these various patrol **modes**, two examples are provided in Exhibit 4-1 and Exhibit 4-2. Exhibit 4-1 provides a general overview of directed patrol strategy and tactics. Exhibit 4-2 presents various crime-specific strategies and tactics.

A review of the numerous tactical alternatives available provides an indication of the complexity of evaluating directed patrol programs. Major problems are present, not only in keeping track of exactly what tactics are employed versus partcular problems, but also in tracking where, when, how much effort, and with what outcomes in terms of these strategies and tactics.

Descriptions of Examples of Directed Patrol Programs

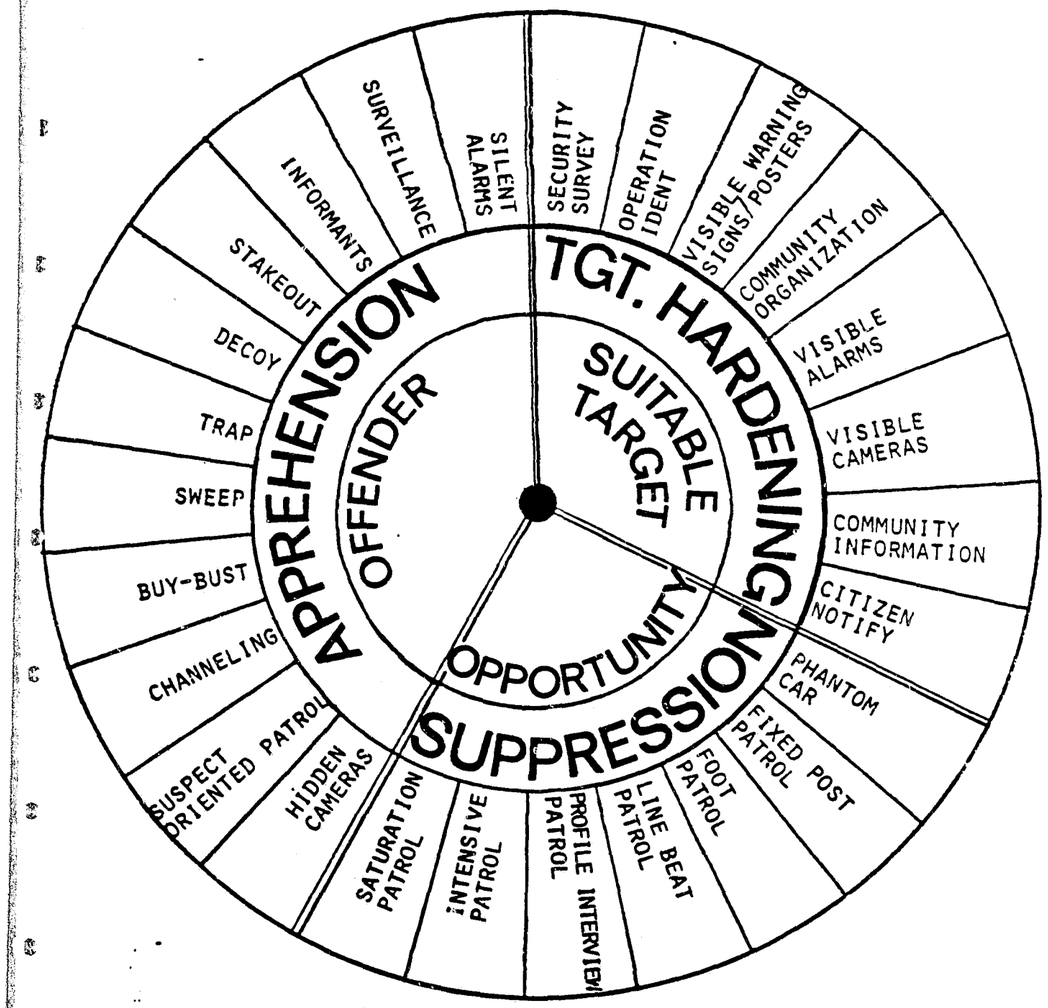
As stated, considerable descriptive material on directed patrol programs was received from the various agencies participating in the surveys. Few provided any quantitative data on program results. However, it will be useful to provide some examples of the types of approaches these agencies have undertaken in implementing their directed patrol programs. Exhibit 4-3 presents a series of five such program summaries for Eugene, Oregon; Arlington, Texas; Jacksonville, Florida; Nashville, Tennessee; and, Louisville, Kentucky. These agencies were chosen for illustrative purposes simply to portray the range of potential approaches to directed patrol implementation in different sized jurisdictions.

Other types directed patrol implementation approaches also deserve mention. For example, the Simi Valley Police Department (CA), that serves a city of around 80,000 persons, initially developed a directed patrol program that stressed a combination of crime prevention, community organization, and high-visibility patrol (with an emphasis on car stops and field contacts) of high-risk burglary areas. Again, the agency developed and staffed a Crime Analysis Unit to support their directed patrol program. While they continue to employ this approach as appropriate occasions arise, the

POLICE STRATEGIES & TACTICS USED

TO PREVENT DIRECT-CONTACT PREDATORY CRIMES

EXHIBIT 4-1



Source: Modesto Police Department: Managing Patrol Operations - Manual, Modesto, California, no date

EXHIBIT 4-2

CRIME PROBLEMS AND POSSIBLE DIRECTED PATROL RESPONSES

Crime Problem	Patrol Objective*	Directed Patrol Response
Armed Robbery Business	(P,D,A)	Alarms
	(A)	Surveill Likely Targets
	(P,D)	High Visibility
	(P)	Public Education -Victim
	(A)	Surveill Known Offenders
	(D)	Saturation Patrol
	(A)	Stake Out
	(A)	Hidden Cameras
	(P)	Canvassing
Assaults -Felony	(D)	Saturation Patrol (car)
	(P-D)	Saturation Patrol (foot)
	(A)	Covert Area Surveillance
	(A)	Surveill Known Offenders
	(A)	Decoy (person)
	(P)	Canvassing
	(D-A)	Covert deployment
Auto Theft	(A)	Decoy Vehicle
	(A)	Surveillance - Area
	(A)	Surveillance - Persons
	(D-A)	Surveillance - Tailing
	(P)	Public Education
	(A)	Covert Deployment
Car Clout - theft from vehicle	(A)	Decoy Vehicle
	(A)	Surveillance - Area
	(A)	Surveillance - Persons
	(A)	Covert Deployment
	(D)	Saturation Patrol
	(P)	Public Education

* A = Apprehension D = Deterrence P = Prevention

Adapted from: Modesto Police Department: Managing Patrol Operations - Manual, Modesto, California, no date, pp 1-2.

Exhibit 4-2 (continued)

Commercial Burglary	(P-D,A)	Alarms
	(D)	Saturation Patrol
	(A)	Surveillance - Area
	(A)	Surveillance - covert
	(P-A)	Surveillance - Tailing
	(P-D-A)	Informant development
	(D)	High Visibility Patrol
	(A)	Surveillance - persons
	(P)	Public Education
	(D-P)	Security Surveys
Purse Snatch	(A)	Decoy Persons
	(A)	Covert Deployment
	(A)	Surveillance - fixed post
	(D)	Saturation Patrol
	(A)	Surveillance - person
	(D-A)	Combination strategies
	(A-D)	Informant development
Residential Burglary	(A)	Surveillance - Area
	(A)	Portable Alarms
	(A)	Stake out likely target
	(D-P)	Truancy Enforcement
	(P)	Public Education-Security
	(P-D,A)	Neighborhood Watch
	(A-P)	Surveillance-Tailing
	(P-D)	Security Surveys
	(P-A)	Property marking
	(D)	Saturation Patrol
	(A)	Covert Deployment
	(A-P-D)	Informant development
	(A)	Surveillance-Persons
	(A)	Sting Operations
	(A)	Plain-clothes Operation
	(D)	Aggressive FI Program
	(A)	Enhanced Preliminary Investigations

* A = Apprehension D = Deterrence P = Prevention

EXHIBIT 4-3
Description of Directed Patrol Program Examples

Eugene (Oregon) Police Department

Population: 105,624 Sworn Officers: 159 Patrol Officers: 100
Part I Crimes: 10,000 Annual CFS Per Patrol Officer: 416

"Within the definition of directed patrol supplied with the survey, the Eugene Police Department has two levels of patrol force deployment. Briefly, each Watch Commander has total flexibility to assign his manpower as he sees fit. Crime Analysis provides each Watch Commander with printouts as well as computer-generated maps showing geographic, hour of the day, day of the week distribution of calls for service and selected target crimes and traffic problems for the past six weeks. These information packages are distributed every two weeks. The City is divided into six fixed beats, but the Watch Commander is under no obligation to fill a beat if there is insufficient activity to justify it. Using the information package, a Watch Commander devises Focused Beats and assigns officers to the specific neighborhoods that are having a large number of calls for service or target crimes. The boundaries of the Focused Beat may remain intact for the duration of the watch or may be changed after a couple of hours. In addition to the focused beats, the Watch Commander may assign officers to a Directed Patrol. The difference, in our terminology, is that while an officer assigned to a Focused Beat has primary responsibility for any calls originating within that beat, an officer on directed patrol is freed from any call handling responsibility. As an example, Crime Analysis publishes information regarding a residential burglary pattern in a narrowly defined area and specific time frame. The Watch Commander may assign a couple of officers to that area to work that pattern specifically. The assigned units are given special radio designators and are not assigned any calls." (Source: R. Wilson, Sgt. Crime Analysis Unit, Letter dated January 15, 1982).

Arlington (Texas) Police Department

Population: 160,123 Sworn Officers: 210 Patrol Officers: 128
Part I Crimes: 11,341 Annual CFS Per Patrol Officer: 508.9

"The primary purpose of our directed patrol program is to increase the "odds" that sworn personnel will be in the "right" place at

Arlington (Texas) Police Department (continued)

the right time to either arrest an offender or, failing this, to displace the crime outside our community. To accomplish this objective, the department uses a variety of strategies.

The impetus for most directed patrol activity is initiated by the department's Crime Analysis Unit. Periodically, the CAU disseminates Bulletins which identify selected crime problem areas. Each Bulletin offers recommendations for directed patrol strategies to be used to combat the problem. Twice a week, on Mondays and Fridays, the CAU summarizes the current crime problem for Patrol and Crime Specifics [tactical units] along with the CAU's recommended directed patrol strategies.

After receiving the Bulletins from Crime Analysis, patrol supervisors determine whether to address the identified crime problems by using either a "marked" unit or special assignment unit. A marked unit normally conducts high visibility patrol in the crime area whenever he/she is not on a call for service. The special assignment unit may be marked or unmarked, uniformed or plainclothes depending on the nature of the assignment. A special assignment unit may use a variety of techniques or strategies for attacking the problem.

Another unit within the department also performs directed patrol activities as the result of getting CAU Bulletins. The Crime Specific Unit is a small group of plainclothes officers that work on particular crime problems. Their tactics are primarily directed stake-outs and suspect surveillance activities.

All personnel, whether assigned to Crime Specifics or Patrol, are briefed on the crime problem prior to going out on the street. Supervisors closely coordinate the tactics used used by all personnel assigned to a particular problem or crime area to make sure there is no duplication of effort or conflict in the type of methods used. For example, we do not want to have a marked unit performing high visibility patrol in an area being staked out by Crime Specifics, etc.

Once the directed patrol is performed, a patrol supervisor will fill out a Directed Patrol/Special Assignment Sheet showing what activity was performed along with a number of evaluative data elements. (Source: Letter from H.C. Perry, Chief of Police, October 1, 1981).

Exhibit 4-3 (continued)

Jacksonville (Florida) Sheriff's Department

Population: 540,898 Sworn Officers: 1,557 Part I Crimes:42,400

"The Jacksonville Sheriff's Office has an active Directed Patrol Program which is broadly accepted, understood, and utilized by members. The basic and most obvious use is to aid in the identification of crime problems and provide a formal system for operational response. Other subtle benefits have been realized from the program...[particularly with regard to increasing the accountability of middle-management personnel and improving the resource management skills of all involved].

Use of a formal reporting worksheet has provided a structure which encourages middle managers to assume a proactive problem-solving stance in their daily operations. The Directed Patrol Worksheets are initiated more often from the field than from the Crime Analysis Unit. Field officers have recognized the value of the worksheets in getting the job done. [data provided with this survey response for one month shows that 54 Directed Patrol Plans were produced with 5 being initiated by the CAU and 49 by Field Patrol Personnel - the annual average prior to this month was 22 Directed Patrol Plans per month]. The program makes extensive use of a wide variety of police personnel from the various line divisions who work on problems in a coordinated fashion. In addition, the Jacksonville Directed Patrol Program also makes use of police auxiliary, reserve, and police explorer scouts.

Quantitative data gathered by Crime Analysis for directed patrol activity is incorporated into a comprehensive Patrol Operations Analysis produced by the Planning and Research Unit. Department Administrators have come to rely on this revealing analysis for manpower allocation and evaluation of production of middle managers.

A 6 person Crime Analysis Unit (all sworn) handles the review and analysis of crime, arrest, and suspect information. CAU personnel rely heavily on a large-scale computerized data base (two dedicated computer terminals are assigned to the unit) as well as on a system of manual files, in conducting their analyses. A review of data from this program indicates that patrol directed activity addresses order-maintenance, crime prevention, and traffic issues as well as apprehension of criminals and suppression of crime. (Source: Letter from Sgt. C. Hill, 10/6/81)

Nashville-Davidson (Tennessee) Metropolitan Police Department

Population: 485,000 Sworn Officers: 1,035 Patrol Officers: 468
Part I Crimes: 34,888 Annual CFS per Patrol Officer: unknown

Basic directed patrol policy is based on using the time saved by a telephone report unit for directed patrol purposes. Patrol uses this, and other time available, to undertake directed activity based on documented problems identified by the Crime Analysis Section or other information sources. All directed activity is coordinated through the proper chain of command.

Estimates available indicate that the average patrol officer spends under 30 minutes per shift on directed patrol. Two types of directed patrol efforts are undertaken: Uniformed Directed Patrol and High Intensity Directed Patrol,

Uniformed Directed Patrol stresses conspicuous patrol using one or more of the following tactics: zone car assigned directed patrol between calls; zone car taken out of service for directed patrol during peak crime hours, extra uniformed personnel assigned to problem areas; uniformed walking team assigned to problem area; zone or extra car assigned to fixed traffic post or in high-accident area when no crime problem exists; and, coordinated or special operations supplementing uniform patrol with alarms, hidden cameras, helicopters, etc. District sergeants and zone commanders are responsible for directed patrol planning and implementation based on Problem Area Reports generated by CAU. Sector Captains and Shift Lieutenants are responsible for the coordination of all directed patrol plans.

High-Intensity Directed Patrol is defined as inconspicuous patrol and investigation for an extended period of time according to a written plan of action using one or more of the following tactics: patrol officers in plainclothes and unmarked vehicles on special asignment; stakeouts during high-probability of crime hours; fixed post surveillance of persons or areas; "other" innovative tactics. A unique feature of the Nashville Directed Patrol Program is that any sworn patrol officer may request permission to undertake a High-intensity directed activity. Sector captains approve or disapprove such plans. While on these assignments, officers report to a designated supervisory coordinator who has the responsibility for weekly progress reports. Field Advisory Training Officers assist in case preparation in such assignments. A Final Report is also required that documents activity, time expenditures, arrests,

Exhibit 4-3 (continued)

Nashville Directed Patrol Program (continued)

cases cleared, property recovered, and any new leads developed.

Crime analysis support of the program includes spot maps, suspect descriptions, suspect vehicle descriptions, wanted (warrant) information, Problem Area Reports, and Special Bulletins. A Tactical Action Feedback Report on all directed activities must be completed and returned by District Sergeants to the CAU.

Finally, from an operational procedures perspective, officers on uniformed directed patrol (involving out of service time) are required to report by Telephone to Communications their car number, the fact that the car is out of service for directed patrol, and the zone where the activity is being performed.

(Source: Department Special Order, June 12, 1980 titled: Directed Patrol Experiments)

Louisville (Kentucky) Division of Police

Population: 298,451 Sworn Officers: 952 Part I Crimes: 20,072

Known as the Priority Enforcement Program, Louisville's directed patrol program was developed under an ICAP grant in 1979. The program was planned by a sub-committee composed of patrol officers, supervisors, command personnel, and a representative of the local crime commission. The program was tested in two of the six police districts in the City. A fourth "platoon" was created in each district to capture additional time.

A Crime Analysis Unit was responsible for preparation of daily crime reports, provision of crime pattern information to the two directed patrol districts, provision of analysis support to all directed patrol operations, and evaluation of directed patrol efforts. The unit had access to a computerized crime data base as well as manual crime and suspect files. The CAU disseminated all information and reports with a liason person in each of the two directed activity districts.

Prioritization of CFS was developed to support this effort. A four level of priority system was used: 1) Immediate Response; 2) Up to

Exhibit 4-3 (continued)

Louisville (continued)

40 minute delays for levels B and C; and, 3) Phone response for priority level D.

Similarly, there were four levels of recognition of need for priority enforcement and four levels of priority for directed patrol implementation. Needs may be recognized through the following: Self-initiated, Investigations Initiated, Initiated by the CAU, and High-Priority Details. Once a problem is identified, four strategies (depending on the severity of the problem and the strategies and tactics needed to attack it) varying from Priority 1 to Priority 4 (in descending order of priority) can be employed.

The first three priority levels can only be assigned by a platoon commander or higher ranks. The fourth priority level can be initiated by the patrol officer and does not, neessarily, have to be coordinated with commanders. The priority level of the strategy chosen is coordinated with the CFS priority. At the highest directed patrol strategy level, the patrol officers involved are free of CFS responsibilities. At the lowest strategy level, the officer must respond to emergency (Priority A) calls but can delay B and C Priority Calls. Dispatch was responsible for recording information on such activity both for management analysis as well as officer safety reasons.

Basic Priority Enforcement Strategies were: apprehension-oriented patrol; preventive or deterrence patrol; and, tandem-approaches. The initiating person chooses the strategy subject to command approval. Apprehension-oriented approaches were predominant when specific descriptive or pattern information was available. Deterrence was the major strategy where the information available was general or ambiguous. All PEP strategies, except level 4, must be documented on a daily basis through the use of special forms. Dispatch cards (10-54 cards) were used for level-4 directed acttivity. Training was provided only to command officers.

At the time of this report the program had been in operation for 22 months. A total of 93 Priority Enforcement Operations had been conducted in the two districts - an average of 4.2 per month. A total of 21,642 officers hours were devoted to directed patrol - average of 984 officer-hours per month. Further discussion of this program will be presented later in this chapter. (Source: Letter From Major Edward Mercer, Director of Field Operations Planning, dated October 9, 1981).

Simi Valley Police Department found from their experience that they could effect a significant reduction in daytime residential burglaries by focusing their directed patrol efforts on truancy enforcement. To this end, three officers spend the majority of their directed patrol time (they work on a sector basis and have no CFS responsibilities except for emergency calls) during the school year on truancy enforcement. In 1979-80, for example these officers processed over 700 such truants and there was a substantial decrease in daytime residential burglaries that the SVPD believes was related to this directed patrol emphasis program (Source: Letter from Donald Rush, Chief of Police, Simi Valley Police Department, October 5, 1981).

The Yonkers, New York, Police Department also has a formal directed patrol program. However, because the developers of the program felt that they would encounter some resistance to this type of "new" program in what they characterize as an "...older traditional northeast department", they decided that a gradual and incremental approach to program implementation would have the best chance of success. As stated in their survey response letter: "We did not approach it as a massive single component but have added sub-elements ranging from a summer parks program through to the most recent addition of a directed warrant enforcement by patrol. During the next three months, we will be completing crime prevention training for patrol officers and integrating a series of security surveys and community organization strategies." This approach has appeared to work well for this department, but as one of the developers points out: "Perhaps the greatest disadvantage of this incremental approach is that we have yet to develop a comprehensive system to capture data on directed activities." (Source: Letter from Tom Sweeney, Director of Staff Services, Yonkers Police Department, January 22, 1982).

The Sacramento County (California) Sheriff Department's directed patrol program reports a rather unique feature. This department has something called the "Sheriff's Amateur Radio Program" or SHARP which consists of citizens who are ham radio operators, a unit coordinator, and a supervisor who is a sworn officer. These volunteers are used as "eyes" in stationary stakeout situations. The department reports this unit to be an effective part of their directed patrol program both from the standpoint of results and in terms of cost in that these volunteers are performing work that would have normally involved sworn officers. (Source: Letter from Lt. Phil Davis, C-CAP Manager, dated November 25, 1981).

The Norfolk (Virginia) Police Department's Directed Patrol Program was designed to encompass three basic components: patrol follow-up investigations, directed assignments based on crime analysis, and crime prevention activities. There are two patrol divisions in this department each of which is further sub-divided into three

sectors. Considerable flexibility was provided to division commanders as to directed patrol program development. Three types of crime analysis support are provided to the divisions: General Bulletins (information of a general or routine nature); Crime Alerts (specific information on crime problems); and, Pattern Alerts (definite or probable "series" offenses). The CAU is decentralized, although reporting to a single commander, with a total four sworn (one of whom is an investigator) and two civilian analysts working in the two divisions and the Investigations Division. The basic directed patrol program involves the use of uniformed personnel in marked units. Considerable emphasis is placed on face-to-face contact between crime analysts and line personnel through roll-call briefings. In one division emphasis is placed on the formation of an overlap shift to handle calls for service in order to free other personnel for directed activity. In the other division, a combination of plainclothes and uniformed directed activities are employed. The major focus of the Norfolk program has been on burglary and primary tactics used are saturation patrol and plain-clothes stakeouts. Pre-planned truancy enforcement, field contacts, and inspectional services have also been used as directed patrol tactics. (Source: Letter from Corporal in charge of Norfolk Crime Analysis Unit, October 12, 1981).

As a means of illustrating the difference between a "formal" and "informal" directed patrol program, the quote below provides an example of an "informal" directed patrol program (as described to the evaluation staff in a letter from the Lawrence, Kansas, Police Department (Deputy Chief W.R. Olin, dated October 28, 1981):

> The LPD has never developed a formalized "directed patrol" program. We have instead relied heavily on our supervisors' and patrol officers' abilities to use the information provided by our Crime Analysis Unit (CAU)...As specific crime trends or patterns develop, the CAU alerts supervisors and patrol officers of the situation and can provide directed patrol tactics, even though these are informally implemented.

As Chief Olin goes on to state: "Due to the informal nature of our "directed" activity we can provide no procedure statement forms. Manhours expended on information developed for patrol activity are nearly impossible to estimate. Many of our crime specific activities consume man-hours which are not retrievable as the officers will act on the information developed and disseminated through via our CAU Daily Bulletin...".

In general, the programs described here and in prior chapters basically represent the existing state-of-the-art of directed patrol design and implementation. Very little internal evaluation in quantitative terms was available in these survey responses, except for the material presented in the next section.

Quantitative Data on Directed Patrol

As noted in the Louisville Program Description, that agency engaged in 93 Priority Enforcement directed patrol operations over a 22-month period (1979-1981) and devoted a total of 21,642 man-hours to such activity - an average of 232 man-hours per operation. Out of these 93 operations: 36 (39%) involved saturation patrol of areas; 49 (53%) were tactical, apprehension-oriented, operations; and, 7 (8%) were extended patrol investigations. Approximately one arrest was made for every 16 hours of directed patrol. Less than 10% of the 93 operations involved regular patrol - most were conducted by patrol officers assigned to a swing-shift overlap or 4th platoon.

The survey response from the Sacramento County Sheriff's Department provided limited quantitative data on directed patrol operations covering a six-month period from April-September 1981. During this period the SCSD engaged in 287, what they termed, directed patrol "missions" - an average of 47.8 such missions per month. They devoted a total of 7,283 officer hours to these directed patrol efforts - an average of 25 officer hours per mission or 1,213 officer hours per month. The SCSD reports that these 287 missions resulted in 94 felony and 169 misdemeanor arrests - an average of 1 arrest for every 27.7 hours of directed patrol activity.

The Jacksonville Sheriff's Department provided detailed data on directed patrol covering a one-month period (July 1981). During this month, they recorded 893 sworn officer hours and 154 auxiliary officer hours (total of 1,047 hours) devoted to directed activity. These hours were spent on 54 pre-planned directed patrol operations - for an average of 19.4 police hours per operation. Of these 54 operations: 13% were traffic-oriented directed patrol (consuming 93 or 8.9% of total officer hours); 4% were termed non-criminally oriented directed patrol (consuming 47 or 4.4% of total officer hours; and, 83% were criminally-oriented directed patrol operations (consuming 907 or 86.6% of total officer hours. A total of 102 arrests resulted from these directed patrol operations (16 felony and 86 misdemeanor) - an average of 1.9 arrests per operation or 1 arrest for every 10.3 hours on directed patrol. In addition, other directed patrol outputs included: 105 traffic citations, 9 warning citations, and 58 field contact cards. Stated differently, there was one enforcement "event" for

every 3.8 hours of directed activity. In addition, $5,000 in stolen property (cash) was recovered and a moderate quantity of marijuana and cocaine was seized. Of the 45 crime-related directed patrol operations: 12 (27%) involved burglaries; 6 (13%) focused on narcotics enforcement; 6 (13%) involved sex offenses; 1 (2%) dealt with robbery; and the remaining 20 were concerned with general crime and order maintenance (continuing disturbances, trespassing, etc.).

Fort Worth reported on the directed patrol activities of a 15-officer specialized patrol or crime suppression unit. Over a 9 month period, these officers spent roughly 24,300 hours on directed activity - an average of 2,700 hours per month - and accounted for a total of 954 arrests (277 felony and 677 misdemeanor). This averages out to 1 arrest for every 25.4 hours on directed activity. Among these arrests were 86 for burglary, 44 robbery, 14 attempted murder, 3 rape, 47 narcotics, 3 kidnapping, and 27 for theft. All of these were "in the act" arrests according to a report on unit activities. Other outcomes reported included the following: 115 assists to patrol, 14 field contact cards, 3 recovered vehicles, 5 traffic citations, 19 felony warrants served, and $341,000 in stolen property recovered.

Lessons Learned and Problems Encountered

Deputy Chief R. Olin of the Lawrence, Kansas, Police Department stressed in a letter to the evaluation staff that the most important lessons learned from their program were: it is critical to assure a timely flow of reports and intelligence information to Crime Analysis; rapid dissemination of crime analysis to patrol is madatory for tactical results; and, a feedback system from patrol to crime analysis is essential.

Major Edward Mercer of the Louisville Police Department reported that directed patrol was underutilized by the regular patrol force of that department. He indicates that several factors contributed to this situation. First, there was a lack of command-level approval approval to initiate directed patrols on specific problems. As he put it: "Despite the volumes of literature indicating the less than optimum efficiency of routine patrol and the necessity to "cover" all beats, the line commanders and higher have been less than willing to free up patrol officers to use for obvious crime problems. This attitude probably makes the beat officer hesitant about self-initiating any formal patrol other than non-routine."

He also indicates that most patrol directed activity was mainly limited to investigative follow-ups. Such directed activity is rarely conducted out of uniform or in unmarked cars.

Another problem noted by Mercer is that of measuring the results of prevention or deterrence-related directed patrol. He states that, while difficult to conduct in a valid manner, internal LPD studies suggest the worth of this strategy and associated tactics. However, despite this evidence, patrol officers appear to prefer apprehension-oriented directed patrol. As he stated: "Refusal to accept deterrence and even displacement remains the single greatest problem with fourth platoons and directed patrol experience in Louisville."

The Arlington (Texas) Police Department replied that the biggest problem experienced in the operation of their directed patrol program has been in the area of coordinating the efforts of the regular patrol and crime specific tactical units. They responded that "It requires an extra effort to have all the supervisors involved in a [directed patrol] project to simply 'talk' to each other." A second problem noted was the lack of imagination shown by some patrol supervisors in developing innovative patrol tactics to attack crime problem areas. They conclude that solution of these problems require patience and training as well as continual formal evaluation of what is really happening on the street.

The Norfolk Police Department identified four key variables that they believe contributes to the success of a directed patrol program: open lines of communication; good rapport between crime analysis and line operations personnel; credibility of crime analysis with line personnel; and, feedback from patrol to crime analysis.

Chief H.F. Hopkins of the Fort Worth (Texas) Police Department wrote that: "It has been the experience of this department that even with the utilization of such concepts as call stacking, call screening, and call prioritization it is difficult to create blocks of time for the effective use of directed patrol by the patrol unit. While this factor does not completely negate the directed patrol effort of the patrol function it does pose a formidible problem." (letter to evaluation staff dated October 8, 1981).

Finally, Chief E.L. Willoughby of the Salt Lake City Police Department enclosed a letter with his survey response that raises an issue worthy of consideration. Specifically, he states that "...our studies have shown that the initial police response time to a crime is not significant within limits, however, today the police must calm the criminal victim by providing a quick response. Nothing has the calming effect as the prompt arrival of a uniform officer...". In short, Chief Willoughby voices a concern that we believe is shared by many of his colleagues concerning the need to rapidly respond to all calls for service. On the one hand, this belief has considerable validity in terms

of the police community relations and community service role. And, the time devoted to this activity may pay some dividends in obtaining better suspect descriptions from victims as well as in allaying their fears. However, police resources are finite and time devoted to one activity means that such time is unavailable for other, possibly higher priority, activities. Some trade-offs must occur. If, for example, a patrol officer on a directed patrol assignment is able to prevent a crime or make a crime in progress apprehension, should this assignment be aborted before completion simply to provide an immediate response to a two-day old burglary or similar non-emergency service request?

In any event, the belief system at work here has a considerable degree of support in some quarters. Unfortunately, this viewpoint has some significant and essentially negative implications for such key elements of a directed patrol program as: 1) treating a directed patrol assignment as if it had the same priority as a non-emergency call; 2) implementation of non-mobile responses to selected types of calls for service in order to free time for directed patrol; and 3) development of call prioritization and delayed response options. Thus, despite the numerous studies of citizen satisfaction and police response time that have been conducted, this issue is still far from settled.

Summary of Operational Findings

The information presented in this chapter is not susceptible to the formation of undebatable conclusions. Instead, this program data illustrates the diversity of approaches that are available to a police executive or planner in designing a directed patrol program. Yet, despite this diversity, the programs reviewed share many common elements and the experience of the reporting agencies in implementing this type of effort provides valuable policy and operational lessons for others to consider. An attempt is made to summarize and abstract these lessons and findings below.

First, it is simply not feasible to engage in an effective directed patrol effort (by whatever name) without first developing a productive and well-regarded Crime Analysis Unit. Crime analysis is not a task that field supervisors or others perform in addition to other duties. Provision of even the most basic levels of analysis, planning, and evaluation data to support a directed patrol effort on a continuing basis (in all but the very smallest agencies) requires an adequately staffed full-time Crime Analysis Unit (which further implies the need for high-quality crime data, appropriate storage and retrieval systems, dissemination, user training, coordinated information flow, and other key elements).

Second, development of a directed patrol model (as many of the agencies reported) virtually mandates that top level police management must make some hard policy choices in terms of the police call for service response. To be more specific, in order to free-up sufficient blocks of patrol for directed patrol as well as to capture such blocks of time when they are needed, means that an agency must develop improved methods for managing the demand for police service. Specific attention should be paid to key issues of call classification, call screening, call prioritization, and development of both delayed (scheduled appointments) and non-mobile response alternatives (i.e., telephone report units, mail-in reports, use of lower paid civilian report takers, and even response denial in some cases). A definite decision must be made to accord certain pre-planned directed patrol assignments the same priority as most (but not all) types of non-emergency calls for service. While subjective, our view of the more advanced programs was that they had consciously and systematically addressed these key response issues, while the less advanced agencies simply tried to overlay a directed patrol program on their existing system.

Third, the majority of programs reviewed in this chapter share the common feature of response flexibility. By this is meant that the nature of a specific directed patrol operation is dictated by the nature of the problem addressed. For example, some problems may require one or more units to be taken out of service completely (i.e., a stake-out or surveillance effort). Other types of directed patrol assignments can be carried out by uniformed patrol officers in marked vehicles between normal calls for service activity. However, it also appears clear that this type of flexible response, in turn, requires a substantial decentralization of responsibility and authority for tactical decision-making and resource utilization to lower, and more appropriate, levels of the police organization.

Fourth, in order to more appropriately balance workload so that additional time can be recaptured for directed patrol purposes, many of the agencies report that they have implemented improved resource allocation, deployment, and scheduling programs.

Fifth, the majority of the directed patrol programs discussed have focused on apprehension-oriented activities with emphasis on selected crime types (e.g., burglary and robbery for the most part). The next most popular focus was on the suppression of criminal activity in a specific area through the use of high-visibility or saturation patrol. Considerably less effort was devoted to prevention-oriented directed patrol activity. However, some agencies mix all three crime control approaches depending on the type of problem under consideration. Some of directed patrol programs were more eclectic and addressed all

types of problems ranging from serious crimes, to traffic enforcement, to neighborhood order-maintenance. One directed patrol tactic that received many mentions as an effective approach to reducing daytime residential burglaries was that of truancy enforcement.

Sixth, many of the programs stressed the importance of formal training of all patrol personnel (particularly command and middle-managers) in successfully implementing directed patrol programs. Many of the agencies indicated that resistance was encountered to the program not only due to the behavioral change involved but also because it made certain management and supervisory personnel more accountible. Training and broad participation and input from all ranks in the early design phases of a directed patrol program were judged useful in this regard. Several agencies favored an incremental rather than comprehensive approach to directed patrol implememtation as a means of further reducing resistance to the concept.

In general, most (but certainly not all) of the agencies with directed patrol adopted a two-level approach that involved both split-force as well as basic unit directed patrol. The specialized patrol or split force units were completely freed of call for service responsibility and were assigned full-time to specific crime analysis-based apprehension and suppression activities (primarily clearly defined crime pattern/series events, warrant service activity, or area-specific problems). The basic unit directed patrol efforts appeared, for the most part, to be more concerned with general crime problems or investigative follow-ups. Some coordination problems were noted between the basic and crime-specific directed patrol units. Overall it appeared that the split-force component was far easier to implement and matured more rapidly than basic unit directed patrol. The basic unit effort was viewed by many as still in a less-formal trial and error stage of evolution.

Finally, many of these agencies stressed the need for continual feedback, monitoring, and evaluation of the directed patrol program to assure that key program elements are in harmony and that the program is obtaining the desired results. They also indicated that measurement is a quite difficult task. The in-. adequacy of this element was clearly evidenced by the fact that few of the agencies were able to provide any quantitative data on program intensity, level of effort, or results obtained. Those agencies that could provide such basic information made special efforts to capture such data by using mandatory directed patrol planning and evaluation forms.

C H A P T E R F I V E

CASE STUDY EVALUATION OF THE OXNARD DIRECTED PATROL PROGRAM

CHAPTER 5

CASE STUDY EVALUATION OF THE OXNARD POLICE DEPARTMENT'S DIRECTED PATROL PROGRAM

INTRODUCTION

This chapter presents a summary, in case study form, of an intensive evaluation of the crime analysis-supported directed patrol program designed and implemented by the Oxnard Police Department (OPD).* The OPD directed patrol program was developed with the funding support of the Law Enforcement Assistance Administration's Integrated Criminal Apprehension Program (ICAP) - under three separate grants awarded to the OPD beginning in August 1977 and ending in October 1982.

The chapter opens with a description of the test site (i.e., the City of Oxnard, reported crime, the OPD, and the OPD ICAP). This is followed by a discussion of the OPD crime analysis and directed patrol programs. Next, a summary of the evaluation methods used is provided. The remainder of the chapter sets forth the results of the evaluation.

OVERVIEW OF THE EVALUATION SITE

The City of Oxnard

The incorporated city of Oxnard is located on the south-central California coastline in Ventura County. Oxnard is approximately 60 miles north of Los Angeles and had a population of 108,915 persons according to the 1980 Census. More recent estimates by the State of California's Department of Finance indicate that Oxnard's population was around 115,000 persons in 1982. In addition, while no accurate figures are available, Oxnard planners and police officials estimate that another 8-9,000 transient (and most likely "undocumented" alien) agricultural and service workers reside in the community.

Geographically, Oxnard is irregularly shaped with an extension

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* Edmund Fennessy and J.T. McEwen: Evaluation of the Directed Patrol Program of the Oxnard (California) Police Department, Interim Report to the National Institute of Justice, E. Fennessy Associates, San Francisco, California, September, 1982.

providing roughly 2.7 miles of beachfront access to the Pacific Ocean. While this beachfront area is well-populated, the majority of Oxnard's residents live within a 4.5 mile north-south elongation located about 2 miles inland from the coast. The overall boundaries of the city encompass an area of 23 square miles.

The largest single industry in Oxnard is agriculture and related businesses, closely followed by light to medium manufacturing and service establishments. The area also provides numerous recreation and leisure opportunities due to a large marina and beach areas coupled with an excellent year-round climate.

Rapid population growth has characterized the City of Oxnard since its inception. In 1960, the city had a population of 40,265. By 1970, population had increased by 77% to 71,225. While overall population of the U.S. increased by 11.5% between 1970 and 1980, the population of Oxnard increased by over 53%. Local planning officials project a population of 150,000 by 1990.

The ethnic composition of Oxnard is not that of a typical American city. While 60,354 (55.7%) of Oxnard's population classified themselves as "White" in the 1980 Census, close to 45% (48,032) of the city's residents indicated that they were of Spanish (mainly Mexican-American) origin. Around 6% (6,650) of the population were of Asian & Pacific Islands descent and another 6% (6,602) were Black. Slightly less than 1% of the population were American Indians. These figures do not add to 100% due to the crossover in the White/Spanish heritage categories. As of the 1980 Census: 19% of the population was under age 9; 18% were between ages 10 and 19; 20% were between ages 20 to 29; 18% were between ages 30 to 44; and 25% were over age 45.

Between 1970 and 1980, the overall population of Ventura County (excluding Oxnard - its largest city) increased from 307,272 to 421,704 - a gain of 37%. Including Oxnard, the overall 1980 population of the county was 530,000 persons.

Oxnard operates under the City Manager-Mayor-Council form of government as a General Law City under the California Municipal Code. The City Council consists of five persons elected at-large for four-year terms, one of whom serves as Mayor. The City Manager appoints all department heads. The overall budget of the city was roughly $25 million in FY-1981/82 - a per capita cost of $227.66.

Reported Crime in Oxnard

In 1981, the California Bureau of Crime Statistics announced that Oxnard had recorded the largest decrease in major offenses among the 42 jurisdictions with populations of 100,000 or more. Using

California's seven major offenses as a measure (willful homicide, forcible rape, robbery, aggravated assault, burglary, theft over $200, and motor vehicle theft), reported crime in Oxnard declined by 19.4% compared to 1980. Using the Federal Bureau of Investigation's Uniform Crime Report (UCR) "Index" offenses as a measure (that require a count of all thefts regardless of the amount of dollar loss), Oxnard's reported Part I Crimes decreased by almost 14% compared to 1980. Table 5-1 provides an overview of Part I Crime in Oxnard between 1976 and 1981.

Table 5-1
Reported Part I Crime In Oxnard: 1976-1981

Crime Type	1976	1977	1978	1979	1980	1981
Homicide	12	9	14	27	15	17
Rape	67	50	63	76	75	92
Robbery	345	438	412	462	540	351
Agg. Assault	283	308	408	447	411	316
Burglary	2,732	2,582	3,090	2,567	2,585	2,058
Larceny/theft	4,742	4,046	4,241	4,332	4,160	4,059
M.V. Theft	737	831	1,000	973	985	675
Total	8,918	8,264	9,228	8,884	8,771	7,568

Between 1980 and 1981, crimes against persons decreased by 265 or 25.5% and crimes against property decreased by 938 or 12.1%. The aggregate number of reported Part I Crimes in the 42 California jurisdictions with 100,000 or more population showed a 1.3% increase in the seven "major offenses" and a .2% decrease in UCR Index Crimes. While the actual number of Part I Crimes is an important measure, the rate per 100,000 persons of such offenses is an even more useful indicator since it accounts for population increases or decreases and permits comparisons between different sized jurisdictions on a standardized basis.

Table 5-2 sets forth crime rate information for Oxnard over the 11-year period extending from 1971 through 1981. This data was drawn from the Oxnard Police Department's annual UCR submissions and the population estimates (needed for rate calculations) were obtained from the State Finance Department and U.S. Census.

Table 5-2

Crime Rate in Oxnard: 1971-1981

Year	Part I Crimes Per 100,000	% of Change
1971	9,082	+ 33%
1972	8,807	- 3%
1973	8,406	- 5%
1974	8,916	+ 6%
1975	9,315	+ 5%
1976	9,693	+ 4%
1977	8,719	- 10%
1978	9,320	+ 7%
1979	8,456	- 9%
1980	8,106	- 4%
1981	6,727	- 17%

The 1981 crime rate in Oxnard was 31% below the peak rate of 9,693 which occurred in 1976. The average crime rate during this period was 8,882 per 100,000 with a standard deviation of 485.4. A regression equation was developed based on the crime rate data between 1971 and 1980 and projected for 1981. The expected crime rate in 1981 was 8,863 Part I Crimes per 100,000. The actual crime rate of 6,727 in 1981 was 3 standard deviations lower than the expected rate which is a statistically significant decrease. In fact, there has been a decline in the rate of crime beginning in 1979 and continuing through 1981. The 1981 rate of 6,727 Part I Crimes per 100,000 is the lowest recorded in this period. However, in comparison to other measures, Oxnard's Part I Crime rate was still 37% higher than the national average, 7% higher than the crime rate in the Pacific States and 3% higher than the California average.

A second important measure related to crime is the clearance rate (i.e., the number of crimes solved by arrest or other means com-

pared to the number reported). Table 5-3 shows Oxnard's Part I crime clearance rates for the three year period from 1979 to 1981.This table shows that the Oxnard Police Department has been increasingly successful in "clearing" Part I Offenses with the percentage of such clearances rising from 12.8% in 1979 to 14.8% in 1980 and to 21.5% in 1981. Compared to the average national clearance rate for Part I crimes of 19%, Oxnard's 1981 clearance rate of 21.5% was much improved over its previous performance.

The Oxnard Police Department

The Oxnard Police Department's budget in Fiscal Year 1981/1982 was $7.4 million (roughly 30% of the City's total budget). The authorized staffing of the department was 126 sworn officers (73.3%) and 46 full-time civilian employees (26.7%) for a total complement of 172. The OPD also employs 20-25 part-time civilians and maintains an active police reserve force of 22 non-paid volunteers (required to work 20 hours per month to retain active status).

Based on an estimated population of 112,500 in 1981, the per capita cost for police services in Oxnard was $66.04. With 1.12 sworn officers per 1,000 persons, Oxnard was 47% below the U.S. average of 2.1 police officers per 1,000 and 34% below the Pacific States average (for 643 cities) of 1.7 police officers per 1,000. The ratio of total OPD employees to population was 1.53 per 1,000 population which was 36% below the average of 2.4 police employees per 1,000 population for cities with populations between 100,000 to 250,000 persons. OPD staffing has increased by 31% over the last 7 years and population of the city increased by 32% during the same period. However, the number of sworn officers per 1,000 population actually decreased by 8% during this period (1.22 in 1977 to the present 1.12).

The authorized staffing of the OPD in 1982 was as follows: 1 Chief of Police, 1 Deputy Chief of Police, 7 Lieutenants, 16 Sergeants, 16 Police Officer III (the equivalent of the Master Police Officer rank); and 86 Police Officer I positions.

The OPD is organized into four major components: Patrol Bureau, Investigations Division, Technical Services Division; and Operations Support Division. Each is described briefly below:

With an authorized staff of 95 sworn officers (74.8% of all sworn personnel), **The Patrol Bureau** is commanded by a Deputy Chief of Police. Of this total, 2 officers are responsible for traffic operations (mainly accident investigation, hit and runs, and traffic safety programs); 7 officers are assigned to a Field

TABLE 5-3

PART I CRIMES AND CLEARANCES IN OXNARD FROM 1979 TO 1981

Type of Crime	Offenses 1979	N Cleared 1979	Percent 1979	Offenses 1980	N Cleared 1980	Percent 1980	Offenses 1981	N Cleared 1981	Percent 1981
Homicide	25	21	84%	15	12	80%	17	15	88%
Rape	76	18	24%	75	14	19%	92	30	33%
Robbery	462	87	19%	540	76	14%	351	94	27%
Aggravated Assault	447	107	24%	411	107	26%	315	161	51%
Burglary	2567	249	10%	2585	222	9%	2058	209	10%
Larceny/ Theft	4332	609	14%	4189	825	20%	4059	1103	27%
M.V. Theft	973	48	5%	985	51	5%	675	29	4%
Totals	8882	1139	13%	8800	1307	15%	7567	1641	22%

Source: Return A: OPD Crime and Clearance Report (UCR)

Tactical Unit and all remaining officers (including a five officer Canine Unit) are assigned to regular patrol duties.

The Investigations Division is commanded by a police lieutenant and has a total of 21 sworn officers assigned (roughly 17% of the authorized police officers in the department). The division is divided into a number of units including: Robbery/Homicide, Youth Services, Burglary, Checks and Forgery, Vice/Narcotics, General Assignment, and Court Liason/Case Control.

The Technical Services Division is commanded by a lieutenant and has responsibility for communications (staffed mainly by civilian dispatch personnel), training, internal affairs, jail operations, operations analysis, and police reserves. With the exception of one police sergeant, this division is staffed by civilians.

Commanded by a police lieutenant, an **Operations Support Division** (OSD) provides a wide range of field services support functions. Until mid-1982, the division also had responsibility for the management of the OPD's Integrated Criminal Apprehension Program (ICAP). Specific sub-units in the OSD include the Crime Analysis Unit, Records, Word Processing, Property and Evidence, Data Processing and Information Systems, Crime Prevention, and Identification. With the exception of five sworn police officers, the division is staffed by civilian personnel.

Since the patrol operation of the OPD is the focus of this evaluation effort, it will be described in more detail in the section that follows.

OPD Patrol Operations

There are three primary patrol watches supplemented by a smaller fourth overlap watch. Primary watches are staffed as follows: Day Watch (0630-1630) - 19 officers; Evening Watch (1600-0200) - 24 officers; Midnight Watch (2100-0700) - 21 officers. The fourth or Morning Watch is staffed by 14 officers and works between the hours of 1130-2130.

Each of the primary watches are commanded by a lieutenant with a fourth lieutenant serving as "relief" - these command personnel work under a 5-8 schedule while all other patrol staff work under a 4-10 schedule. The overlap watch is commanded by a sergeant. Several of the sergeant positions authorized for patrol are not filled at the present time due to an affirmative action lawsuit.

The Field Tactical Unit (FTU) is assigned to Patrol. This unit is supervised by a sergeant and staffed with six-officers. The FTU is a key part of the OPD directed patrol effort and will be one

of the major areas of emphasis in this evaluation.

The OPD conducts detailed operational analyses of patrol workload based on computerized dispatch and officer activity records. During the most recent analysis period, covering the 1981/82 fiscal year, the OPD received a total of 48,326 requests for service from the public.

Of this total, 91% (44,326) requests resulted in the dispatch of one or more patrol units. The remaining 4,000 requests (9%) were handled by non-mobile responses (i.e., referral, taking a report over the phone, walk-ins, etc.). The OPD does not have a Telephone Report Unit. The department does, however, use formal call screening and call prioritization policies. Of the 44,326 calls that were dispatched, 39% required the dispatch of more than one patrol unit. With some rare exceptions, all OPD patrol units are staffed by one officer. Several other features of the OPD patrol should also be noted.

First, patrol officers in the OPD have considerable responsibility for preliminary investigations of crimes and pursue such investigations as far as possible within the time available. Only major crimes require on-scene investigative personnel. One reason for this is the OPD Career Development Program which provides for an 18-month assignment to the Investigation Division for qualified patrol officers after they have gained several years of "street" experience.

Second, the OPD uses what they term a "Beat Coordinator" System. This involves the assignment of coordination and planning responsibility to a master police officer for all police operations (including directed patrol) conducted in specific geographic areas of the city.

Third, all OPD officers dictate their reports by telephone into a central word processing section. This both speeds up access to all crime data (reports must be dictated prior to the end of a shift) because such data is entered directly into the OPD computer system and saves considerable officer time.

Fourth, the OPD does not have a Crime Scene Investigations Unit. All work at the scene is handled by patrol personnel.

Oxnard Integrated Criminal Apprehension Program

In early 1977, the OPD submitted a $400,000 proposal to the U.S. Law Enforcement Assistance Administration to obtain an Integrated Criminal Apprehension Program (ICAP) grant. Their application was

successful and they were awarded an 18-month ICAP grant that began in August 1977. LEAA officials were satisfied with OPD progress on the initial grant (which actually ran for 20 months) and subsequently awarded two additional ICAP grants to the department (the last of which ended in 1982). In short, between late 1977 and 1982 the OPD received over $1 million in ICAP grant support

In their initial grant application, the OPD identified the reasons why they were applying for ICAP support as follows:

- Inadequate level of manpower in relation to demand for police service
- Inadequate crime analysis capabilities.
- Inadequate flexibility in the distribution of the patrol force.
- Inadequate data base for patrol force allocation.
- Decision-making unnecessarily restricted to the top levels of the department.
- Narrow scope of the patrol officer's role.
- Lack of effective patrol/detective crime case coordination.
- Inadequate linkages with other elements of the criminal justice system.

In a related document, the OPD management stated that they were determined to change their "traditional" approach to the delivery of police services and pointed out that:

> The OPD, in the past, has followed traditional approaches to law enforcement. Patrol officers are dressed in uniforms, given patrol cars, and assigned to the streets to prevent, suppress, and detect crime. A traditional detective force augmented the patrol function and investigated crimes.

They went on to point out that while this approach may have worked in the past, it was becoming increasingly clear that it was not

going to be adequate for either present or future requirements. Therefore, the major goal of the OPD's proposed ICAP program was to:

> Develop organizational mechanisms that make maximum use of resources in an effort to deter crime, interupt criminal activities, and apprehend targetted or other serious offenders.

In support of this overall program goal, the OPD defined three specific "strategic objectives" for their program as follows:

> 1. Introduce, maintain, and evaluate techniques for patrol management that apply resources to patrol objectives through clear policies and priorities that make the most cost effective use of such resources.
>
> 2. Through use of careful analysis, direct patrol resources to those locations and at those times so as to deter crime by reducing the perceived opportunity.
>
> 3. Direct patrol resources toward identified crimes in an effort to interupt those activities or to apprehend offenders.

These goals and strategic objectives remained the same throughout the three ICAP grants.

The heart of the OPD application was its committment to the ICAP structured decision-making process that involved a superficially simple but operationally complex logic sequence. Basically, the ICAP "model"involves a five step process beginning with data collection and including problem identification through data analysis, development of a plan to solve or ameliorate the problem, implementation of the plan, and feedback and evaluation. In short, this process was designed to replace and or supplement traditional intuitive "seat of the pants" styles of police decision-making with a more formal data and analysis based style. As will be discussed later, the OPD has had a considerable degree of success in implementing this concept into the day-to-day management and operations of the department.

Probably, the best way to view the three phases of the Oxnard ICAP is as follows:

> **PHASE 1 - August 1977 to February 1979:** Development of a manual crime analysis capability, formation of a specialized field tactical unit, initial testing of basic unit directed patrol, patrol workload analysis, and design of a new police information system.
>
> **PHASE 2 - March 1979 to December 1980:** Detailed design and implementation of an automated police information system, refinement of crime analysis, directed patrol, and field tactical unit elements, development of call screening and prioritization policies, analysis of investigative operations and implementation of Managing Criminal Investigations (MCI) principles, and integration of operations analysis capabilities.
>
> **PHASE 3 - January 1981 to September 1982:** Continued implementation and refinement of all program elements, development of victim-witness training programs for all patrol personnel, and full integration of all ICAP elements.

The primary concern of this evaluation is the directed patrol program of the OPD. This also requires a detailed assessment of the crime analysis function of the OPD that was developed under the ICAP grants to support this program.

There are specific time periods within the three phases described above that are of major importance in understanding both the nature of the OPD's directed patrol program as well as our evaluation strategy and methods. A chronology of these key events is set forth below:

- Integrated Criminal Apprehension Program grant awarded (August 1977)
- Initial staff hired for Crime Analysis Unit hired (January 1978)
- Field Tactical Unit begins operations (January 1978 - unit fully staffed by July 1978).
- Initial design and testing of basic patrol unit directed patrol program (May 1978)
- Patrol workload study completed and departmental reorganization completed (i.e., creation of 4th watch, reallocation of patrol force, etc. - August 1978).
- Experimentation and testing of OPD directed patrol program (September 1978 to August 1979).

- Reassessment of basic unit directed patrol effort by internal task force (August 1979 to January 1980).

- Design and implementation of new police computer management information system (August 1979 to August 1980).

- Formal written policy and procedures for OPD basic unit directed patrol program issued (February 1980).

- "Official" start-date of basic unit directed patrol program (February 1980).

- Elimination of written "D-Run" forms (March 1980).

- New computer system comes on-line (August 1980).

- Directed Patrol Evaluation grant awarded to EFA (December 1980).

- OPD request to LEAA to use $60,000 in unspent ICAP funds to create and staff a telephone report unit and to perform related research on directed patrol program denied due to coming demise of the agency (January 1981).

- Evaluation Design completed (April 1981).

- End of Evaluation Period (January 1982).

A review of this chronology indicates the problems encountered in this evaluation in selecting baseline and evaluation periods. These difficulties will be discussed more specifically later in this chapter. First, however, it is necessary to provide a brief description of the central elements of the OPD's crime analysis and directed patrol programs.

Description of the OPD Directed Patrol Program

The OPD designed and implemented both split-force and basic unit elements of a directed patrol program between 1977 and the present. Each of these elements will be described below. However both relied heavily on the OPD Crime Analysis Unit to support their planning and operations so it is first necessary to discuss

the background of this unit and the services it provides.

Crime Analysis in the OPD

Prior to the award of the ICAP grant in 1977, the OPD simply did not have an adequate crime analysis capability to support field operations. Some statistical analysis of crime data was performed by a sergeant assigned to the Planning and Research Unit, but this was done primarily for administrative rather than operational purposes. In addition, some crime analysis of a rather limited nature was undertaken by investigators or patrol supervisors on a sporadic basis. However, there was no formal effort in the OPD to use crime data in systematic way to support patrol or investigative operations.

Following award of the ICAP grant, OPD officials engaged in an intensive planning effort, involving a review of the literature and visits to 15 police agencies with existing crime analysis units, to determine the type of crime analysis capabilities that would be necessary to support a directed patrol program.

Once the planning effort was complete, the OPD developed position descriptions for the proposed Crime Analysis Unit and advertised nationally for persons to fill these positions. After extensive screening and interviews, the OPD selected a highly experienced individual to fill the key position of Crime Analysis Supervisor.

This individual was a retired military intelligence officer with five years of police crime analysis experience and whose doctoral dissertation dealt with the geography of burglary and robbery in a large western city.

The new CAU Supervisor found that he had to develop the OPD's crime analysis capabilities virtually from scratch. Thus, the first year of CAU operations was devoted to developing basic files, redesigning report forms, developing analysis and dissemination systems, hiring and training support staff, analyzing available historical crime data, and devoting a considerable amount of effort to internal "marketing" and coordination tasks.

As a result of these efforts, it was found that the OPD's existing computer data (that operated in a "batch" processing mode) was incapable of supporting the types of analysis needed. Aside from being too slow to provide information in a timely manner, it was discovered that over 30% of the crime locations in the data base were simply wrong. OPD management therefore decided that it would be necessary to use part of the grant funds (as well as City funds) to design and implement a completely modern on-line police

information system to support department operations.

Over the next two years, the CAU engaged in a parallel effort to both provide manual crime analysis services to field operations and to assist in the design and implementation of the new police information system. By August of 1980, these efforts were completed when the new computer system was fully in place.

At the time of this evaluation, the OPD CAU was staffed by the Chief Crime Analyst, two Assistant Crime Analysts and one clerical assistant. All of the CAU staff were civilians, although one of the Assistant Analysts was a formerly a sworn officer and investigator with the department. The other Assistant Analyst had gained her initial experience with another large police agency's Crime Analysis Unit. In addition to the full-time staff, the CAU made use of part-time student help, CETA employees, and student interns to assist in various clerical capacities.

These clerical assistants were used on two major CAU projects: the coding of a computerized geographic base file of the city and correction of a considerable amount of existing crime location file data. These efforts required over 5 person-years to complete. The OPD CAU needed a staff of this size because it concentrates its efforts on a very broad range of regular and special reports and services to support the operational units of the department. And as noted above, the transition from a primarily manual crime analysis system which was developed between 1978 and 1980 to one that is now supported by a sophisticated computerized information system, was labor-intensive.

The initial products of the CAU were a bi-weekly series of "Beat Profile" Reports for each of the six patrol beats in the city that were distributed to all patrol personnel. These reports contained detailed summary data on reported crimes, wanted persons, arrests, suspect and suspect vehicle descriptions organized by beat and watch. Other reports on crime patterns or series were also prepared as appropriate. With the advent of the new computer system in August 1980, the CAU had access to a needed information on an efficient data-base management system that could be queried and searched by defining specific search parameters. The main files on the computer system included: Event File (all events involving some type of police action), Officer Activity File, Uniform Crime Report/BCS File, Field Interrogation Card File, Traffic Citation File, Arrest File, and Property and Pawn Files.

In addition to these basic files, the CAU also maintains a "key offender file" (contains information on well over 400 persons of interest to the OPD who are known to meet "career criminal" criteria or are active and serious criminal offenders). The unit

also maintains jail release lists, parolee files, probation files, burglary and robbery reports filed by grid, truant files, CAU analysis of all physical development proposed for the city, and various other files. The overall system is referred to as the **Offender Tracking System** since it allows the CAU to keep track of active or formerly active offenders.

The CAU has also designed and implemented a computerized "modus operandi" file that can be tied to the Key Offender File to provide occasional investigative or pattern analysis leads. The file can be of assistance in increasing crime clearances by enabling arresting officers or investigators to determine if the "m.o." or fingerprints can be used to link in-custody offenders with any prior open cases.

These files are regularly analyzed in a variety of ways by the CAU to provide the following output reports which can be used for planning directed activity.

- **Beat Summary Reports:** Prepared twice-weekly with hard copies issued to all patrol personnel. Provides summary information on Part I Crimes in each patrol beat.

- **Watch Bulletins:** Issued 2-3 times per week and used to provide information on crime patterns or series, wanted persons, persons released from jail, California Youth Authority, or State Prisons (together with special conditions); stolen cars, suspect vehicles and any other information deemed of importance by the CAU.

- **Directed Patrol Priority Area Maps:** The CAU provides twice weekly briefings of all patrol watches and identifies and distributes maps indicating specific areas and times that are experiencing high (or higher than normal) volumes of reported crime. Primary emphasis is placed on burglaries and robberies. These directed patrol priority areas are further divided into day and evening areas. The maps are intended to be used by patrol officers to plan their "informal" directed patrol activities.

- **Response to Patrol Requests:** Patrol personnel can request file searches or special analyses to support the planning of directed activity at any time. The volume of such requests from all operational personnel average around 100 per month.

- **Analysis Support and Briefing of Field Tactical Unit:** Once a week or on request, a member of the CAU briefs the FTU on current criminal activity based on both hard information as well as "soft" intelligence data. Based on these briefings, the FTU with CAU support will develop Operational Plans for attacking specific problems. On long-term or continuing operations, the CAU will monitor and evaluate progress. The unit CAU provides a similar briefing to investigative personnel. They also hold regular meetings with crime analysis and detective personnel from other agencies in the area to share information.

Two unique and important aspects of the OPD crime analysis system merit further comment. First, under the ICAP grant, the OPD contracted for complete aerial photographs of the City. These photos were taken by low flying aircraft and the shots were made at a 45 degree oblique angle. The graphic views available from this aerial mosaic can be enlarged to show individual houses or blocks as desired. These pictures serve as a planning and analysis resource that are far superior to memory when analyzing particular crimes or preparing a directed patrol plan.

Second, and far more important, are the continuing series of face to face briefings of patrol, FTU, and investigative personnel provided by the CAU. These briefings enable the two-way flow of information between the various units to the CAU. This briefing system has served to establish the CAU as the central point for the coordination of crime-related information in the OPD.

The section that follows describes the primary approaches to the implementation of directed patrol in the Oxnard Police Department.

The Split-Force Component - The Field Tactical Unit

In developing a directed patrol program, OPD officials felt that they would need a specialized patrol unit that was completely freed from CFS responsibilities and that could devote all of its time to the suppression of specific crimes (particularly burglary and robbery) and the apprehension of "career" criminals and other serious offenders. They also wanted a Crime Analysis Unit that could provide this type of unit with a high-level of analysis support that would enable the split force unit to function in a "pro-active" fashion.

The initial ICAP grant provided funding for a Field Tactical Unit

(FTU) that was to be staffed by one sergeant and six officers. To be specific, the grant funds were to be used to hire and train six new police officers to replace the experienced patrol officers who would actually staff the FTU.

A sergeant and two officers were initially assigned to the FTU in early 1978, but the unit did not reach its planned complement until later in the year. During this same period, the fledgling CAU was also in the process of developing necessary data and dissemination systems, so it was not until August 1978 that the FTU was in position to operate as originally intended. From an organizational standpoint, the FTU was assigned to the ICAP Project in the Operational Support Division.

From an operational perspective, the FTU primarily concentrated their efforts on burglary and robbery offenses during the duration of the three ICAP grants, although they also took on a wide variety of other special assignments as will be discussed later. For the most part, the work hours of the FTU were flexible due to the specific nature of the problems they were addressing. Their tactics were also flexibile and were adjusted to meet the needs of specific crime pattern/series offenses (i.e., stake-outs, area surveillance, person surveillance, high-intensity saturation, etc.). Generally, the FTU staff worked in "old clothes" and used a continually changing mixture of rental vehicles to avoid ready detection by street people. Until late 1981 the FTU worked as a unit (i.e., all officers worked the same problem). After that date the FTU was transferred from OSD to the Patrol Bureau where they reported directly to the Deputy Chief of Police. In this assignment, the FTU sometimes worked as a full unit and sometimes in several smaller teams as deemed appropriate by the supervisor.

The stated goal of the FTU was: **To support patrol operations in their attempts to reduce crime and to concentrate on serious offenses and serious offenders.** While assigned to the ICAP Project (1978 - 1981) the FTU developed "operations plans" that were apporoved prior to implementation by the OSD Commander. They also responded to specific requests (increased gang violence, increased levels of prostitution in an area, etc.) for the services by various command and supervisory officers.

Procedurally, the FTU prepared an Operations Plan for each of their assignments. This written plan identified the problem, set objectives, described tactics to be employed, and listed the results obtained. Most FTU "operations" ran for 10-15 work days (or until desired results were obtained), but some lasted as long as 3 months and some for only 1 day. Between 1978 and 1981, the FTU averaged 12-16 completed operations per year.

Thus, this intervention represented the full-time allocation of

roughly 13,000 hours of sworn officer time per year that was fully dedicated to this type of specialized or "directed" patrol (representing an annual personnel cost of about $200,000) that was not available prior to the program.

Basic Unit Directed Patrol Program

In addition to the creation of the FTU, OPD management wanted to develop a pro-active directed patrol effort that would make use of the "uncommitted" time of their regular patrol force for crime control and prevention purposes.

During the first ICAP grant in 1977 they established the following resource allocation objective for their program:

> To identify, through workload analysis, the uncommitted time available for patrol officer assignment and to use 10% of this time for directed patrol

Responsibility for developing the basic unit directed patrol program was assigned to a lieutenant in charge of one of the patrol watches. This individual was quite interested in the concept and was known to be a strong advocate of this approach. The design that resulted from his planning efforts was completed in mid-1978 and envisioned a two-level directed patrol program for the basic patrol force. The first level was based on the New Haven model (described in Chapter II) and was termed the "D-Run" approach.

The D-Run approach involved the preparation of written directed patrol assignments for patrol officers by patrol supervisors and "beat coordinators". These "D-Runs" were to be based on data provided by the Crime Analysis Unit or other relevant information and required the officer to conduct a specific task (i.e., area surveillance) at a specific time in a specific location. These written instructions were to be given to an officer on a D-Run Form at the beginning of a shift and he or she was required to hand in the form at the end of the shift noting whether or not the assignment was performed and what results were obtained. Except in unusual circumstances, D-Runs were to be of 20-25 minute duration and were to be performed by uniformed officers in marked vehicles in addition to their normal patrol duties.

The second level of the basic unit program was termed "High Priority Directed Patrol". This approach involved the twice-weekly designation by the Crime Analysis Unit of directed patrol areas

for each of the six major "beats" in the City (divided into day and night areas). These areas were selected by the CAU based on significant increases in reported crime or the existance of an identified crime pattern in the area. Officers were expected to spend any time that they were not busy on other tasks in these areas.

In general, a D-Run theoretically was supposed to have the same value as a Priority Two CFS and officers could be recalled from such assignments by the dispatcher only to respond to Priority One calls. Officers engaged in "High Priority Directed Patrol" were available for dispatch at any time.

As noted, from a tactical standpoint, the basic unit directed patrol program emphasized high visibility police presence and an aggressive approach to police patrol (i.e., frequent car stops and field interviews, truancy enforcement, area saturation, etc.) Some foot patrol directed patrol assignments were also used. Any crime problem that called for more subtle tactics (i.e., use of decoys, stake-outs, surveillance of potential offenders, low visibility patrol, etc.) was generally given to the Field Tactical Unit. As will be described later, coordinated operations involving patrol, the FTU, and investigative personnel were undertaken on occasion, but such operations were more the exception than the rule.

It should also be stressed that no formal training was provided to command, supervisory, or line officers in the area of directed patrol at any time. The program was explained to patrol officers at their roll call briefings and was discussed at weekly staff meetings by higher-ranking personnel prior to implementation. Very little effort was made to "sell" patrol personnel on the importance or potential value of the directed patrol effort. The program was simply announced to the officers and they were told that they were going to do it.

Between mid-1978 to August 1979, the OPD patrol force experimented with these two approaches to basic unit directed patrol. In some months and on some watches during this period considerable stress was placed on the directed patrol effort. However, by the summer of 1979 it was clear that only one of the three primary patrol watches was devoting a substantial level of effort to the program.

In addition, it was also clear that some watch commanders and patrol supervisors had little or no interest in the directed patrol program and regarded it as something that would fade away once the ICAP grant ended. It was equally clear that the OPD's communications center personnel lacked a sufficient understanding of the program concept and frequently interupted directed patrol assignments with lower priority dispatches.

In short, OPD management recognized that the basic unit directed patrol program as developed needed to be reevaluated and that more formal policy and procedures were needed to guide the effort. An internal "task force", headed by the same watch commander that developed the original design, was appointed by the Chief of Police to conduct this program review. This task force began their work in August 1979 and completed the review in January 1980.

The major product of the task force was a formal written "Standard Operating Procedure" (SOP) to provide both policy and procedural guidance for the OPD's basic unit directed patrol program. After management review, the SOP was formally adopted and disseminated to all department personnel. The key feature of this SOP was that it placed specific responsibility for the success or failure of this program on patrol sergeants. Specifically, the SOP stated that:

> Patrol sergeants will be the focus for planning, implementing, and monitoring directed patrol activities. It is the responsibility of each watch sergeant to implement specific and well-defined tactics that are developed through the combined efforts of crime analysis, patrol supervisors, and beat coordinators.

The SOP went on to state that: "**...directed patrol is an official program of the department and supervising sergeants shall impress upon beat officers the necessity of the process.**" The SOP defined the objectives of the directed patrol effort as including the apprehension of criminal violators and the suppression and prevention of criminal activity as well as selective enforcement on a variety of crime and traffic problems. Such directed patrol assignments were to be planned by patrol supervisors on the basis of the following factors: (1) crime analysis information on priority areas; (2) size and makeup of the priority areas; (3) chronological data; (4) community requests for frequent patrols; (5) modus operandi data; (6) selective enforcement; and, (7)..."most importantly, input from officers working the beat on a semi-permanent basis." An important constraint was also stated in this SOP as follows: "Directed patrol assignments should generally be limited to 20 minutes duration unless unusual conditions exist."

Other key features of this SOP included: (1) directed patrol assignments have the same priority as and Priority Two Call For Service and can only be aborted in special circumstances (i.e., officer judgement that another situation requires immediate attention or dispatch to a Priority One call for service); and, (2) Selection of target crimes for directed patrol should be limited to those that are deterrable by the presence of a police officer. Deterrable crimes were defined in the SOP as residential burglary,

commercial burglary, auto burglary, vandalism, purse snatching, and street or commercial robberies.

The SOP also provided the following OPD definition of directed patrol:

> **Directed patrol presently supplements the random patrol operation with a method of deployment that directs patrol units to target areas at specific times determined by the analysis and evaluation of crime data. Unlike random patrol, some of the officer's time is guided by written instructions.**

This policy was formally adopted on February 1, 1980. There were few changes from what had gone on before in the department. The two-level D-Run and High Priority Directed Patrol Area approaches were continued as originally conceived. However, the assignment of responsibility to patrol sergeants was new and the definition of decision factors and related procedural instructions provided a formal basis for the operation of this program. More will be said about the "process" aspects of directed patrol implementation later in this chapter. The evaluation methods employed to assess the outcomes of directed patrol in the OPD are summarized in the section that follows.

EVALUATION METHODOLOGY

At the outset, we want to make it quite plain to the reader that the OPD's implementation of directed patrol was not designed as an "experiment". Instead, this program was developed and set in place as an operational improvement effort and, as such, little attention or consideration was given to the specification or maintenance of stringent experimental "controls". The OPD's directed patrol program was subject to continual change and refinement over time so it was not feasible to undertake a "true" experimental evaluation of the program. At best, the evaluation design we used can be described as a "Before and During Case Study". However, even that simple a design provided us with many methodological problems due to the on-going efforts to upgrade OPD operations as a result of the ICAP grants as well as due to a variety of both organizational and external factors that impacted the department during the course of this evaluation study.

Given these constraints, our intent in this evaluation was to obtain multiple-level measurements of OPD patrol operations in general and of directed patrol efforts in particular. The specific objectives of this evaluation were as follows:

- Identify any changes in the scope, nature, and intensity of the OPD directed patrol program and determine the reasons for such changes as well as their merits and drawbacks.

- Determine the impact of the implementation of directed patrol on the OPD's call for service response capabilities.

- Identify any changes in the roles, functions, and responsibilities of OPD patrol personnel (and/or other OPD units) resulting from the implementation of directed patrol.

- Determine if implementation of a directed patrol program produced any change in the arrest-related productivity of OPD patrol personnel.

- Determine the impact of directed patrol in the OPD on related and usual measures of patrol output and productivity.

One advantage of this evaluation was that considerable longitudinal data on OPD patrol operations and ICAP activities had been collected as the result of several local evaluations of the ICAP program conducted by a member of the evaluation team. For example, previous surveys of the attitudes and perceptions of OPD patrol personnel had been conducted related to crime analysis, directed patrol, and other organizational issues. Considerable statistical data was also available and was used in this evaluation. Primary evaluation activities conducted during the course of this study (which began in late November 1980) included:

- Analysis of 63,000 OPD dispatches between the 18-month period of August 1980 to January 1982 using SPSS and the microcomputer version of the Patrol Car Allocation Model (Patrol/PLAN) developed by the Institute of Public Program Analysis.

- Monthly site visits to the OPD for "ride-along" observations of directed patrol activity, and formal and informal interviews with command, supervisory, and line personnel.

- Collection of all available internal records on crime, arrests, and patrol activity.

- Administration of a specially designed survey

instrument in September 1981 to all Oxnard patrol personnel for comparison to earlier surveys in 1978 and 1980 as well as to obtain more recent views on the directed patrol effort (conducted in September 1981).

- Special computer runs on the OPD Police Information System to obtain monthly breakdowns of officer activity and arrest data by major OPD units.

- Analysis of samples of D-Run forms filled out by OPD patrol officers.

These data collection efforts provided us with a wealth of detailed information on OPD operations during this evaluation. On the other hand, a wide range of data related problems were encountered throughout the study. A central and vexing problem, for example, was the unreliability of much of the baseline information on OPD patrol operations for the period prior to directed patrol implementation. This problem resulted from major redesign and changeover from one computer system to another by the OPD. Data from the prior system were found to be particularly flawed for purposes of this evaluation in many important aspects. However, from August of 1980 (when the new system became operational) to the end of the evaluation project in January 1982, an excellent data base was available for analysis purposes.

Further details of the evaluation methodology are set forth in the sections that follow in the context of the issues addressed. The evaluation will begin with the analysis of dispatch data relateed to OPD patrol operations.

ANALYSIS OF OPD PATROL WORKLOAD AND OPERATIONS

The original intent of this analysis was to compare OPD patrol response performance and workload before and after directed patrol implementation. Specifically, we wanted to know what impact a directed patrol program has on response times, service times, and call delays. Unfortunately, a review of the pre-program data on OPD dispatch activity revealed that it was useless for evaluation purposes because (1) there was no way of determining either call priorities from the data available or the number of multiple unit dispatches; and, (2) as much as 30% of the pre-1980 dispatch data contained erroneous locations or missing times. Faced with this problem, we decided that our most promising approach was to focus only on the the 18-month "program" period (extending from August

1980 through January 1982) for which valid information could be obtained.

Each dispatch record contained information on time the call was received, time dispatched, unit assigned, time of arrival, time of completion, call priority, number of units dispatched, type of call, etc. While much improved over the data available from the pre-1980 period, this data had some problems all of its own. Specifically, missing or incorrect data in the time fields initially caused considerable problems with some records showing incident times greater than the length of the shift (10 hours). Another problem was that in periods 2 and 3, the call priority was missing in roughly 25% of the records which was apparently caused by a programming error. We only used those records in this study for which priority information was available except in those cases involving total call counts.

In Oxnard, patrol officers are assigned to teams designated as Teams A, B, C, and D. Each team works a ten-hour shift with Team A working from 0630-1630; Team B from 1130-2130; Team C from 1600-0200; and, Team D from 2100-0700. This ten-hour schedule provides for overlaps throughout the day and at shift changes. The impact of this scheduling arrangement will be seen throughout this analysis.

In analyzing patrol operations, the key concern is with primary units available for dispatch since these units will be most affected by directed patrol operations. Primary units were designated as follows:

Team A: A1, A2, A3, A4, A5, A6, 2A4, 2A5

Team B: B1, B2, B3, B4, B5, B6, 2B4, 2B5

Team C: C1, C2, C3, C4, C5, C6, 2C3 2C4, 2C5, 3C5

Team D: D1, D2, D3, D4, D5, D6, D7

Units not in this analysis were supervisory cars and special units which only occasionally handle citizen calls for service.

The number of calls for service for each period handled by the primary patrol units were as follows:

- **Period 1:** 25,635 calls
- **Period 2:** 17,821 calls
- **Period 3:** 20,243 calls

Note the significant decrease (-30.5%) in call volume between Period 1 and Period 2 and Period 1 and Period 3 (-21.0%). This latter decrease is particularly significant since the two periods cover the same months of the year which means no seasonal influence is present. There was also a significant decrease in reported crime during this period despite an increase in overall population of the city. Table 5-4 shows the distribution of calls by day of the week for each period (days have been defined for this purpose as extending from 0700-0659 to correspond to shift times). While the volume of calls differ for each of the three periods, their distribution by day of the week is quite similar. With each period, Saturday-Sunday (0700-0659) has the heaviest workload with about 18% of total weekly workload; Wednesday-Thursday (0700-0659) has the lightest workload with only 11.5% of total weekly workload.

Table 5-5 shows the distribution of calls by five different time blocks which have been selected to reflect shift overlap periods. Again there is minimal percentage variation between periods in terms of workload by time period. The time period from 1700-2200 has the greatest activity in each period with 29% of the workload. Not surprisingly, the time period from 0200-0659 has the lightest workload with only 10% of the workload. Note, however, that the 2200-0200 period is only 4-hours in length, while the other time blocks covers 5-hour periods. Adjusting for this difference shows that the 1700-0200 time period is busiest for primary patrol units.

The distribution of calls by priority is also of importance. However, due to the 25% of missing priority designations in Period 2 and 3, no analysis of these periods is feasible. In Period 1 (8/80-1/81), the distribution of calls by priority was as follows:

- Priority 1: 7,779 (30.3%)
- Priority 2: 8,145 (31.8%)
- Priority 3: 9,710 (37.9%)

The surprising feature of this distribution, in comparison to other police agencies, is the high percentage of Priority 1 calls. The usual definition of Priority 1 Calls is that they are true emergency calls requiring an immediate response because of crimes in progress, life-threatening situations, or other hazardous events. In other agencies studied, such calls generally account for no more than 10% of the total volume of calls. In Oxnard, it would appear that other types of calls have been mixed with true emergencies to account for this high percentage. An analysis of call priority by day of the week results in a distribution almost the same as the data presented in Table 5-4. For example, Sunday-Monday had roughly 14.6% of total calls and 14.7% of Priority 1 calls; 14.9% of Priority 2 calls; and, 14.1% of Priority 3 calls.

Table 5-4
Calls By Day Of The Week

Day of Week*	Period 1	Period 2	Period 3
Sunday-Monday	3,473 (14.6%)	2,218 (13.2%)	2,862 (15.3%)
Monday-Tuesday	3,204 (13.4%)	2,143 (12.8%)	2,376 (12.7%)
Tuesday-Wednesday	2,808 (11.8%)	1,911 (11.4%)	2,275 (12.2%)
Wednesday-Thursday	2,802 (11.7%)	1,932 (11.5%)	2,252 (12.1%)
Thursday-Friday	3,107 (13.0%)	2,398 (14.3%)	2,467 (13.2%)
Friday-Saturday	4,128 (17.3%)	3,000 (17.9%)	3,101 (16.6%)
Saturday-Sunday	4,332 (18.2%)	3,171 (18.9%)	3,337 (17.9%)
Total**	23,854	16,773	18,670

Table 5-5
Calls By Time Block

Time Block	Period 1	Period 2	Period 3
0700-1200	3,813 (16.0%)	2,664 (15.9%)	2,967 (15.9%)
1200-1700	5,244 (22.0%	3,750 (22.4%)	4,312 (23.1%)
1700-2200	6,924 (29.0%)	4,824 (28.8%)	5,386 (28.8%)
2200-0200	5,381 (22.6%)	3,851 (23.0%)	4,085 (21.9%)
0200-0700	2,492 (10.4%)	1,684 (10.0%)	1,920 (10.3%)
Total**	23,854	16,773	18,670

*Each day is defined from 0700 of one morning to 0700 of the next morning.
**Totals wil differ from the overall period total because of missing or incorrect day of the week or hour on some records.

Table 5-6
Service Time Averages By Period And Call Priority

Average Communications Center Time

Priority*	Period 1	Period 2	Period 3
1	2.4 minutes	2.4 minutes	1.9 minutes
2	6.0 minutes	5.7 minutes	4.5 minutes
3	11.7 minutes	10.8 minutes	8.9 minutes

Average Travel Time

Priority*	Period 1	Period 2	Period 3
1	3.1 minutes	3.1 minutes	3.0 minutes
2	4.3 minutes	4.1 minutes	4.0 minutes
3	5.5 minutes	5.5 minutes	5.5 minutes

Average Incident Time (Primary Units)

Priority*	Period 1	Period 2	Period 3
1	24.6 minutes	24.3 minutes	25.8 minutes
2	22.9 minutes	22.3 minutes	22.4 minutes
3	28.6 minutes	26.6 minutes	31.0 minutes

Table 5-6 gives some of the primary statistics on response and service times over the three periods. With respect to call processing in communications (time received to time dispatched), the data shows steady decreases over the three periods. For example, the communications center processing time for Priority 1 calls decreased by 24% between Period 1 and Period 3. One reason for this reduced processing time may be that as calls for service have decreased there has been a corresponding increase in efficiency. Less workload may also reflect increased unit availability. Only small changes were noted in travel times over the three periods. Incident time is composed of travel time plus on-scene time by the patrol units. The overall average incident time was about 25 minutes for primary units. Interestingly, Priority 2 calls have the lowest incident times and Priority 3 calls the longest.

An analysis of multiple-unit dispatches over the three periods revealed that a single unit responded in 57% of the calls. Two units were dispatched to 34% of all calls and three or more units responded to 9% of all calls. Using these results, it is estimated that the average incident time should be increased by 30% to account for multiple unit calls since the dispatch ticket only captures the incident time of the primary unit dispatched to a call. Thus, since the average service time for primary units in this analysis was found to be 25 minutes, the overall average service time on all calls is more likely to average about 33.3 minutes per call..

Call For Service Demand and Unit Utilization

Given the background statistics above, it is now possible to consider OPD patrol operations in more detail. The use of overlapping shifts, coupled with day of the week variations, made the analysis rather complex since it was necessary to examine several distinct time periods. More specifically, there are five distinct time blocks and seven days of the week to be analyzed making up 35 segments for each of the three periods. As seen in Table 5-8 the workload varies considerably for the different time blocks. In Period 3, for example, the range of average calls per hour varies from 1.4 calls between 0200 and 0700 on a Tuesday morning to 7.9 calls per hour between 2200-0200 on a Saturday night. In short, the workload in the busiest period has more than 5 times as many calls than does the lightest workload period. Distribution of calls with such wide variablity poses a resource allocation problem for the OPD in correctly staffing the shifts. Providing sufficient time for directed patrol is part of this resource allocation problem.

Table 5-8

Hourly Call Rates

Period 1

Time Block	Sun.-Mon.	Mon.-Tues.	Tues.-Wed.	Wed.-Thurs.	Thurs.-Fri.	Fri.-Sat.	Sat.-Sun.
0700-1200	4.17	4.80	4.22	3.58	3.77	4.33	4.45
1200-1700	6.44	6.22	4.81	4.39	5.36	6.31	6.81
1700-2200	8.10	7.21	6.40	6.32	7.20	8.88	9.15
2200-0200	7.08	5.61	5.36	6.13	6.57	10.02	10.99
0200-0700	2.35	1.93	1.88	2.36	2.32	4.22	4.12

Period 2

Time Block	Sun.-Mon.	Mon.-Tues.	Tues.-Wed.	Wed.-Thurs.	Thurs.-Fri.	Fri.-Sat.	Sat.-Sun.
0700-1200	2.55	2.98	2.40	2.33	3.05	3.77	3.42
1200-1700	3.78	4.00	3.46	3.52	3.88	5.16	5.04
1700-2200	5.25	4.96	4.35	4.26	6.00	5.99	6.29
2200-0200	4.94	4.16	3.83	4.07	4.98	6.03	8.41
0200-0700	1.52	1.22	1.43	1.49	1.53	2.85	2.92

Period 3

Time Block	Sun.-Mon.	Mon.-Tues.	Tues.-Wed.	Wed.-Thurs.	Thurs.-Fri.	Fri.-Sat.	Sat.-Sun.
0700-1200	3.53	3.14	2.19	2.61	2.97	3.52	3.86
1200-1700	5.25	4.66	4.26	4.11	4.48	5.13	5.28
1700-2200	6.82	5.80	5.05	5.27	5.56	6.06	6.88
2200-0200	5.55	4.11	4.21	4.88	5.12	7.49	7.93
0200-0700	1.98	1.39	1.63	1.44	1.87	3.15	3.31

One way of summarizing call rate data, average service time data, and units fielded data is to calculate "unit utilization", which is defined as the percent of time that patrol units spend on calls for service during a given time block. This calculation is made by multiplying the call rate by the average service time and then dividing by the number of unit hours available by time block. Table 5-9 illustrates the application of this calculation to the data from Period 3. Unit utilization during this period ranges from a low of 10% for the Thursday morning 0200-0700 time block to a high of 34.4% during the Thursday 0700-1200 time block. It should be noted that the busiest periods in terms of calls for service do not necessarily have the highest unit utilizations since the utilization depends on the number of units fielded as well as on the citizen demand for such units. Thus, unit utilization during the Saturday 2200-0200 time block is only 19.6% because the department has fielded sufficient units during the period to make sure that no one unit is overloaded with work.

However, the time remaining after accounting for dispatch workload should not be viewed as "free" time - since there are many call related activities such as report writing which do not get included on the dispatch ticket. In short, a unit utilization of 15% does not mean that the unit has 85% of its time free. Indeed, as shown later in this chapter, roughly 37% of a patrol officer's time in the OPD is devoted to non-dispatch related activities such as house and business checks, traffic citations, vehicle service, assists to the public, roll calls, meals, etc. These activities are generally unknown to dispatcher. It should, be noted that directed patrol time must come from the time that officers are not occupied with calls for service work.

There are of course some trade-offs that can be made, but one way or another the "defined" work must be performed, leaving what is left for directed and routine patrol. Table 5-10 gives the unit utilizations for all three time periods. For the most part, the highs and lows are similar for each of the three periods.

What is important about this analysis is the finding that: The implementation of a directed patrol program has not degraded the OPD's CFS response capabilities. In short, response times met the objectives of management in the first of these three periods and they were even better during the last of the three periods. The analysis also shows that the OPD has done a good job of allocating its patrol manpower with respect to CFS workload.

On the other hand, one might speculate that rigid adherence to these objectives might adversely impact the use of time for the purposes of directed patrol. In considering this question, we used the Patrol/Plan model to assess desired OPD patrol performance objectives as described below.

Table 5-9
Unit Utilization For Period Three

Day/Time Block	Hourly Call Rate	Average Service Time*	Units Fielded	Unit Utilization
Sunday-Monday				
0700-1200	3.5	32.1 min.	7.0	26.7 %
1200-1700	5.3	34.0 min.	9.8	30.4 %
1700-2200	6.8	28.0 min.	13.2	24.1 %
2200-0200	5.6	23.6 min.	16.1	13.7 %
0200-0700	2.0	30.2 min.	7.2	14.0 %
Monday-Tuesday				
0700-1200	3.1	39.0 min.	6.5	31.5 %
1200-1700	4.7	35.2 min.	10.9	25.3 %
1700-2200	5.8	31.7 min.	11.1	27.6 %
2200-0200	4.1	24.3 min.	12.3	13.5 %
0200-0700	1.4	30.3 min.	5.6	12.6 %
Tuesday-Wednesday				
0700-1200	3.2	34.8 min.	6.0	30.8 %
1200-1700	4.3	37.2 min.	9.3	28.7 %
1700-2200	5.1	29.4 min.	9.5	26.0 %
2200-0200	4.2	23.9 min.	12.0	14.0 %
0200-0700	1.6	28.5 min.	5.9	13.2 %
Wednesday-Thursday				
0700-1200	2.6	35.7 min.	5.1	30.3 %
1200-1700	4.1	39.1 min.	8.4	31.9 %
1700-2200	5.3	31.9 min.	8.4	33.3 %
2200-0200	4.9	23.1 min.	11.4	16.5 %
0200-0700	1.4	26.2 min.	6.3	10.0 %
Thursday-Friday				
0700-1200	3.0	41.3 min.	6.0	34.4 %
1200-1700	4.5	41.0 min.	9.6	31.9 %
1700-2200	5.6	30.2 min.	10.5	26.9 %
2200-0200	5.1	21.8 min.	13.3	14.0 %
0200-0700	1.9	37.6 min.	6.5	18.3 %
Friday-Saturday				
0700-1200	3.5	40.6 min.	7.0	34.1 %
1200-1700	5.1	35.3 min.	11.5	26.1 %
1700-2200	6.1	26.1 min.	11.9	24.0 %
2200-0200	7.5	23.5 min.	15.3	19.1 %
0200-0700	3.2	31.8 min.	7.9	21.1 %
Saturday-Sunday				
0700-1200	3.9	33.1 min.	7.1	30.0 %
1200-1700	5.3	35.5 min.	11.0	28.6 %
1700-2200	6.9	27.8 min.	12.0	26.6 %
2200-0200	7.9	23.1 min.	15.6	19.5 %
0200-0700	3.3	33.7 min.	7.5	24.8 %

*The average time per call has been adjusted upward to account for backup units.

Table 5-10

Unit Utilization For Each Period

Period 1

Time Block	Sun.-Mon.	Mon.-Tues.	Tues.-Wed.	Wed.-Thurs.	Thurs.-Fri.	Fri.-Sat.	Sat.-Sun.
0700-1200	27.0%	39.2%	39.5	33.8%	35.0%	36.9%	37.8%
1200-1700	29.7%	29.0%	34.3%	33.0%	32.3%	31.1%	36.8%
1700-2200	28.1%	30.3%	34.2%	34.5%	30.2%	30.6%	30.6%
2200-0200	17.6%	18.8%	17.3%	19.5%	18.1%	21.3%	26.8%
0200-0700	17.7%	15.3%	12.3%	14.8%	14.9%	23.6%	23.8%

Period 2

Time Block	Sun.-Mon.	Mon.-Tues.	Tues.-Wed.	Wed.-Thurs.	Thurs.-Fri.	Fri.-Sat.	Sat.-Sun.
0700-1200	27.3%	34.0%	27.2%	32.1%	35.4%	33.9%	32.3%
1200-1700	26.0%	25.6%	26.9%	26.3%	26.8%	26.3%	33.2%
1700-2200	29.4%	27.3%	29.8%	28.8%	31.6%	26.1%	21.5%
2200-0200	16.9%	15.9%	15.4%	16.3%	18.1%	19.3%	22.5%
0200-0700	14.7%	12.3%	14.5%	13.7%	13.2%	18.4%	19.4%

Period 3

Time Block	Sun.-Mon.	Mon.-Tues.	Tues.-Wed.	Wed.-Thurs.	Thurs.-Fri.	Fri.-Sat.	Sat.-Sun.
0700-1200	26.7%	31.5%	30.8%	30.3%	34.4%	34.1%	30.0%
1200-1700	30.4%	25.3%	28.7%	31.9%	31.9%	26.1%	28.6%
1700-2200	24.1%	27.6%	26.0%	33.3%	26.9%	24.0%	26.6%
2200-0200	13.7%	13.5%	14.0%	16.5%	14.0%	19.1%	19.5%
0200-0700	14.0%	12.6%	13.2%	10.0%	18.3%	21.1%	24.8%

Patrol Performance Objectives

As part of the evaluation, OPD management were requested to develop patrol performance objectives. They already had a number of such measures such as average travel time and average incident time which they had developed as part of their operations analysis program. In addition, evaluation staff suggested several other measures having to do with unit utilization, average number of units available, and probability of a call being delayed because all units are busy. After discussion, OPD management listed the following patrol performance objectives:

- Average Communications Center processing time for Priority 1 calls should be no more than 1.5 minutes.
- Average travel time to Priority 1 calls should be no more than 4 minutes.
- Average response time (Communications processing and travel time) for Priority 2 calls should be no more than 10 minutes and for Priority 3 calls should be no more than 30 minutes
- The probability of a call being delayed because all units are busy should be no more than 3 percent.
- There should be an average of 5 patrol units available at any time for a call for service.
- The average unit utilization on calls for service should be no more than 35 percent.

With these objectives, it is possible through standard queuing analysis to determine how many patrol units should be allocated for any time block. The microcomputer version of the Patrol Car Allocation Model (PATROL/Plan, developed by the Institute of Public Program Analysis, St. Louis, Missouri) was used for this analysis. Rather than trying to apply this analysis to all three periods and 35 time-blocks, three time periods from Periods 1 and 3 were used in this assessment. These time blocks were selected to

represent low, medium, and high levels of CFS activity. Table 5-11 displays the results of this analysis. An assumption made in this analysis is that roughly 36% of each unit's time is devoted to defined activities other than calls for service work. This figure is reasonable for the OPD based on self-initiated and other activity reports of the department. The numbers shown as "units needed" in this table represent the units required to satisfy all of the stated patrol performance objectives of the OPD.

As it turned out, the most important objectives were Unit Utilization and Average Number of Units Available. Further analysis shows that Unit Utilization is the "dominating" objective since it requires more units than the other objectives. It should be noted that objectives on response time for Priority 2 and 3 calls are not shown in this table. These objectives assume that some Priority 2 and 3 CFS are intentionally held by the dispatch center. While this is standard practice, it violates an assumption of the queuing model that calls are delayed only if all units are busy.

A major purpose of this analysis was to determine the impact of directed patrol implementation on the performance measures of the OPD patrol plan. In this regard, two alternatives were evaluated. The first alternative was to assume that one (1) patrol unit is removed from the field and assigned to full-time directed patrol. In effect, the number of patrol units shown in Table 5-11 is reduced by one. The second alternative tested was to assume that all patrol units perform one 45-minute directed patrol assignment per shift. The results of analyzing these alternatives are set forth in Table 5-12.

The effects of Alternative One (i.e., reducing the number of field units by one) are, of course, to increase the unit utilization times of the remaining units, increase the probability of a call being delayed, increase the delay and travel times, and decrease the average number of units available. However, these changes are not drastic. For example, during Period 1, the unit utilization on Monday between 0200 and 0700 was 9.7% with 10 units. Adoption of Alternative One increases unit utilization to only 10.8% with only nine units fielded. In addition, The average number of units that are available decreases from 5.4 to 4.8 - a figure which is only slightly below the desired patrol performance objective of five patrol units. An analysis of other time periods produces similar results.

Analysis of Alternative Two (i.e., all units perform one 45-minute directed patrol assignment) produce some substantial effects on the desired patrol performance measures. For example, during the 0200 to 0700 time period on Mondays, the average number of units available decreases from 5.4 to 3.8 and the probability of a call being delayed increases from 1.7% to 9.7%. Other changes of this

Table 5-11

Results of Allocation Model

	Objective	Period 1 Monday 0200-0700	Period 1 Monday 1200-1700	Period 1 Saturday 2200-0200	Period 3 Monday 0200-0700	Period 3 Monday 1200-1700	Period 3 Saturday 2200-0200
Units Needed (Model Output)	N/A	10	16	24	10	14	15
Unit Utilization	35.0%	9.7%	22.8%	17.6%*	10.0%	19.5%*	20.4%
Available Units	5.0	5.4*	6.4	8.2	5.4*	6.2	6.5
Probability of Delay	3.0%	1.7%	2.7%*	2.6%*	1.8%	2.6%*	2.4%*
Priority 1 Comm. Center Delay	1.5 min.	.6 min.	.8 min.	.8 min.	.5 min.	.7 min.	.7 min.
Priority 1 Travel Time	4.0 min.	3.3 min.	3.0 min.	2.6 min.	3.3 min.	3.1 min.	3.0 min.
Priority 2 Response Time	10.0 min.	4.4 min.	3.6 min.	4.4 min.	4.2 min.	4.2 min.	4.0 min.

Table 5-12

Alternative A -- One Less Patrol Unit Allocated

	Objective	Period 1 Monday 0200-0700	Period 1 Monday 1200-1700	Period 1 Saturday 2200-0200	Period 3 Monday 0200-0700	Period 3 Monday 1200-1700	Period 3 Saturday 2200-0200
Units Needed	N/A	9	15	23	9	13	14
Unit Utilization	35.0%	10.8%	24.3%	18.4%	11.1%	21.0%	21.8%
Available Units	5.0	4.1	6.0	7.6	4.8	5.5	5.9
Probability of Delay	3.0%	2.7%	3.8%	3.3%	2.7%	3.7%	3.4%
Priority 1 Comm. Center Delay	1.5 min.	.9 min.	1.1 min.	1.1 min.	.8 min.	.9 min.	.9 min.
Priority 1 Travel Time	4.0 min.	3.5 min.	3.1 min.	2.8 min.	3.5 min.	3.2 min.	3.1 min.
Priority 2 Response Time	10.0 min.	4.7 min.	4.3 min.	3.7 min.	4.8 min.	4.4 min.	4.3 min.

Alternative B -- One Directed Patrol Assignment Per Unit

	Objective	Period 1 Monday 0200-0700	Period 1 Monday 1200-1700	Period 1 Saturday 2200-0200	Period 3 Monday 0200-0700	Period 3 Monday 1200-1700	Period 3 Saturday 2200-0200
Units Needed	N/A	10	16	24	10	14	15
Unit Utilization	35.0	9.7%	22.8%	17.6%	10.0%	19.5%	20.4%
Available Units	5.0	3.8	3.8	4.4	3.8	3.6	3.7
Probability of Delay	3.0%	9.7%	17.3%	17.6%	9.8%	16.5%	16.5%
Priority 1 Comm. Center Delay	1.5 min.	1.0 min.	1.3 min.	1.3 min.	1.0 min.	1.1 min.	1.1 min.
Priority 1 Travel Time	4.0 min.	3.9 min.	3.9 min.	3.6 min.	3.9 min.	4.0 min.	3.9 min.
Priority 2 Response Time	10.0 min.	5.6 min.	5.8 min.	5.1 min.	5.6 min.	5.9 min.	5.8 min.

*Indicates the dominating objective

magnitude can be seen throughout the table. The reason for these changes is that the directed patrol assignment represents a rather significant increase in unit workload in most time blocks. Note that the figures on "unit utilization" do not change in the table because we treated the directed patrol assignment as a non-CFS activity.

Alternative Two assumes that the patrol unit would not be interupted by a call for service during the directed patrol assignment. As part of this evaluation, it was of interest to determine if this assumption was realistic. That is, there is no guarantee that the patrol unit will be free from interuption by a citizen call for service during the full 45-minute duration of the directed patrol activity. In other words, the time between calls for service is an especially important factor to be considered in the design of a basic unit directed patrol program.

In order to make this determination, evaluation staff analyzed the OPD dispatch data for speficic time blocks to find out the average amount of time between calls for service. The term "gap time" was defined as the time between the completion of one call and the time of dispatch of the next call for service in a given hour. Actually, the definition is somewhat more complicated since the time between the start of a shift and the first call is also available for directed activity as is the time between the last call handled and the end of a shift. Both of these times are included in the analysis.

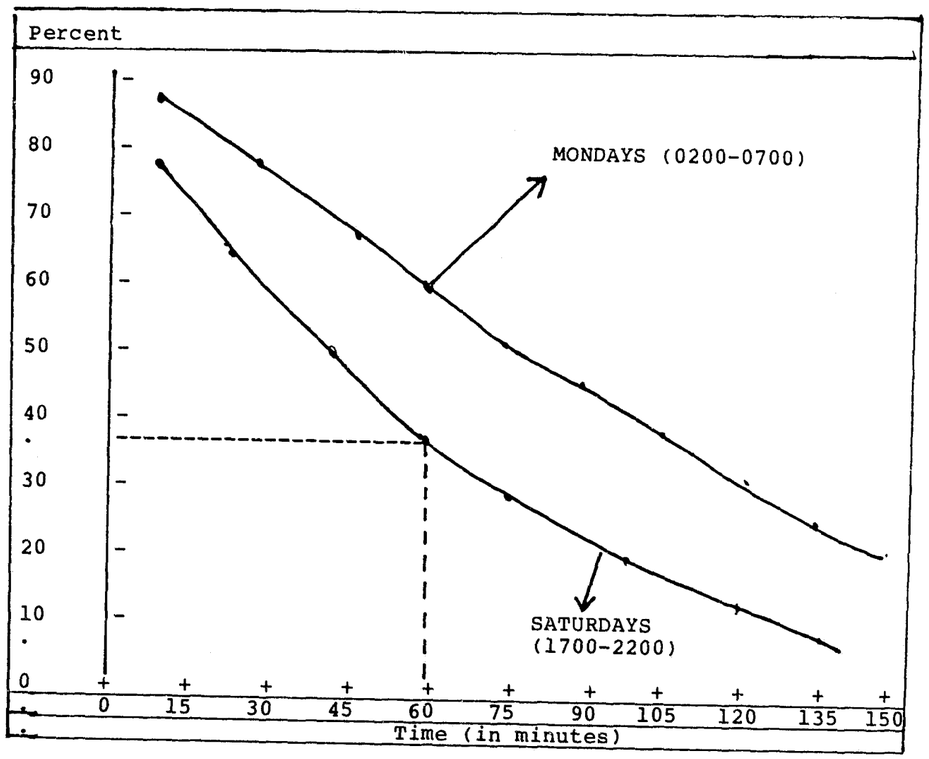
Analysis results will be presented for two contrasting time blocks in Period 3: Monday mornings from 0200 to 0700, and Saturday evenings from 1700 to 2200. For the Monday time block, the analysis showed an average of 91 minutes between calls for service. For Saturday time block, the analysis showed a gap time or average of 57.8 minutes between calls for service.

These average times are based on actual data and are a function of of the number of units fielded, call rate, and average service time. For example, on Monday mornings there was an average of 7.2 units fielded, an hourly call rate of 2.0, and an average service time of 30.2 minutes. During the Saturday evening time block used in the analysis, there were an average of 12.0 units fielded, an hourly call rate of 6.9, and an average service time of 27.8 minutes.

Figure 5-1 provides a graphic illustration for visualizing the times between calls for service by means of the cumulative distribution of the gap time for the two time periods. For Saturdays, the probability of a gap time greater than 60 minutes is about 35% and the probability of a gap time greater than 30 minutes is about 58%. As an example of the use of the gap time measure, assume that

FIGURE 5 - 1

PROBABILITY THAT { GAP TIME IS > THAN t Minutes}



the department determines that each directed activity requires a minimum of 45 minutes to be effective. Figure 5-1 shows that there is only a 45% probability of having 45 minutes or more available between calls for service to handle the directed patrol assignment. Stated differently, there is only a 45% chance that an officer will be able to complete directed patrol assignments without interuption. On Monday mornings, the probability of succsessful completion of the directed patrol assignment without an interuption rises to 60%.

In summary, this analysis shows that the time between calls for service is a key factor to consider in planning a basic unit directed patrol program. If significant amounts of time are required for directed activity, a department must make special provisions (i.e., completely freeing units from CFS work, delay response to lower priority calls, etc.) to assure that the needed time is available or must recognize that a fairly high percentage of directed activities will be interupted before completion.

Before presenting evaluation results, it is first necessary to recognize that dispatch work is not the only use of the time of basic patrol units. Therefore, the analysis that follows attempts to establish in more precise terms the amount of "uncommitted" patrol time available in the OPD during the evaluation period.

Determination of Uncommitted Patrol Time

A major aim of this evaluation was to determine how much patrol time was devoted to directed patrol activity. To do this, it was first necessary to determine how much "uncommitted" patrol time was available.

Two sources of data were used for this purpose: Officer Activity Reports and Dispatch Tickets. The methodology used was tested with 1981 data. Based on staffing records, it was established that a total of 113,920 hours of patrol officer time (excluding command, supervisory, and special assignment personnel) were available for the provision of basic patrol services in 1981. This translates to roughly 64 full-time equivalent policepatrol officers. After accounting for sick and injured hours, approximately 107,920 "on-duty" hours were available.

Analysis of both dispatch and officer activity records showed that 27,365 of these hours (or 25.4%) were used for on-scene handling of calls for service. Table 5-13 is based on an analysis of 12-months of officer activity reports (which do not count time on CFS since this time is captured in the computerized dispatch

EXHIBIT 5 - 14

1981 NON-DISPATCH ACTIVITY OF OPD PATROL OFFICERS

Patrol Activity	Events	Hours	% of Total hours
Citizen/Motorist Assists	1960	390	.4%
Bookings/Juvenile Arrests	4816	3552	3.3%
Warrant Service/Attempts	977	276	.3%
Field Interviews and Investigations	4174	1064	1.0%
House/Business Checks	8314	1693	1.6%
Traffic Checks/Warnings	3214	360	.3%
Abandoned Car Checks	480	88	.1%
Vehicle Service/Transport	11724	2196	2.0%
Traffic Stops W/Citations	10373	1884	1.7%
Parking Citations	3120	252	.2%
Reports/Dictation	17870	2978	2.8%
Station Duty (desk, etc.)	-	8376	7.8%
On-Duty Court Time	-	720	.7%
On-Duty Training	-	80	.1%
Other Activity*	33589	15900	14.7%
Totals	105762	39809	36.9%

* meals, breaks, personals, roll call briefings

Table 5-14

Estimates of Uncommitted Patrol Time in the OPD

Activity and Hours	Year			
	1978	1979	1980	1981
Patrol On-Duty Hours	96,120	101,120	102,580	107,920
A. Number of Calls For Service	48,000	49,728	44,067	41,633
A.1 Patrol hours for Dispatch Work	30,800	31,780	28,276	27,365
A.2 Percent of Hours on Dispatch Work	32%	31%	28%	25%
B. Hours on Known "Defined Events"	32,873	38,437	38,682	39,809
B.1 Percent of Hours on Defined Events	34%	38%	38%	37%
C. Residual or Uncommitted Hours	32,447	30,803	35,612	40,746
C.1 Percent of Total Hours "uncommitted"	34%	31%	35%	38%

file) and provides a summary of time devoted to what we have termed "defined events". Total time used for defined events came to 39,809 officer-hours (or 37%) of the on-duty hours available. In short, in 1981, we were able to account for 62% (or 67,174) of the 107,920 on-duty patrol officer hours available The 40,746 or 38% of the total hours which remained represented the residual and were defined as "uncommitted" hours and potentially available for directed patrol.

Thus, in 1981 an average of 3,396 hours per month or 113 officer hours per day were "uncommitted" and, at least theoretically, potentially available for directed patrol. Of course, not all of this time could be used for directed patrol - as has been shown in the previous analysis of "gap time" due to CFS response demands. And, a considerable portion of it simply occurs at the "wrong" times for crime control purposes (e.g., early morning hours).

As previously noted, similar but less precise analysis were conducted for the time period from 1978 through 1980 to determine the level of uncommitted patrol time time available in the OPD. Table 5-14 displays the results of this analysis. Review of this table shows that the percent of total patrol hours that were uncommitted varied between 31-38% over the four year period included in the analysis. Note specifically that there was a substantial (-16%) decrease in the number of calls dispatched between the peak year of 1979 and 1981. This decrease accounts for a considerable portion of the additional uncommitted time as well as does increased patrol staffing and improvements in the OPD call screening function.

With these estimates of uncommitted time established the next section begins the presentation of evaluation results.

EVALUATION RESULTS

Several comments are in order before discussing the results of the evaluation. These comments relate to the definition of baseline and evaluation periods.

First, the OPD experimented with directed patrol for an 18-month period between May 1978 and December 1979. However, "formal" implementation of directed patrol began in February 1980. The evaluation grant was not awarded until December 1980. The department changed from one computer system to another in August 1980 and the data available on CFS and related patrol activity from the prior system was judged to be so inaccurate as to invalidate it for evaluation purposes. The chief problem with the baseline period (i.e., prior to the "official" start date) is that no accurate

CONTINUED

2 OF 4

information was available on the intensity of the directed patrol effort (i.e., we knew they were doing directed patrol, but we did not know how much they were doing).

On the other hand, a wide variety of useful data on patrol and directed patrol operations was available (due chiefly to the local evaluations of the OPD ICAP grant, OPD quarterly reports, and data collected by the Crime Analysis Unit). In some cases, this data was incomplete or conflicted with other sources of data. In conducting this evaluation then, it was necessary to rely on multiple sources of information and to validate this data in as many ways as possible.

In short, the best way to view the results in this chapter is as a longitudinal case study. Some "before and during" comparisons are made based on the most reliable data available. Complete details of the various procedures used in the evaluation of the OPD basic unit directed patrol program are contained in the earlier referenced site evaluation report [Fennessy, 1982].

The initial aim of the evaluation was to determine the level of effort devoted to basic unit directed patrol by the OPD. The section that follows provides a summary of this information.

Level of Directed Patrol Effort By Basic Patrol Units

No single data source was available that provided a complete and accurate count of the number of hours devoted to directed patrol activity by OPD basic units. Each of the systems in place for recording such time were flawed. Specifically, the following data sources were used to develop the estimates provided below: dispatch tickets (officers were supposed to notify dispatch when they were on directed patrol); daily officer activity reports; special D-Run forms filled out by the officers (abandoned in the Spring of 1980); ICAP staff estimates of directed activity on LEAA quarterly reports; ride-along observations of directed activity; internal reports of special directed patrol operations; and, patrol officer estimates of time devoted to directed activity on special evaluation surveys.

The reasoning and logic used to develop these estimates is described at some length in the referenced site evaluation report. We will candidly note that these estimates are, at best, order of magnitude only. Enough evidence was available to indicate that the estimates are reasonable as to the maximum amount of such directed activity. The reasoning and logic used to develop these estimates are described in detail in the earlier referenced Site Evaluation Report. Table 5-15 provides these estimates for 1979 to 1981.

Table 5-15
Estimated Basic Patrol Unit Time on Directed Activity

	1979	1980	1981
Estimated Uncommited Patrol Time in Hours	30,803	35,612	40,746
Estimated Hours on Basic Unit Directed Activity	2,500	3,200	5,376
Percent of Uncommitted Patrol Time Used for Directed Activity	8.1%	9.0%	13.2%

In aggregate, in 1981 the OPD patrol force devoted an estimated 5,376 hours to directed activity or 448 hours per month or 14.7 hours per day. Admittedly, this is a rough estimate. It is also estimated that approximately 200 D-Runs per month were performed in 1981. Thus, the average directed activity took 2.24 hours. Based on surveys of OPD patrol personnel in September 1981, it was found that 6% of the officers said that they performed no directed activity; 23% said that they spent 1-5% of their uncommitted time on directed activity; 34% said that they devoted between 6-15% of their uncommitted time to directed activity; 23% indicated that they spent 16-25% of their uncommitted time on directed patrol; 11% said they spent over 25% of their uncommitted time on directed activity; and, 3% did not know if they performed any directed activity.

The original OPD ICAP objective stated in 1977 of spending 10% of uncommitted time on directed patrol was surpassed in 1981, when an estimated 13% of uncommitted time was devoted to directed patrol activities. In the prior two years they fell somewhat short of this objective (i.e., 8% in 1979 and 9% in 1980). In summary, the OPD was able, in 1981, to apply the equivalent time of three full-time officers (1,780 working hours per year) to crime analysis based directed patrol activity by basic patrol units.

Changes in Measures of Patrol Arrest Activity

Due to the nature of the data available, it is not practical to claim that changes in the arrest activity of patrol personnel are

linked specifically to the implementation of a crime analysis/ directed patrol program. This was not a controlled experiment and far too many other internal and external events occurred that could have influenced this measure. On the other hand, between 1979 and 1981, the only major changes in OPD patrol operations were the provision of high quality crime analysis information, the full-scale implementation of directed patrol, and implementation of a sophisticated and modern computer system (that facilitated reporting and information retrieval). Thus, one can certainly infer that these changes had some influence on arrest activity by patrol. More precisely, evaluation interest centered on patrol arrests for burglary and robbery which were the primary directed patrol target crimes.

Monthly data on burglary and robbery arrests by OPD Division were obtained for the period extending from November 1977 through October 1979. Similar data were obtained for the period of August 1980 through January 1982. The data gap from November 1979 through July 1980 resulted from the transition from one computer system to another in the OPD. Data on overall department arrests for these offenses could be obtained, but breakdowns by division were not available. Table 5-16 sets forth average monthly burglary arrests by division for the 24 month "Baseline" period (from November 1977 to October 1979) prior to "official" implementation of directed patrol and for the 12-month period from November 1980 to October 1981. Table 5-17 presents similar figures on average monthly arrests for robbery.

Table 5-16
Average Monthly Burglary Arrests By Division

Arrest By OPD Division	Baseline 11/77 - 10/79	Implementation 11-80 to 10-81	% of Change
Patrol	15.3	21.4	+ 40%
Field Tactical Unit	1.1	.2	- 82%
All Other Units	5.3	4.7	- 11%
Total	21.7	26.3	+ 21%

Table 5-17
Average Monthly Robbery Arrests By Division

Arrest By OPD Division	Baseline 11/77 - 10/79	Implementation 11-80 to 10-81	% of Change
Patrol	4.0	9.8	+ 145%
Field Tactical Unit	.8	.7	- 13%
All Other Units	1.3	2.9	+ 123%
Total	6.1	13.4	+ 120%

As both tables show, there has been a very substantial increase in both the average number of burglary arrests (+ 40%) and robbery arrests (+ 145%) by patrol comparing the baseline and evaluation periods. Overall department monthly average arrests for both of these offenses has also increased (i.e., burglary - +21% and robbery - 120%). Patrol staffing has only increased by roughly 14% during this period and detective staffing has remained stable. Further review of this data shows that the percentage of all burglary arrests by patrol increased from 71% in the the baseline period to 81% during the implementation period. For robbery, arrests by patrol increased from 65% of all such arrests during the baseline period to 73% of such arrests during the directed patrol implementation period. Note also that the actual number of arrests increased in the face of a decreasing number of reported burglary and robbery offenses.

The T-Test was used to determine if these changes were statistically significant. A 95% confidence level was used as the criterion for this determination. The T-Values for burglary arrests by division are shown below:

OPD Unit	T-Value	Statistical Significance
Patrol Division	+ 2.50	Significant Increase
Field Tactical Unit	- 2.69	Significant Decrease
All Other OPD Units	- .43	Not Significant
Total	+ 1.10	Not Significant

The T-Values for robbery arrests by division were as shown in the table below.

OPD Unit	T-Value	Statistical Significance
Patrol Division	+3.97	Significant Increase
Field Tactical Unit	- .17	Not Significant
All Other OPD Units	+3.21	Significant Increase
Total	+4.48	Significant Increase

Tables 5-18 and 5-19 show the changes in burglary and robbery arrests per officer during these comparison periods.

Table 5-18
Average Monthly Burglary Arrests Per Officer By Division

Burglary Arrests Per Officer By Division	Baseline 11/78 to 10/79	Implementation 11/80 to 10/81	Percent of Change
Patrol	.27	.34	+ 26%
Field Tactical	.18	.03	- 83%
All Other Units	.33	.27	- 18%

Table 5-19
Average Monthly Robbery Arrests Per Officer By Division

Robbery Arrests Per Officer By Division	Baseline 11-78 to 10-79	Implementation 11/80 to 10/81	Percent of Change
Patrol	.07	.15	+114%
Field Tactical	.13	.12	- 8%
All Other OPD Units	.08	.17	+113%

Thus, as these tables show, patrol arrest productivity per officer increased by 26% for the directed patrol target crime of burglary and by 114% for the directed patrol target crime of robbery. However, it should be noted that the major gains recorded by all other OPD units in terms of robbery arrests per officer was

offset by a decrease of 18% in burglary arrests per sworn officer assigned to these units.

As a check on the role of directed patrol in these target crime arrests, patrol officers surveyed in the September 1981 Evaluation Survey under this grant were asked if, during the past year, they had made any arrests for the following offenses while on a directed patrol assignment (the survey had a patrol officer response rate of 55%) and their answers were as follows:

Offense Type	% Yes	% No	% Unknown	Total	N
Burglary	43%	46%	11%	100%	33
Robbery	20%	63%	17%	100%	35
Auto Theft	11%	69%	20%	100%	35
Larceny	20%	60%	20%	100%	35
Drugs/Narcotics	31%	51%	18%	100%	35
Drunk Driving	31%	49%	20%	100%	35
Rape/Sex Offense	17%	60%	23%	100%	35
Assault	34%	46%	20%	100%	35

This data showed that more than 4 out every 10 patrol officers responding to the survey made burglary arrests while on directed patrol during the prior year and 2 out of 10 made robbery arrests while on such assignments.

Finally, a regression analysis was performed using monthly data from August 1980 to January 1982 (during the period of full implementation of directed patrol). The dependent variable in the analysis was the number of burglary arrests by patrol. The independent variables were Number of D-Run Assignments Per Month (DR); Number of Field Interrogation Cards Per Month (FI); Total Number of Part I Arrests Per Month By the OPD (PI), and Number Of House and Business Checks Per Month (HBC).

With monthly data, there was a total of 18 data points to the regression. The resulting equation yielded a multiple R^2 value of 56.4%, indicating a moderately good fit to the data and the regression equation was:

Burglary Arrests By Patrol = -32.90 +.151 DR +.042 FI +.089 PI -.012 HBC
(.0534) (.0147) (.0497) (.0085)

The numbers in parenthesis under the coefficients are the standard errors of the coefficients. It should be noted that the constant is negative and is large relative to the coefficient of the variables. This means that the volume of activities must be large to produce a positive number of burglary arrests from the equation.

With this data, the coefficients can be tested with a standard T-Test to determine whether they are significantly different from zero. Using a 5% level of significance, the results of the T-Test are as follows:

Variable	T-Value	Significant
DR	2.83	Yes
FI	2.82	Yes
PI	1.80	No
HBC	-1.48	No

Thus, the Hypothesis that the coefficients for Part I Arrests and House and Business Checks are equal to zero cannot be rejected. In other words, the D-Run and Field Interrogation variables are the most important in this regression as they have been determined to be significantly different from zero.

Overall Part I and II Arrests By Patrol

The evaluation team was able to obtain the aggregate number of Part I and II arrests by patrol for the period extending from June 1978 to January 1982. However, no breakdown between Part I and Part II arrests was available prior to August 1980 primarily due to problems with the computer system in place prior to that date.

Table 5-20 provides a summary of the aggregate arrest activity of OPD patrol officers over 42 months.

Table 5-20
Total Arrests By Patrol

Time Period	Total	Avg. Per Month.	Avg. Per Officer/Month
6/78 to 5/79	5,336	445	7.9
6/79 to 5/80	6,071	506	8.8
8/80 to 7/81*	8,519	709	11.1
8/81 to 1/82**	4,214	702	11.1

* missing data June and July 1980
** Note that this period covers only 6-months.

This data shows a consistent pattern of increases in patrol arrest productivity. Specifically, there was an increase of 41% in the average number of arrests per patrol officer per month during the period of full directed patrol implementation compared to the prior baseline periods. There was also a major gain of 60% in the annual number of arrests by patrol officers (that can be partially explained by a 14% increase in the number of patrol officers).

However, the data presented in Table 5-20 was obtained from internal OPD patrol management reports. The source of data for these reports were the Daily Activity Reports of patrol officers. In contrast to the OPD's Automated Arrest File, which lists the name and unit of arresting officers and from which data only became available after August 1980, the Daily Activity Report allows more than one officer to claim credit for an arrest. For example, if three patrol units are involved in the arrest of a burglary suspect, each will claim credit for an arrest. Thus, the total number of arrests that was calculated on the basis of Daily Officer Activity Reports will almost always be higher than the actual number of such arrests that occur. To illustrate this point, Table 5-21 was developed on the basis of the annual UCR/BCS Reports submitted by the OPD to the FBI through the California Bureau of Criminal Statistics.

Table 5-21
UCR/BCS Arrest Reports By The OPD

Year of Report	Part I Crimes Per Officer	Part I Arrests Per Officer	Part I Clearances Per Officer	Part II Arrests Per Officer
1978	80.9	13.5	9.3	33.5
1979	76.5	15.8	9.6	40.7
1980	72.7	14.3	10.7	44.2
1981	62.5	16.1	13.4	52.8

Comparing 1978 (a baseline year) to 1981 (a year with full implementation of directed patrol), and keeping in mind that this data relates to all OPD officers and not just patrol officers, Table 6-17 shows: 1) a 23% decrease in the number of Part I Crimes Per Officer; 2) a 19% increase in Part I Arrests Per Officer; 3) a 44% increase in Part I Crime Clearances Per Officer; and, 4) a 58% increase in Part II Arrests Per Officer. However, in comparing the data in Table 5-20 to that in Table 5-21, the impact of

multiple officers claiming credit for the same arrest can be clearly seen. For example, Table 5-20 shows that the average patrol officer claimed credit for 133.2 arrests per year. By contrast, Table 5-21 shows that the total department averaged only 68.9 arrests per officer per year. In short, while both figures are valid (since the officer did in fact participate in an arrest), it is clear that the evaluation must be precise in defining exactly what data base is used to generate arrest figures.

Despite these differences, it appears obvious that patrol arrest productivity has significantly increased in the OPD since the implementation of directed patrol. Using actual arrest reports as a data source for the 18-month period from August 1980 through January 1982, we found that patrol accounted for 2,572 (87.7%) of 2,934 Part I Crime Arrests and for 8,937 (91.1%) out of 9,811 Part II Arrests. Thus, the average patrol officer during this period accounted for 2.2 Part I and 7.9 Part II Arrests Per Month. Line officers in all other OPD units accounted for an average of 1.4 Part I and 3.8 Part II arrests during this same period.

Other Measures of Patrol Output

Data on traffic citations issued, reports written, DWI arrests, and Field Interrogation Cards issued was obtained from internal monthly Patrol Management Reports for the period extending from June 1978 to July 1980. Similar data was obtained from the OPD computer system for the period from August 1980 through January 1982. Table 5-22 displays this data.

Table 5-22
Other Measures of Patrol Output
(Average Per Patrol Officer Per Month)

Time Period	Traffic Citations	Reports Written	DWI Arrests	FI Cards Issued
6-78 to 5-79	14.4	26.8	.9	-
6-79 to 5-80	15.2	26.8	1.2	-
8-80 to 7-81	14.1	24.8	1.3	5.8
8-81 to 1-82*	12.6	22.2	1.5	5.7

* Note: covers only 6 months

While there has been some slight change from the baseline year (6-78 to 5-79) to the implementation period of directed patrol in terms of reports written (-7%) and traffic citations (-2%) per patrol officer, such changes appear to be relatively minor. However, there was a quite substantial gain in DWI arrests per patrol officer (+44%) between these two periods. There was no hard quantitative data available on FI cards per officer per month for the baseline year. On the other hand, the OPD Crime Analyst (who had the filing responsibility for these cards) estimates that he received between 225 to 250 FI cards per month during the baseline period. Given OPD patrol staffing during that period, it would appear that the average FI production per officer was between 4.0 to 4.5 FI cards per month. Thus, during the directed patrol implementation period, it is estimated that FI production per patrol officer increased by between 20-30%.

Analysis of The Outcomes of 1,073 Basic Unit D-Runs

Evaluation staff obtained copies of all written D-Run Forms completed by OPD patrol officers over an 8-month period that extended from January 1979 to August 1979. A total of 1,073 such forms were available - an average of 134.1 D-Runs per month during this period. A total of 37,040 minutes (617.3 hours) were devoted to these D-Runs by OPD officers - an average of 34.5 minutes per D-Run. In 769 (71.6%) of these 1,073 D-Runs the officers filling out the reports noted that "nothing significant occurred". The following results were reported on the 304 D-Runs (28.3%) in which a police action occurred:

- 5 target crimes in progress (all burglaries) were observed by police officers (.5% of all D-Runs).
- 14 Felony Arrests (1.3% of all D-Runs).
- 12 Misdemeanor Arrests (1.1% of all D-Runs).
- 2 Warrant Arrests (.2% of all D-Runs).
- 148 FI Cards issued (13.8% of all D-Runs).
- 83 Traffic Citations issued (7.7% of all D-Runs).

- 14 City Ordinance Citations issued (1.3% of all D-Runs)

- 21 hazards reported (open garage doors, etc.) - 2% of all D-Runs.

- 2 Target Crimes (burglaries) discovered by police - .2% of all D-Runs.

- 3 cases where stolen property was recovered (.3% of all D-Runs).

In summary, this data shows that one productive police action (as indicated above) will occur for every 3.5 D-Runs. In other words, the data indicates that some sort of police activity will occur for every 2.8 hours on D-Runs. However, it is important to note that these data were collected by the OPD prior to the "official" implementation of directed patrol. Unfortunately, the department abandoned the use of a special form for recording directed patrol activity and results obtained shortly after the official start date in February 1980. It should also be noted that the data above was thought to be less than complete by OPD staff. For example, no data was available on "informal" directed patrol performed by officers.

Evaluation of Special Directed Patrol Operations

One of the original objectives of this evaluation was to assess the impact of basic unit directed patrol on specific crimes in specific areas identified by the Crime Analysis Unit. For a number of reasons this was not a productive approach. More specifically, some of the salient reasons for this were: 1) most crime patterns were not confined to finite geographical areas; 2) areas identified by the CAU as having specific crime problems were continually changing as the result of new information; 3) the more easily identified and "workable" crime patterns were handled by the Field Tactical Unit rather than the basic units; and, 4) very little data was available on the level of directed patrol performed by basic units by geographic areas or times. Further, the basic design of the OPD directed patrol effort, with its emphasis on 20-minute D-Runs, in our judgement, did not provide enough time in any given area to register a significant impact in such areas.

However, one directed patrol operation by basic units that continued over a three-month period was the subject of an internal

evaluation by two OPD patrol sergeants and a review of their findings is in order. The operation in question involved intensive saturation patrol of an area known as the Plaza Marina - a rather dilapidated shopping center containing several bars and motels that had become a center for prostitution, narcotics, and related felony and misdemeanor activity.

The operation was conducted over a 12-week period, between January 12 to April 5, 1981, and involved intensive directed patrol of of this area (marked units involved were freed from dispatch responsibility) during the hours of 10PM to 2AM on Thursday, Friday, and Saturday nights. Choice of this time period was made to allow patrol supervisors to make use of overlap units for this operation. The two sergeants directing the operation gathered three months of baseline data on calls for service in the area, reported crimes, and arrests for the 12-week period prior to the operation. They prepared an evaluation report on the operation that set forth the following results:

Evaluation Measure	Baseline Period	Operational Period	Percent Change
Total CFS in Target Area: Sunday-Saturday 0000-2359	776	739	- 5%
Total CFS in Target Area: Thursday-Sunday 2200-0200	176	95	- 46%
Robberies in Target Area: Sunday-Saturday 0000-2359	20	10	- 50%
Robberies in Target Area: Thursday-Sunday 2200-0200	6	2	- 67%
Burglaries in Target Area: Sunday-Saturday 0000-2359	23	15	- 35%
Burgaries in Target Area: Thursday-Sunday 2200-0200	11	5	- 55%

Evaluation Measure	Baseline Period	Operational Period	Percent Change
Arrests: Sunday to Saturday, 0000 to 2359	147	194	+ 32%
Arrests: Thursday to Sunday, 0000 to 2359	31	66	+113%

Source: Memo, dated 4/20/1981 from Sgts. F. Berry and C. Dunham to Lt. G. Hubbard, Title: Plaza Marina Directed Patrol Operation.

The sergeants also noted in their memo that this operation also had a significant impact on the profitability of prostitution in the Target Area. Other special directed patrol efforts conducted by the basic patrol force included: 1) an annual truancy enforcement directed patrol effort (over 1,600 truants were picked-up in an apparently successful attempt to reduce daytime residential burglaries); 2) A second "Plaza Marina" directed patrol operation involving a coordinated basic patrol unit and Field Tactical Unit effort that included undercover work, intensive patrol and area surveillance, and extensive research on false identifications that resulted in 125 arrest warrants with bail ranging from $2,500 to over $10,000; and, 3) A "low rider" directed patrol effort that was designed to reduce traffic congestion on main streets. In the next section, the evaluation will focus on the "split force" (or Field Tactical Unit) component of the OPD Directed Patrol Program.

Evaluation of Field Tactical Unit Operations

Data, in the form of FTU "Operations Plans" (which specified the nature of the problem addressed, tactics to be employed, duration of the operation, and results obtained) and Case Evaluation Summaries (which provided details on arrests), were available on 42 FTU Operations for the 43-month period from July 1978 through January 1982. Details of each of these 42 Operations are set forth in the Site Evaluation Report [Fennessy, 1982]. A summary of the key features of these operations is provided below:

- Thirty-three operations were aimed at in-progress interception of crimes in progress.

- Target Crimes (where appropriate) of these operations were burglary (21 or 50% of all operations); robbery (9

or 21.4%); and "other" (12 or 28.6%)

- Tactical Procedures employed for burglaries were: Low Visibility Area Surveillance (5 or 24% of 21 burglary operations); Anti-truancy patrol (2 or 9.5%); Stake-outs (3 or 14.3%); Surveillance of Key Burglary Suspects (6 or 28.5%); and, Combination (i.e., mixtures of foot patrol, low visability area surveillance, surveillance of persons, etc.) Strategies (5 or 23.8%).

- Tactical Procedures employed for Robberies were: Stakeouts (3 or 33.3% out of 9 robbery operations; Low Visibility Area Surveillance (3 or 33.3%); and Combination (i.e., surveillance of potential suspects and area patrol, etc.) Strategies (3 or 33.3%)

- The average time devoted to an FTU operation (excluding on-going activity such as warrant service) for 38 of the 42 operations was 17.1 days (which translates to a committment of 119.7 FTU officer-days). The longest of the 38 operations was 90 days, the shortest was 2 days.

- On-going FTU operations include service of felony warrants, control of prostitution, and control of juvenile gang violence.

Arrest Activity of FTU

It is somewhat difficult to evaluate FTU performance solely in terms of arrests made for a number of reasons. For example, some FTU operations were aimed at prevention. On one such operation FTU efforts were devoted to the apprehension of public drunks in an area of the community were such drunks were frequent targets for robberies. In two intensive operations (one in 1980 and one in 1981), the FTU concentrated on the apprehension of truants based on the assumption that some truants often commit residential

burglaries. Another of these operations that were "prevention oriented" focused on juvenile gang violence and included intensive efforts to stop and FI known gang members in the hope of finding them with weapons. In short, arrests are only one criteria that can be used to assess FTU directed patrol efforts.

Actual burglary and robbery arrests made by the FTU were compared for three six-month periods (August 1978 to January 1979, August 1980 to January 1981, and August 1981 to January 1982). Table 5-25 shows arrests made by the FTU for these offenses during these three periods.

Table 5-25
Burglary and Robbery Arrests By the FTU

Time Period	Burglary Arrests	Robbery Arrests	Total
8-78 to 1-79	10	2	12
8-80 to 1-81	7	6	13
8-81 to 1-82	2	0	2

As this data shows, there was a significant decrease in FTU arrests over these three evaluation periods. However, the FTU should not be faulted for this decrease due to the reasons cited above. In addition, the FTU was directly responsible for the apprehension of burglars in two separate operations that resulted in the clearance of well over 200 burglary offenses (many of which did not occur in Oxnard). Data was available on all arrests made by the FTU between the period of August 1980 through January 1982 from the Arrest File of the OPD's computer system installed in August 1980 and this data is displayed in Table 5-26.

This table shows that the FTU accounted for 37 Part I and 311 Part II Arrests over this 18-month period for a total of 348 arrests (or 2.1 Part I and 17.3 Part II arrests per month). During this period, the FTU accounted for 9 out 375 (2.4%) burglary arrests and 9 out 192 (4.7%) of the robbery arrests made by the OPD. During the same 18-month period, the OPD reported a total of 9,797 Part II Arrests. The FTU accounted for 311 (or 3.2%) of the total Part II arrests during this period. The FTU's 37 Part I Arrests were 1.3% of the 2,931 Part I Arrests made by the OPD over these 18-months.

In other operations, the FTU reported 530 truants returned to their schools, over 200 FI cards, and recovered over $14,000 in stolen property.

TABLE 5-26

All Arrests by the FTU: 8-80 to 1-82

Offense Type	Total Arrests	Per Month	% of Total
Homicide	0	0	0
Rape	0	0	0
Robbery	9	.5	2.6%
Aggravated Assault	10	.6	2.9%
Burglary	9	.5	2.6%
Theft	8	.4	2.3%
Motor Vehicle Theft	1	.1	.3%
Sub-Total Part I Arrests	37	2.1	10.6%
Part II Arrests	311	17.3	89.4%
Total Arrests	348	19.4	100.0%

Criminal History of FTU Arrestees

Certainly, the "quality" of an arrest is of equal importance to simple quantity of such arrests. A surrogate measure of arrest quality is the criminal history of the person arrested.

Data on two samples of persons arrested by the FTU were secured by the evaluation staff from Case Evaluation Reports completed by unit members. The first sample consisted of 38 persons arrested by the FTU in 1978. The second sample consisted of 51 persons who were arrested by the FTU in 1980. Since one of the objectives of the FTU was to concentrate on the apprehension of "career criminals and serious offenders", the aim of this evaluation approach was to determine if this was, in fact, what they did in relation to that objective. Table 5-27 shows the results of this analysis.

Table 5-27
Prior Criminal Records of Two Samples of FTU Arrestees

Sample Period for Arrests	Number of Arrestees	Number of Prior Arrests					
		None	1-5	6-10	11-15	16-20	20+
1978	38	16%	21%	24%	18%	11%	11%
1980	51	24%	27%	6%	8%	8%	27%

As this table shows, 16% of the 1978 sample had no prior arrests compared to 24% of the second sample. However, in the 1980 sample 43% of those arrested had 11 or more prior arrests (including juvenile arrests) compared to 40% of the 1978 sample. Moreover, in the 1980 sample 27% of those arrested had 20+ arrests compared to only 11% of the 1978 sample.

In the 1978 sample, of the 33 persons with prior records, 20 or 58% were actively involved in some phase of the criminal justice system (i.e., probation, parole, bail, OR, etc.) at the time of their arrest by the FTU. In the 1981 sample, of the 39 persons with prior arrest records, only 11 or 28% were actively involved in the criminal justice system at the time of their arrest.

With respect to prosecution of FTU arrestees under the "career criminal" criteria used by the Ventura County District Attorney: 7 of the 38 persons in the 1978 sample of arrestees (18.4%) met such criteria compared to 11 of the 51 (21.5%) persons in the 1980 sample. In short, this sample data provides considerable support for the FTU's stated goal of apprehending career criminal and serious offenders. Unfortunately, complete information on crimes cleared by these arrests was not available on a consistent basis from the sources of data available to us on FTU operations.

In summary, the early period (prior to 1980) of FTU operations was more fruitful in terms of target crime (i.e., burglary and robbery arrests) than the later periods. However, as the unit and its capabilities became known, the scope of their mission expanded to include prevention oriented activities. More recently, the FTU is being used for a wide variety of police missions including warrant service, among others. However, the FTU has maintained its initial focus on the apprehension of "career and or serious" criminal offenders.

In the next section, the results of evaluation surveys of OPD patrol personnel on crime analysis and directed patrol will be presented.

DIRECTED PATROL SURVEYS OF OPD PERSONNEL

A survey form was developed by the evaluation staff and distributed to all all OPD patrol personnel in September 1981 (a copy of the survey form is in Appendix C). A total of 85 survey forms were distributed and 49 were returned for a 58% response rate.

The most important question for this study was stated as follows:

> It has now been over one year since the implementation of directed patrol in the OPD. How would you assess progress in this area at this point in the development of this patrol effort?

Table 5-28 presents the survey response to this question.

Table 5-28
Rating Directed Patrol Progress

Progress Rating Area	Patrol Officers %	Patrol Officers N	Command and Supervisory %	Command and Supervisory N	Total	Total %
Progress has been exceptional, a major improvement	14.3%	5	7.1%	1	6	12.2%
Progress has been good, somewhat better	31.4%	11	35.7%	5	16	32.6%
Very Little Progress, no real improvement	28.6%	10	21.4%	3	13	26.5%
We don't do enough directed patrol for me to fairly judge	11.4%	4	21.4%	3	7	14.2%
Worse than before, poor idea	2.9%	1	7.1%	1	2	4.1%
Don't know or have no opinion	11.4%	4	7.1%	1	5	10.2%
TOTAL	100.0%	35	100.0%	14	49	99.9%

The results on this survey question show that about 45% of the total respondents regard directed patrol as an improvement over past practices. A combined total of approximately 30% viewed directed patrol as "no real improvement" or "worse than before". About 14% said that they don't do enough directed patrol to fairly judge the program and the remaining 10% either "don't know" or had no opinion.

Next, OPD patrol personnel were asked to assess the performance of the department in implementing directed patrol in terms of eight factors that were thought to be related to successful directed patrol programs. Table 5-29 sets forth the response of patrol personnel to this question.

The answers displayed in Table 5-29 are of considerable interest. First, as a general comment, the respondents to this survey rate OPD performance in implementing directed patrol as only average or less than average in most rating categories. The only areas receiving relatively high ratings were: "coordinating directed patrol assignments with dispatch" and "providing a continuing flow of analysis services to support directed patrol efforts". Among the Command/Supervisory respondents, the following areas received generally below average ratings: "freeing time for directed patrol" and "developing internal support for directed patrol". The line officer respondents assigned below average ratings to the following directed patrol performance factors: "day-to-day planning of my directed patrol assignments", "providing directed patrol training", and "developing internal support for directed patrol". Clearly, based on these responses, implementation of a directed patrol may not be as simple as it may appear at first glance.

The next survey question was addressed only to the survey respondents that held command or supervisory positions in the OPD patrol division.

Assessment of Directed Patrol Benefits By OPD Command/Supervisory Personnel

The professional literature suggests that implementation of a directed patrol program enhances supervisory and management control of patrol resources. In this regard, the 14 OPD command and supervisory officers that responded to the September 1981 Survey of patrol personnel were asked if directed patrol implementation assisted them in any of seven listed areas. Their response to this question is displayed in Table 5-30

Table 5 - 29

Patrol Ratings of OPD Directed Patrol Implementation Performance Factors

Rating Factor	Superior 1	2	Average 3	4	Poor 5	N
Freeing enough time for directed patrol	0 %	8.1%	48.9%	22.4%	20.4%	49
General design of the directed patrol program	6.1%	18.8%	36.7%	22.9%	14.6%	48
Day-to-day planing of directed patrol activity	4.2%	8.5%	31.9%	36.1%	19.1%	47
Provision of adequate training in directed patrol	2.1%	21.2%	27.6%	19.1%	29.7%	47
Developing internal support for D/P among all staff	2.1%	10.4%	31.3%	27.1%	29.2%	48
Coordination of D/P assignments with dispatch	8.1%	21.3%	44.7%	17.0%	10.6%	48
Developing clear policies to guide D/P	2.1%	12.5%	47.9%	23.0%	14.5%	48
Providing continuing analysis services to support D/P	16.3%	18.4%	36.7%	16.3%	12.3%	47

Table 5-30
Command/Supervisory Rating of Directed Patrol Benefits

Suggested Benefit	Yes	No	Not Sure	N
Making better use of patrol resources	28.6%	50.0%	21.4%	14
Evaluating performance of subordinates	28.6%	50.0%	21.4%	14
Motivating subordinates	42.9%	35.7%	21.4%	14
Setting and monitoring performance objectives	35.7%	35.7%	28.6%	14
Exerting improved management/supervisory control over the "uncommitted" time of patrol officers	50.0%	35.7%	14.3%	14
Gaining better information on patrol effectiveness and efficiency	35.7%	42.9%	21.4%	14
Developing creative solutions to crime and traffic problems	42.9%	35.7%	21.4%	14

While none of the rating areas show a majority of respondents in agreement that the stated benefits have resulted from the implementation of directed patrol, several of these areas appear to be the most attractive, including: motivating subordinates, gaining better control of uncommitted patrol time, and developing creative solutions to crime and traffic problems. The other rating areas received considerably less positive responses.

The survey then requested the patrol respondents to provide their perceptions of the degree of interest and enthusiasm for the directed patrol program among different groups in the Oxnard Police Department. The next section provides some introductory comments prior to presenting the results on this survey question.

Perception of the Degree of Directed Patrol Support Within the Organization

Committment to the successful implementation of directed patrol in a police organization may be viewed at four different levels: 1) at the top management or "policy" level; 2) at the middle-management or patrol watch commander Level (very important in the OPD); 3) at the supervisory or "street sergeant" level; and, 4) at the operational or line officer level.

Over the past three years, evaluation staff have worked closely with the top management of the OPD and we are firmly convinced that they were deeply committed to the directed patrol program. These officials were continually supportive of the concept based on their belief that a crime analysis-supported directed patrol effort was a far more effective use of uncommitted patrol time than was traditional "preventive" patrol.

At the second, or mid-management level, we found a quite different story. There were four lieutenants assigned as primary and relief watch commanders. One of these lieutenants developed the design of the OPD directed patrol program and was a strong advocate for the successful implementation of the program. However, acceptance and enthusiasm of the other watch commanders to the program was, in our view, less than enthusiastic. Thus, a question was included in The September 1981 Directed Patrol Evaluation Survey that was designed to provide a quantitative measure of patrol perceptions of the degree of interest and enthusiasm for this program at the different rank levels of the agency. The survey response to this question is provided in Table 5-31.

In general, the results on this question confirm the observations of evaluation staff noted above with over 50% of line officers stating that they perceive a high or above average committment to directed patrol on the part of top management. Similarly, 60% of the Command/Supervisory respondents held this view of top management support for the program. By contrast, the respondents report a decreasing degree of commitment at each lower organizational level. For example, line officers perceive that only 40% of the middle-managers and 30% of the supervisors display above-average commitment to directed patrol. These officers see very little interest or enthusiasm for the program among their fellow-officers with over 50% stating that their fellow officers had little or no interest or enthusiasm for directed patrol. Oddly, however, a higher percentage of officers indicated that <u>they</u> had an above average degree of interest and enthusiasm for the directed patrol program. The command/supervisory respondents expressed quite similar views to those held by the line officers. Of particular interest was their perception of the low degree of interest or

TABLE 5-31
DEGREE OF INTEREST AND ENTHUSIASM FOR DIRECTED PATROL
(September 1981 Patrol Survey)

Survey Question: Assess the degree of interest and enthusiasm (on the average) for the OPD's directed patrol effort among the following groups. Assign a rating from 1 to 5 to each group, with a rating of "1" meaning high interest and enthusiasm; "3" meaning some interest and enthusiasm; and "5" meaning no interest or enthusiam.

Group Assessed in Survey	Distribution of Patrol Officer Responses					
	High		Average		None	Number
	1	2	3	4	5	
Top Management	33.3%	24.2%	24.2%	12.1%	6.1%	33
Watch Commanders	18.1%	21.2%	45.4%	12.1%	3.0%	33
Patrol Sergeants	6.1%	24.2%	48.5%	15.1%	6.1%	33
Fellow Officers	6.1%	9.1%	30.3%	15.1%	39.3%	33
Myself	15.1%	12.1%	33.3%	21.2%	21.2%	33

Group Assessed in Survey	Distribution of Command/Supervisory Responses					
	High		Average		None	Number
	1	2	3	4	5	
Top Management	28.5%	28.5%	14.3%	7.1%	21.4%	14
Watch Commanders	14.3%	7.1%	57.1%	14.1%	7.1%	14
Patrol Sergeants	7.1%	0	28.6%	28.6%	35.7%	14
Fellow Officers	15.3%	0	38.5%	7.7%	38.5%	14
Myself	23.1%	7.7%	23.1%	35.7%	7.7%	14

enthusiasm for the program on the part of patrol sergeants (almost 2/3 of the respondents expressed a negative view in this regard).

Some open-ended responses provide clues to the meaning of these responses. However, note that only 9 of the 35 line officer respondents (25.7%) and 4 of the 14 command/supervisory respondents (28.6%) provided a narrative response. These narrative responses were as follows from the line patrol officers:

- "Directed patrol areas are too large and the problems to be addressed are too vague."
- "Getting interupted to go on a CFS."
- "Not enough time to concentrate on an area."
- "Not enough officers to give people a chance to concentrate on directed patrol."
- "Due to manpower shortages, we do not have enough time to effectively use the directed patrol program."
- "Program not pushed enough for active participation."
- "Lack of interest."
- "No support, no direct supervision."
- "It does not work well - we are too busy."
- "Directed patrol should consist of Crime Analysis identifying current high crime areas - then allowing patrol to decide how to patrol the area and allowing patrol to simply spend their uncommitted time in the D/P area. I disagree with "checking out" on D/P and having dispatch hold calls."
- "Emphasis is placed on spending an allotted amount of time in the D/P area rather than any available time."
- "The administration appeared very 'hot' on the idea about a year ago, but later interest went almost to zero. Also, most officers have a bad attitude."

As noted, only four of the Command/Supervisory officers provided a narrative comment. These comments were as follows:

- "The program was not 'sold' to command and supervisory officers and therefore they did not support the patrol officers' efforts."
- "Lack of support by middle managers for this program."
- "The people who 'count' don't care."
- "Officers leaving their beats and no interest."

Finally, two earlier surveys were conducted of patrol personnel in connection with the local ICAP evaluation in 1978 and 1980, in addition to the 1981 survey under this project. One question on all three surveys requested the respondents to rate OPD performance on a wide variety of factors thought to be related to the efficiency and effectiveness of police operations. Table 5-32 presents the response to this question on the three surveys for selected factors provides a useful measurement of changes over time in the OPD.

A total of 57 responses (71%) out of 80 Survey Forms distributed were received on the 1978 Survey. The survey response on the 1980 survey was 58% (41 returned out of 71 distributed) and, as noted previously, the 1981 survey had a response rate of 58% (49 surveys returned out of 85 distributed).

Specific factors showing substantial increases between the baseline survey in 1978 and the 1981 evaluation survey included the following: (1) Effectiveness of OPD investigative operations - + 21%; (2) Preliminary investigations by patrol - + 23%; and (3) Crime analysis support of patrol operations - + 24%.

Two areas in which officers perceived decreased performance were (1) Communications and dispatch - 24%; and, (2) Quality of police relationship to the community - 8%. Since crime analysis is believed to be one of the most important elements of a directed patrol program, another question on the 1981 survey asked the officers to rate specific aspects of crime analysis performance. The next section reviews their response to this question.

Table 5-32
Average
Ratings of Selected OPD Performance Factors

Directions: Listed below are a number of factors thought to be related to the effective performance of police operations. For each factor, indicate how you would relate current OPD performance in relation to that factor on a scale from 1 to 5, with "5" indicating superior performance, "3" indicating average performance, and "1" indicating poor performance.

Factor	1978	1980	1981	% Change 78/81
Crime analysis support of patrol operations	2.80	3.59	3.48	+24%
Quality of police relations with community	3.40	2.95	3.14	- 8%
Effectiveness of investigative operations	2.80	3.12	3.38	+21%
Preliminary investigations by patrol officers	3.10	3.61	3.82	+23%
Communications and Dispatch	3.70	2.82	2.83	-24%
Effectiveness of Preventive Patrol	2.63	3.13	3.08	+19%
Allocation of patrol officers by shift	2.30	-	2.49	+ 8%

Rating Crime Analysis Support For Directed Patrol

OPD patrol personnel responding to the September 1981 Evaluation Survey were asked to rate the quality of crime analysis support for patrol and directed patrol operations in terms of eight measures of performance. Table 5-33 sets forth their response to this question.

A brief review of this table will disclose that the vast majority of patrol personnel regard crime analysis support of patrol operations as well above average. Particularly strong ratings (Over 50% of the respondents) were given to the OPD Crime Analysis Unit in virtually every category. The only areas that were relatively weak were "providing investigative leads" and "predicting probable locations and times of crimes". However, both of these performance categories are clearly pushing the current state-of-art in crime analysis.

In addition, the specific elements of OPD crime analysis services and operations were assessed by evaluation staff before and during the directed patrol effort and the results of this assessment are contained in Appendix D.

Descriptive Statements Regarding OPD Patrol Operations

Patrol personnel responding to the 1980 and 1981 surveys were asked to express the extent of their agreement/disagreement with a series of descriptive statements regarding patrol operations in the OPD. A five part scale was used with responses ranging from "strongly agree" to "strongly disagree". The percentage of survey respondents that stated that they either "strongly agree" or were "inclined to agree" with these statements on both surveys are set forth below.

Statement	January 1980	N	September 1981	N
Our patrol productivity sometimes suffers from a lack of planning	43%	41	41%	49
Our patrol force is very effective in preventing crime	39%	41	53%	49

Table 5-33
Evaluation of Crime Analysis Services By Patrol Personnel in the OPD

Survey Question: How would you evaluate the current status of crime analysis support to patrol in terms of:

Rating Factor	Superior 1	2	Average 3	4	Poor 5	Number
A. Providing Useful data	21.4% 17.1%	35.7% 42.9%	28.6% 34.3%	7.1% 5.7%	7.1% 0	14 35
B. Providing Timely Information	21.4% 14.3%	21.4% 31.4%	42.9% 45.7%	7.1% 8.6%	7.1% 0	14 35
C. Supporting Directed Patrol Plans	21.4 11.4%	28.6% 40.0%	35.7% 40.0%	7.1% 8.6%	7.1% 0	14 35
D. Providing Investigative leads	14.3% 8.6%	42.9% 37.1%	7.1% 31.4%	28.6% 20.0%	7.1% 2.9%	14 35
E. Coordinating Flow of Crime/Suspect Info in the OPD	21.4% 17.1%	35.7% 28.6%	21.4% 37.1%	7.1% 17.1%	7.1.% 0	14 35
F. Responding to requests from Patrol	35.7% 22.9%	21.4% 40.0%	28.6% 40.0%	14.3% 14.3%	0 0	14 35
G. Identifying Crime Patterns/Series	28.6% 28.6%	42.9% 42.9%	28.6% 25.7%	0 2.9%	0 0	14 35
H. Predicting Probable Times and locactions of crime	7.1% 11.4%	21.4% 20.0%	50.0% 42.9%	21.4% 17.1%	0 8.6%	14 35

NOTE: The upper percentage figure for each factor is the command/supervisory officer ratings (n=14) and the lower figure is the ratings provided by patrol officers (n=35).

Statement	January 1980	N	September 1981	N
At least 25% of the calls that patrol officers are dispatched on are a waste of time	77%	41	61%	49
People are proud of being a member of this division	65%	41	86%	49
I feel that I am a member of a well-functioning team	65%	41	69%	49
I feel that OPD top management seeks to achieve ambitious and challenging goals for the agency	14%	41	53%	49

While we can make no specific claims as to the changes noted above and implementation of the ICAP/directed patrol program, the positive changes in officer perceptions in regard to these descriptive statements can only be viewed with encouragement. For example, there was a 16% decrease in the percentage of OPD patrol respondents who felt that "at least 25% of the dispatches are a waste of time". Other positive indicators included a 21% increase in the percentage of respondents agreeing that "people are proud of being members of this division"; and, an increase of over 14% in the number of respondents that felt that the patrol force was "very effective in preventing crime". A major increase was also noted in the percentage of respondents that felt that "top management set ambitious and challenging goals for the agency" (i.e. from only 14% in the 1980 survey to 53% in the 1981 survey.

The section that follows provides a summary of key findings from this case study evaluation.

Chapter Summary

The OPD developed a three-tiered directed patrol program that involved: the creation and staffing of a specialized "split force" unit - the Field Tactical Unit; the development of a "D-Run" component for the basic patrol force (wherein field

supervisors assigned quite specific directed patrol activities to officers); and, the designation of "high priority directed patrol areas" in which officers were supposed to spend significant portions of there uncommitted patrol time.

The OPD's directed patrol program is supported by a highly regarded Crime Analysis Unit that provides bi-weekly briefings to all patrol personnel on crime conditions in the city; provides a continuing flow of crime analysis products and services; responds to requests for specific analysis service from patrol; provides detailed briefing and analysis-based planning services to the Field Tactical Unit; and, coordinates the exchange of crime and suspect information between the various major units of the agency.

Operational changes that were made to facilitate directed patrol included a reallocation of patrol resources to better match available officers to workload; overlapping shifts to provide more time for directed activity; development of written call screening and call prioritization policies; implementation of a sophisticated police information and reporting system; and, development of Standard Operating Procedures and Instructions for guiding directed patrol operations.

After over a year of developing a crime analysis capability, improving operations support systems, and experimenting with various directed patrol approaches, the OPD "officially" began full-implementation of their basic unit directed patrol program in February 1980. The specialized patrol unit began operations in 1978.

By the end of this evaluation, OPD basic patrol units were devoting roughly 13% of their "uncommitted" time to some form of crime control or traffic-related directed activity (i.e., about 5,400 officer hours per year or 5% of <u>total</u> patrol time. In combination with the manhours of the specialized patrol unit that are fully committed to directed patrol, the OPD is now devoting approximately 17,650 officer hours per year (or roughly 10 officer years to crime-analysis supported directed patrol.

Some of the more salient findings of this evaluation show that there was a 23% decrease in Part I Crimes in the City (despite an increase in population)in comparison to a baseline period; there was a 19% increase in the number of Part I arrests per patrol officer; a 44% increase in Part I crime clearances per patrol officer; and a 58% increase in the number of Part II arrests per patrol officer. A statistically significant increase was also noted in robbery arrests by patrol officers.

The program is not universally admired by all OPD patrol personnel

at various rank levels, but a sufficient percentage of officers and supervisors personnel view directed patrol as a more effective use of patrol manpower than traditional random preventive patrol to make the program successful. There is survey evidence available in this study that a significant percentage (45-50%) of command and supervisory personnel regard directed patrol as beneficial for motivating subordinates, making better use of uncommitted patrol time; and developing creative solutions to crime and traffic problems.

Over the course of program implementation, the OPD found that their directed patrol effort required frequent monitoring and evaluation to assure that sufficient attention was being devoted to this program and undertook a major reassessment of this new patrol method after an initial experimental period. Considerable difficulty was encountered both by the department and evaluators in determining exactly how much time was devoted to directed patrol despite numerous attempts to develop routine systems to capture such information.

The evaluation staff were not overly impressed by the "D-Run" component of the program due to the short duration (i.e., 20-25 minutes per officer per shift and their interuption for lower priority dispatches) of these runs and communicated this view to OPD management. The designation of "high priority directed patrol areas" by the Crime Analysis Unit, in which basic patrol units spend their uncommitted time, is believed to be a more fruitful use of directed patrol efforts. The OPD also engaged in longer term pre-planned and coordinated (with other departmental units) directed patrol operations (i.e., Anti-Truancy Campaign, Area Saturations at designated times, etc.) that appeared to produce impressive results.

The Field Tactical Unit or "split force" component of the OPD directed patrol program was judged by the evaluators as being an effective use of patrol resources in undertaking those type of assignments that were beyond the capabilities of the basic patrol force due to the time commitment needed as well as the tactics employed (i.e., stake-outs, low-visibility operations, etc.).

CHAPTER SIX

CASE STUDY EVALUATION OF THE SACRAMENTO DIRECTED PATROL PROGRAM

CHAPTER SIX

EVALUATION OF THE SACRAMENTO POLICE DEPARTMENT'S DIRECTED PATROL PROGRAM

Introduction

This chapter presents a summary evaluation of the Sacramento (California) Police Department's (hereafter referred to as the SPD) directed patrol program. This evaluation covers a period of two-years beginning with the implementation of directed patrol by the SPD in May 1980 and extending through the end of April 1982. The SPD developed its directed patrol program with the aid of $175,000 in grant funds from the National Institute of Justice (NIJ) under the auspices of NIJ's **Managing Patrol Operations (MPO) Program Field Test** (which also involved the Charlotte, North Carolina; and, Albuquerque, New Mexico Police Departments). The SPD participated in the MPO Field Test from September 1978 to the middle of 1980. A more detailed report on the SPD directed patrol program was also prepared under this evaluation grant.*

THE CITY OF SACRAMENTO

The City of Sacramento, capitol of the State of California, is located in a rich agricultural valley in the northcentral portion of the state. Despite its inland location, Sacramento is also a deep water port with direct access to the Pacific Ocean via the Sacramento River. The City covers an area of approximately ninety-six square miles and had an estimated 1982 population of 285,400 persons. Sacramento is the largest city in a metropolitan area (SMSA) that covers over 180 square miles and contains a population of slightly over one million persons accorling to the 1980 U.S. Census.

Geographically, Sacramento is elongated in a North-South direction and is 15 miles long north to south and 5-7 miles wide east to west. An unicorporated area shaped like a tongue extends to within 2 1/2 miles of Sacramento's "downtown" area and divides the south-eastern section of the city into two parts. Police services in the

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* Joseph Carrier, : Evaluation of the Sacramento Police Department's Crime Analysis and Directed Patrol Programs, Interim Report to NIJ (draft), Grant 81-IJ-CX-K001, E. Fennessy Associates, San Francisco, California, September 1982.

unicorporated parts of the metropolitan area east of the Sacramento River, the county line, are provided by the Sacramento County Sheriff's Department and the Yolo County Sheriff's Department services the unincorporated parts of West Sacramento.

In 1960, the U.S. Census reported that Sacramento had a population of 254,413. By 1970, population of the City had increased by about 1% to 257,105 persons. A 7.2% increase in population took place between 1970 and 1980 when the U.S. Census reported that the total population of Sacramento was 275,741. During this same period, population in other areas of the county increased by 35%. And, as previously noted, the 1982 population (according to the California Department of Finance) is estimated at 285,400 - an increase of 3.5% over 1980. In short, the population of the City has increased by only 12% in the last 22 years.

The 1980 Census recorded the ethnic distribution of Sacramento's population to be as follows: White - 186,477 (67.6%); Black - 36,866 (13.3%); American Indian - 3,322 (1.2%); Asian and Pacific Islander - 24,017 (8.7%); and, "Other" - 25,059 (9.1%). Persons of Spanish Origin (self-classified) totalled 39,160 (14.2% of total population).

Sacramento operates under the Council/Manager form of government with the City Manager holding responsibility for approving the appointment of police personnel to the rank of Captain and above. All city agencies operate under a program budgeting system with detailed breakdowns of objectives for all agency cost centers.

Close to two-thirds of Sacramento's population resides in single family dwellings and a little over one-half live in the southern areas of the city (by convention, the city is divided into four geographical areas: north, south, east, and downtown). The daytime population of the downtown area is considerably increased on weekdays as a result of state and county governmental and legislative agencies.

Reported Crime in Sacramento

Table 6-1 shows that reported crime in Sacramento has displayed a consistent pattern of increase over the past 5 years. During this period, for example, Part I Crime increased by 36.3% between 1977 and 1981. Between 1980 and 1981, Part I Crimes increased by 5.7% and by 8.6% between 1979 and 1980 (the first year of directed patrol implementation). The majority of this increase is accounted for by property crimes. The increase in violent crimes reported in between 1977 and 1981 was only 21.2% (compared to the overall

increase of 36% in all Part I Crimes). The majority of this increase was due to a 53% rise in reported larcenies between 1977 and 1981. However, burglaries also increased by 30% between the years of 1977 and 1981. The only crime to record a decrease during this period was Motor Vehicle Theft which showed a decrease of 13%.

Table 6-1
Reported Part I Crimes in Sacramento

Crime Type	1977	1978	1979	1980	1981
Homicide	41	61	44	45	53
Rape	205	217	219	217	228
Robbery	1276	1581	1640	1604	1833
Agg. Assault	1393	1337	1309	1355	1421
Sub-Total for Violent Crime	2915	3196	3212	3221	3535
Burglary	8348	9460	9728	10401	10835
Larceny	13077	13798	16040	18451	19981
M.V. Theft	2658	2731	2672	2626	2310
Sub-Total for Property Crime	24083	25989	28470	31478	33126
Total Part I Crimes Reported	26898	29185	31952	34699	36661

Among the crimes of violence, a comparison between 1977 and 1981 shows an increase of almost 43% in reported robberies. Homicide, Rape, and Aggravated Assault remained fairly stable in terms of the number of such crimes reported over this 5 year period. An equally important measure as the frequency of crime is the rate (or Part I Crimes per 100,000) of crime. Table 6-2 provides crime rate information for Sacramento.

Between the base year in this table (1974) and the most recent year (1981), Sacramento's Part I Crime Rate increased by over 46%. Over these eight years, the average annual increase in the crime rate was 6.6%. However, while there may be no relation, between the two events, the growth in the rate of crime was only 2.9% between 1980 (the year of directed patrol implementation) and 1981. Arrest and clearance data will be presented later in this chapter for the Sacramento Police Department

Table 6-2
Sacramento Crime Rate
(Part I Offenses Per 100,000 Population)

Year	Part I Crime Rate	Percent Change
1974	8,859	-
1977	10,226	+ 15.4%
1978	11,084	+ 8.4%
1979	11,723	+ 5.8%
1980	12,586	+ 7.4%
1981	12,954	+ 2.9%

In comparison to other norms, Sacramento's crime rate in 1980 of 12,586 per 100,000 persons was: 122% higher than the national average crime rate of 5,657; 66% higher than the average crime rate in the five Pacific States; 61% higher than the State of California average of 7,833; and, 34% higher than the average crime rate of 9,402 reported in Group I Cities (56 cities with populations of over 250,000 persons).

THE SACRAMENTO POLICE DEPARTMENT

The SPD is organized into four major divisions (or "Offices"): (1) Office of the Chief, which includes the Internal Investigations Section, Planning and Fiscal Section, Community Resources Section, and, the Inspections and Standards Section; (2) Office of Operations, which includes the Patrol Division, Selective Enforcement Section, and Traffic Section; (3) Office of Investigations, which includes the Detective Division; and, Office of Administrative Services, which includes the Technical Services Division and Staff Services Division.

The SPD has an authorized strength of 511 sworn officers (with an actual total of 503), 192 full-time (177 actual) and 125 part-time civilian employees. The rank structure of the department consists of 1 Chief of Police, 1 Assistant Chief, 3 Deputy Chiefs (who report to the Chief through the Assistant Chief), 8 Captains, 26 Lieutenants, 72 sergeants, and 400 police officers.

The overall budget of the City of Sacramento in Fiscal Year 1981/82 was $160.8 million and the police budget of $27.4 million was 17% of the total budget. Dividing the police budget by the total number of officers shows that the annual cost to field one sworn officer is $53,620.

Department staffing has remained at the current level for the past three years. As a result of increased costs due to inflation, however, the police budget rose from $20.4 million in FY-78/79 to the current level of $27.4 million - an increase of 34%.

The distribution of the department's budget by major office is as follows: Office of the Chief (5.4% or $1,479,500); Office of Operations (52.3% or $14,330,200); Office of Investigations (16.4% or $4,493,600); and, Office of Administrative Services (25.4% or $6,959,600).

Since personal services account for such a large percentage of the police budget, the distribution of staff by major office is very similar to the budgetary distributions above. However, 71% of the sworn officers (359 of 503 actual) are assigned to the Office of Operations; whereas 81% of the civilians (143 of 177 actual) are assigned to the Office of Administrative Services.

In short, there are 1.79 sworn police officers per 1,000 population in Sacramento and 2.38 total full-time police employees per 1,000 population. Sacramento therefore had 28% fewer police employees than the average for Group I cities (56 cities having populations of 250,000 or more). Table 6-3 shows staffing by unit.

Table 6-3
SPD Staffing By Unit
Sworn Only

Rank	Office of The Chief	Office of Operations	Office of Admin.	Office of Invest.
Chief	1	0	0	0
Assistant Chief	1	0	0	0
Deputy Chief	0	1	1	1
Captain	1	3	1	2
Lieutenant	5	12	3	6
Sergeant	7	36	6	21
Police Officer	8	306	7	74
Total	23	358	19	103
Percent	4.6%	71.1%	3.8%	20.4%

Calls for police service in Sacramento have steadily increased over time. For example, in 1979, the SPD received 416,554 calls in its Complaint Unit. By 1981, complaint calls increased by 7% to 445,882. Due to sophisticated call screening, prioritization, and non-mobile responses (i.e., Telephone Report Unit), only 33% of these calls actually resulted in the dispatch of a sworn police officer. This still means that one or more police units were dispatched to calls 147,141 times in 1981. Civilian report writers in the Communications Section take many of the reports by phone which normally would require the dispatch of a patrol unit. Over the past three years, these civilian employees accounted for close to 40% of all reports taken by the SPD (91,982 out of a 232,012).

Patrol Operations in The SPD

Since directed patrol is the primary focus of this evaluation project, it is necessary to discuss SPD patrol operations in some detail.

In addition to the 358 sworn officers assigned to the Office of Operations, there are 9 full-time civilian clerical employees, and 104 part-time employees. The part-time personnel include: 18 Community Service Officers, 27 School Crossing Guards, 4 student trainees, and 55 Auxiliary or volunteer police officers.

The Office of Operations is commanded by a Deputy Chief of Police and subdivided into two major units: the Patrol Division and the Selective Enforcement Division There is also a Staff Assistance Section in this Office with 1 lieutenant, 2 sergeants, and 9 civilians.

The Patrol Division is divided into three watches, each headed by a captain. The First Watch (10PM to 8AM) is staffed by 1 captain, 3 lieutenants, 4 sergeants, 58 police officers, and 3 part-time CSO's. The Second Watch (7AM to 5PM) is staffed by 1 Captain, 3 lieutenants, 8 sergeants, 78 patrol officers and 5 part-time CSO's. In addition, a Crime Scene Investigations Unit consisting of 1 sergeant and 14 patrol officers reports to the captain of the Second Watch. The Third Watch (4PM to 2AM) is commanded by 1 captain and staffed by 3 lieutenants, 9 sergeants, 105 patrol officers, and 7 CSO's. In short, and excluding the CSI Unit, the SPD has a total of 274 sworn officers available for patrol duties. Of this total of 274, 33 officers are command or supervisory positions, leaving 241 line patrol officers for handling the bulk of the calls for service workload.

The Selective Enforcement Division is commanded by a captain and divided into two major sections: the Traffic Section and the Selective Enforcement Section.

The Selective Enforcement Section provides the specialized crime suppression or split force directed patrol capability of the SPD. It consists of the Crime Analysis Unit (which is staffed by 1 sergeant, 1 police officer, 1 CSO, and two student trainees) and a Crime Suppression Unit (staffed by 3 sergeants and 21 police officers). The Section is commanded by a lieutenant.

The Traffic Section is commanded by a police lieutenant and staffed by 6 sergeants and 26 patrol officers. Five of these officers are assigned to radar units and 19 are solo motorcycle officers. Auxiliary police (55) and School Crossing Guards (26) are also assigned to the Traffic Section.

worn personnel of the SPD work under a 4/10 schedule. This type of schedule was first used by the patrol force on July 1, 1979. The original plan was modified later on February 1 1980. This modified plan (which is still in effect) divides the patrol force up to the level of lieutenant into two overlapping shifts, "A" and "B", and, three overlapping watches, with the 3rd Watch subdivided into two sections called the 3rd and 4th divisions. Each shift has a different set of three days off each week, but has one overlapping work day with the other shift.

In the deployment of patrol officers, the 4/10 plan makes a basic distinction between primary and secondary units. For patrol purposes, the city is divided into 4 sectors (North, Central, East, and South) and 25 districts (or "beats") from 0700 to 0130 daily. From 0130 to 0700 there are two patrol sectors (North/Central and East/South) and 11 districts. Primary patrol units have direct responsibility for dispatches in the district to which they are assigned. Secondary Units are used for purposes of cover and back-up primarily and for response to CFS in the sector to which they are assigned when the Primary Unit is busy or out of service. The Primary Units are generally one-officer units; the Secondary Units are either a two or one officer car depending on staffing levels on a shift. A recent analysis of patrol unit allocation in Table 6-4 shows the distribution of one and two officer cars by day of the week.

The SPD Patrol Division operates under an informal method of team policing that stresses team and sector integrity. Team integrity simply mean that the same supervisors and officers work the same days and have the same days off. Sector Integrity means that the members of a given patrol team do not respond to CFS in other sectors except in the case of emergencies. They may, however, respond to CFS in other districts <u>within</u> their assigned sector.

Table 6-4

Uniformed Personnel On Duty
(includes supervisors)

Day	1St Watch number of Officers	Cars	2nd Watch number of Officers	Cars	3rd Watch number of Officers	Cars
Monday	33	28	59	57	49	41
Tuesday	29	25	35	34	57	50
Wednesday	31	26	34	33	57	49
Thursday	26	22	30	29	52	45
Friday	27	23	53	51	71	60
Saturday	38	32	38	36	62	52
Sunday	38	30	36	34	65	53

The current 4/10 Plan maintains team integrity but has yielded somewhat on sector integrity in that surplus officers in a given sector on shift overlap days may "...be dispersed into other sectors and/or engage in directed patrol activity."

THE SACRAMENTO MANAGING PATROL OPERATIONS (MPO) PROJECT

The Managing Patrol Operations (MPO) Project was a federally funded 20-month grant to the SPD to field test the feasibility of the basic components of the "MPO Model" developed by the National Institute of Justice. The core elements of the model were: Workload analysis for the allocation and deployment of patrol personnel using the Patrol Car Allocation Model (PCAM), the Hypercube Queuing Model and Computer Designed Work Schedules; Management of the call-for service demand through call screening, call priorities, and non-mobile response; development of new or augmentation of existing crime analysis and problem identification capabilities to support directed activities; and, development and implementation of directed patrol activities. The goal of the MPO Field Test was: "To enhance the capability of police agencies to achieve patrol performance objectives." The specific objectives of the MPO Field Test are described at some length in Chapter II of this report.

The 20-month MPO Field Test was divided into a 6-month planning phase and a 14-month implementation phase. The SPD initiated the MPO Field Test in September 1978 and ended -- with a 3-month

extension -- the project on August 15, 1980. As previously noted, and totally unrelated to the Field Test, the work schedule of the SPD patrol force changed from a 5/8 Plan to a 4/10 Plan. Additionally, the number of two-officer units (formerly 70% of all patrol units in the SPD) was reduced to 30% two officer units and 70% one-officer units. The size of the Traffic Division was reduced by half and these officers were assigned to patrol. These events came about as the result of negotiations between the City of Sacramento and the Sacramento Police Officers Association.

A detailed evaluation of the results of the MPO Field Test are contained in a detailed final report by the SPD* as well as the NIJ-sponsored evaluation of the program completed by Research Management Associates, Inc.**

Briefly, however, the chief impact of SPD participation in the MPO Field Test was a dramatic improvement in the department's crime analysis function as well as the formal adoption of a program of directed patrol in May 1980. The project also had the unanticipated effect of highlighting communications problems which existed between patrol and detectives. As a result of this finding, the MPO effort served as a catalyst for initiating more contact between patrol and detectives and enhancing the flow of crime and suspect related information between these two major units of the department.

Few changes were made in the CFS management function since the SPD already was quite advanced in this area. For example, the department regularly analyzed patrol allocation and deployment using computer generated data. It also had established alternative procedures for handling calls for service, including call screening, call prioritization, a telephone report unit, and the use of Community Service Officers to handle low-level incidents.

The SPD also had a specialized patrol unit that provided a form of "split force" directed patrol long before the initiation of the MPO grant. One benefit of the grant was an extensive external training program in MPO concepts provided to key members of the department by NIJ as well as a 40-hour internal training program on MPO that was presented to all personnel with the rank of

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* Sacramento Police Department: Final Report - Managing Patrol Operations Project (Lt. Robert Austin, Project Manager), Final Report to NIJ, Sacramento, California, 1980

** J.T. McEwen, E. Fennessy, and E. Connors: Managing Patrol Operations Field Test: Final Evaluation Report, Research Management Associates, Inc., Herndon, Virginia, January 1982.

sergeant and above. In addition, all patrol officers received 16-hours of training in crime analysis and directed patrol. The next section will discuss the directed patrol and crime analysis changes initiated by the SPD as a result of their participation in the MPO Field Test. These were quite substantial changes in the way patrol services were delivered in the SPD and the nature of these changes require considerable discussion.

The SPD Directed Patrol Model

During the planning phase of the MPO Field Test, SPD program analysts identified several major problems in the way that the patrol force was then operating. These problems included: highly individualized patrolling objectives and methods; organizational expectations for the patrol force; and, field supervision.

The problem with individualized patrol (aside from the fact that the policy of the department was being defined at the street level rather than at the management level) is that the patrol officer's perceptions of the problems of his beat were less than fully informed since between 35-40% of the crime reports to the department were being taken over the phone. One result of this procedure was that the officer did not have a complete overview of the scope and severity of crime problems in his district.

Organizational "expectations" for patrol were viewed as another problem. To some department managers, patrol officers were viewed as simple "report takers" for the detectives. There was a strong perception on the part of many patrol officers that the path to upward mobility was anywhere other than the Patrol Division. And, the way that one got out of the patrol was by compiling a healthy mix or arrests, citations, and FC (field contact) Cards. Ambitious officers, feeling the need to compete for transfer or promotion (rewards) found themselves having to leave their assigned beats to saturate the "duck ponds" in other districts where activity is highly visible. In short, department policy was not well served by this perception.

Third, field supervision was viewed by SPD MPO planners as a problem, because officers were not "required by field sergeants to deal with problems in their own districts." An internal (and somewhat informal survey) by MPO staff revealed that many officers were not aware of the actual boundaries of their districts. In brief, MPO staff felt that patrol officers had no real feelings of "beat accountability" and that far too often an officer's views of a problem reflected his/her own biases rather than the actual existance of a problem demanding police attention.

A fourth problem identified by the SPD MPO staff, that will be discussed in more detail later, was that crime analysis services to patrol (as then provided) were not useful or used by patrol personnel in the planning of preventive or directed patrol activity. In fact, there many sources of crime analysis information diffused throughout the department that were being used to benefit only specific units rather than the department as a whole.

The central assumptions that guided the development of the SPD's directed patrol model are paraphrased below:

- One of the basic tenets of the traditional police patrol model was that random patrol and self-initiated activities will be performed during non-committed patrol time, yet studies conclude that random patrol and self-initiated activity are not <u>systematically</u> related to police problems.

- From a management perspective, random patrol has some serious drawbacks. Since there was no systemtic approach to problem-solving, there could be little coordination between districts, shifts, and watches. For all practical purposes, each officer acted as an independent agent, with enforcement activities often dependent upon officer days-off. Supervisors, more often than not, did not know what the enforcement priorities were in each district, nor was there any review or evaluation of tactics.

- Since the Crime Suppression Teams had been in existance for a number of years, no measurable increase in efficiency could be expected from them. The greatest potential rested with patrol. Thus, both the authority and responsibility for directed patrol operational planning must be decentralized to the patrol team level for the resolution of crime, traffic, and service problems.

These assumptions were central to the directed patrol model that was developed by the SPD MPO planning staff and approved at at the management levels of the department.

Proceeding from these assumptions, the SPD decided to use a modified version of the Community Oriented Policing (COP) Model that was developed by the San Diego Police Department as the basis for their directed patrol program. Several site visits were made to San Diego by SPD MPO staff to familiarize themselves with this

program model and to determine its applicability to the organizational environment of the SPD.

In developing their directed patrol plan, SPD planners established two primary objectives:

- To change the patrol operation from a reactive to a proactive posture by employing a new model for patrol activities.

- To decentralize the day-to-day operational planning for combatting crime, traffic, and community problems and the development of short and long range plans developed at the patrol officer and team level.

These objectives were predicated on the assumption that the SPD's existing operational decision-making process was inappropriately confined to the management and supervisory level of the patrol force. The problem with this approach, according to SPD MPO planners, was that line patrol officers feel no particularly strong responsibility for the crime, traffic, and social problems on their beats. The San Diego Community Oriented Policing (COPS) model, they felt, provided a firm base for increasing the sense of responsibility of patrol officers for problems in their beats. As stated in the COPS documentation, the SPD MPO staff were seeking to instill a sense of "beat accountability" in their officers which was defined as follows:

> Beat accountability refers basically to a patrol officer's development of a <u>personal</u> sense of responsibility for the people and problems of his beat. This beat-accountable sensitivity to the beat conditions is vital to improving police responsiveness by developing a subjective sense of identification with his beat and by a willingness and commitment to get involved in the community and to help with such problems as pertain to the police function. [Norm Stamper, SDPD, n.d.]

In short, the directed patrol component of the MPO program was viewed as a vehicle for revitalizing the patrol operation. It was believed that the department could learn from San Diego's problems and could implement a "modified COP model" in an effective manner. They did not have unrealistic expectations for this approach, however. Interviews by evaluation staff with command and planning officials indicated that they would be pleased by a higher level of officer involvement in their work. Realistically, they felt that if 50% of the officers became more active, the program would

be successful. They also felt that it would take 2-5 years before their planned approach to directed patrol was fully integrated into the organization. They expected resistance from both middle management and supervisory personnel who could be expected to view the program as a threat to their status and as a vehicle that management could use for instituting performance measurement and accountability.

The SPD set up an MPO Advisory Body composed of top management, middle managers, supervisors, police employee association leaders, and line officers to guide the development of the directed patrol program. Two assumptions that guided both the planners and the advisory group were that the San Diego COPS Model should be viewed as a **philosophy**, not a program. Programs are to be developed in relation to this philosophy; and, that COPS nearly failed due to inadequate training for middle and top managers as well as a lack of follow-up training.

The eventual directed patrol that emerged from this planning process was rather complex. More precisely, there were five major elements to the program: (1) Profiling; (2) Directed patrol reports; (3) Minimum staffing for directed patrol; (4) Crime Analysis; and (5) Team conferences and Patrol Reference Station. Each will be described briefly below.

The term "profiling" was borrowed from the San Diego COPS Model and means that all patrol officers were required to develop what the SPD termed: "District Analysis Reports". These reports were to contain detailed information and analysis relating to seven profile areas: geographic, demographic, community leaders, crime problems, traffic problems, proposed strategies, and needs assessment. It was decided that the crime profiles should focus on burglaries (residential, commercial, and auto), auto theft, robbery, and rapes (including attempts). Three years of crime data for each district and watch was made available to the officers to establish seasonal patterns. In addition, a new computer report was designed that would provide monthly updates on these offenses by district and watch. The traffic profiles were designed to identify: high accident locations, chronic problem areas, and special traffic problems. Based on these analyses, the officers were expected to develop strategy profiles for dealing with the problems identified that would include specific directed patrol efforts. These District Reports were to be filed in a central location (that was to be known as the "Patrol Reference Station") and updated annually.

The "strategies" section of the profile was deemed important because it enabled supervisory and management personnel to be aware of the type of activity the officer planned to engage in when not handling the CFS workload.

The next planned component of the SPD directed patrol program consists of two Directed Patrol Reports: The Sector Plan and the Watch Report. In developing the Sector Plan, each patrol sergeant is required to review and evaluate all district analysis reports by officers assigned to his or her sector. He then assesses each identified problem to determine if it is confined to a district or whether it has sector-wide implications. Sector problems are dealt with at the "team" level; district problems can usually be handled by one or two patrol units.

With respect to short and long-range plans, the patrol sergeant is responsible for preparing "recommendations and plans in response to identified sector-wide problems. At the patrol team level (usually one sergeant and 6-9 officers), the team is responsible for developing day to day objectives for dealing with short-range problems. By contrast, the patrol sergeant's long range sector plan is designed to reduce or diminish the frequency of specific crime problems of continuing concern in a sector. For example, the team may identify residential burglary as a major problem in the sector and develop a long-range crime prevention and educational plan for dealing with the problem. At the short-range level, the team may engage in specific apprehension or interception-oriented directed patrol assignments related to burglary patterns identified by the Crime Analysis Unit.

The Watch Report is developed by patrol lieutenants based on a review of Sector Plans submitted by patrol sergeants assigned to the Watch. The management of resources, equipment, and time is the most important consideration in this review. Additionally, the Watch Report is designed to address coordination of efforts on specific problems that spill over into other watches. The Watch Report also enables management to exert a veto control over any strategies or tactics that are deemed impractical or in violation of department policy. This report is used as a basis for input as to team training schedules, the annual patrol budget request, and patrol policy decisions.

The original or "preliminary plan" developed by the SPD's MPO project staff called for 2 hours of directed patrol activity for each patrol officer per shift. It also stated that 50% of "uncommitted" time should be used for such directed patrol activity. However, as program planning continued following the development of the SPD preliminary plan, these objectives were deemed to be generally unrealistic and far too ambitious by the internal SPD MPO Advisory Committee. In fact, their recommendations indicate that Committee members viewed <u>any</u> CFS to have a higher priority than planned directed patrol assignments. This view was clearly established in their recommendations relative to the issue of "minimum patrol staffing" which were stated as follows:

> Engaging in directed patrol shall not be done at the expense of jeoparadizing a Sector's fundamental responsibility to respond to calls for service. Some balance must be struck whereby Sector teams can release units or officers to engage in formal directed patrol activities, and at the same time sufficient units remain available to handle the CFS workload. Minimum staffing levels will vary from watch to watch, sector to sector, and, in fact, from day to day. The ability to divert personnel to formal directed patrol will have to be negotiated between the patrol teams and the watch commander, who must ultimately approve such plans.

The next element of the SPD's Directed Patrol Plan was the crime analysis component. This component is discussed as a separate issue in the section below due to its importance to the SPD program.

The Crime Analysis Component of The SPD Directed Patrol Program

Crime analysis had its beginning in the SPD in May of 1971 with the creation of a Crime Analysis Unit to provide support to the specialized crime suppression teams of the department. The unit was assigned to the Administrative Services Division. Over the years since its inception, the CAU's major responsibilities were to prepare various statistical reports on crime and to monitor and maintain records relating to false alarms for commercial burglary and robbery. Color-coded 30-day crime pin maps were prepared and Sector Crime Logs, which contained copies of offense reports on commercial burglaries and robberies, strong-arm robberies, and purse snatching, were maintained. Primary data sources for the CAU were: offense reports, incident reports, arrest reports, field contact cards, and daily activity reports. They also made quite considerable use of the SPD's automated Crime and Arrest Reporting System (SCARS) which provided a searchable on-line data base.

MPO Project Staff undertook a detailed evaluation of the CAU during the planning phase of their project that was later expanded to address all sources of crime analysis information in the agency as well as what crime analysis functions were being performed in different units. A detailed report, that was exceptionally critical of crime analysis operations in the department, was prepared by the MPO staff. Some of the key findings from this report are summarized here. First, a major finding of the MPO staff was that

"crime analysis" was diffused throughout the department and that ..."bits and pieces were being performed by numerous units...none of which were coordinating or communicating with each other." A formal survey of all SPD officers on their knowledge of and use of crime analysis information was also undertaken by MPO staff.

Stated very briefly, the chief finding of this survey was that the department's Crime Analysis Unit, due to a series of unfortunate organizational circumstances, was viewed as essentially irrelevant by most patrol personnel. For example, the most useful document produced by the CAU, the Crime Analysis Bulletin, was not put out in a format, or in a timely enough fashion, that was acceptable to patrol supervisors or officers and was not often used for tactical planning purposes.

Second, they found that relevant information developed by the Detective Division, such as the Arrest and Information Bulletin, which was potentially useful to patrol was often incomplete and not distributed in a timely manner. In fact, no formal system existed for the exchange of information between patrol and investigators. The study found that a program of directed patrol would require the following crime analysis products: (1) crime pattern information should be given by sector for all patrol watches; (2) patrol officers wanted to know prior to going on duty what crimes occurred the previous day in their district; and (3) line officers wanted a listing of warrants issued for persons living in their district. The study also found that pin maps developed by the CAU were not used by patrol personnel.

Based on these findings, an 11-member Crime Analysis Task Force (composed of representatives from patrol, investigations, intelligence, selective enforcement, planning and fiscal, and crime analysis) was selected by the Chief of Police to develop a master plan for improving the delivery of crime analysis services in the SPD.

The Task Force completed their work over a several month period and their Final Report prefaced their recommendations with the following comment:

> In order for the patrol officer to benefit from crime analysis or crime information, the informational turnaround must be **timely** and **concise**. In order to do this, we must first recognize that there **is** a difference between crime analysis and crime information. Crime information is what most patrol officers want when they say they want current information on what happened yesterday or the last shift within their sector. They also want to know who the suspects are in current crimes

> and who is arrestable for what crimes. This, along with with lists of persons who are searchable, on probation or parole, is crime information. Crime analysis is when a series of criminal activities are occurring in a particular area by selective individuals whose activities can reasonably be predicted.

The major recommendations of the Task Force were as follows: (1) That crime analysis produce on a daily basis for each sector (there are four sectors) all activity in the sector over the prior 24-hours (containing listings of crimes by type, location, time, suspect description - if any, modus operandi, updated case information from investigations to include suspect data identifying them as suspects or arrestable) which would be available for distribution at the 1600 roll call seven days per week; (2) That the CAU establish a continuing liason with the Detective Division for the purposes of information flow on suspects; and, (3) That feedback systems from patrol and selective enforcement to the CAU should be established on particular crime patterns. A recommendation to move the CAU from Administrative Services to the Office of the Chief was rejected by SPD management. Instead, the CAU was assigned to the Office of Operations, reporting to the Commander of the Selective Enforcement Section.

After the training session for all command/supervisory officers on crime analysis and directed patrol (which provided for feedback on the program design) further changes were made in the crime analysis operation. By January 1980, most of the recommended changes in crime analysis had been implemented. The "new" CAU was vastly improved in all areas and provided the following basic reports to the patrol division to support directed patrol planning:

> (1) **Daily Sector Crime Summary:** Provides a listing of major cases that occurred in the previous 24 hour period.
>
> (2) **Crime Pattern Report (CPN):** This is a report to provide information regarding a possible crime pattern of which the patrol teams should be aware. No feedback is required from patrol to the Crime Analysis Unit on a CPN although the CAU carefully monitors all arrests for any offenses that were included in the pattern.
>
> (3) **Crime Series Pattern Notice** This report contains information on a definite series of related offenses. Feedback reports on actions

taken by patrol are required for certain types of violent series of crimes.

Update reports are issued by the CAU as long as the crime pattern or series continues. CPN's are checked with the Detective Division detail responsible for the offense type (i.e., Burglary Unit) prior to issuing an Update Report to assure that a consensus exists that the offenses are, in fact, related. More specifically, a crime series differs from a crime pattern in that a series is defined as: "...repeating crimes occurring within a relatively short period of time and committed by a specific person or group of persons."

The reorganization plan for crime analysis was instituted on January 1, 1980. The CAU's staff consisted of one sergeant, one patrol officer, one civilian employee, one part-time Community Services Officer, and two part-time student trainees. Repeated recommendations of the Crime Analysis Task Force and the CAU itself for additional staff were not granted due to budgetary constraints.

As part of the reorganization, a formal liason program was set-up between the CAU and the Detective Bureau. The patrol officer assigned to the CAU meets on a daily basis with detectives and patrol personnel to coordinate the flow of crime related data between the two major divisions of the SPD. This officer also conducts regular briefings of the patrol shifts. He is also responsible for maintaining a regular liason with crime analysis personnel in the Sacramento Sheriff's Department and the Yolo County Sheriff's Department.

The CAU now maintains a seven-day a week operation with the majority of the staff working weekdays and the CSO and student-trainees providing weekend coverage. The overall flow of information to and from the CAU is shown in Exhibit 6-1.

Patrol Reference Station & Team Conferences

The last elements of the SPD's Directed Patrol Program are the Patrol Reference Station and Team Conferences, both of which were instituted under the MPO Project. The Patrol Reference Station is a central repository for all current information needed for the day to day planning of directed patrol activity. It contains copies of all District Analysis Reports, Sector, Watch Reports, Crime Analysis Reports, Arrest Bulletins, and related materials. A computer terminal is provided so officers can query the SCARS System for any information available in the system. A microfiche

EXHIBIT 6 - 1

Input, Products, And Product Distribution
Of The SPD Crime Analysis Unit

Formal Inputs to CAU

Records Section
- Crime, Incident and Arrest Reports
- Field Contact Reports

Patrol Division
- Crime Series Feedback Reports

Informal Inputs to CAU

Detective Division
- Updated information on active cases

Crime Suppression Unit
- Updated information on active cases

Outside Inputs to CAU

Sacramento County Sheriff's Department
- Crime Analysis Unit

Yolo County Sheriff's Department

CRIME ANALYSIS UNIT (CAU)

Products of CAU

- Daily Sector Crime Summary Reports
- Crime Pattern/Series Notifications
- Crime Pattern/Series Updates
- Special Crime Analysis Bulletins
- Information Bulletin for Patrol
- Weekly Crime Statistical Summary Report
- Monthly Crime Statistical Summary Report
- Vehicle File (used for vehicle-crime comparison)
- MO (method of operation) File

Distribution

Office of Operations
- Deputy Chief
- Crime Suppression Unit
- Watch Commanders
- Patrol Sector Sergeants
- Patrol Reference Station

Office of Investigations
- Deputy Chief
- Captain of Detectives
- Sections and Details

Office of the Chief
- Community Resources Section

reader is also available for the use of the officers. One of the responsibilities of the CAU is to maintain the information in the Patrol Reference Station in an up to date manner.

As a means of decentralizing operational planning of tactical patrol activities to the patrol team level, the SPD Directed Patrol Program replaced the traditional police "roll call" with Team Conferences at the beginning of each watch. A large utility room, adjacent to the Patrol Reference Station, was specially modified for this team conference function. The team conference, chaired by the sector sergeant, provides the means for a daily review of problems faced by patrol officers in their districts and sectors. The conference provides a means for patrol officers to contribute their unique knowledge of district problems to the planning of directed patrol efforts. And, they, in turn, are briefed by the CAU Liason Officer on the nature of current crime problems, pattern, and series. One result of the implementation of this conference mode of planning has been a substantial expansion of the role and authority of sector sergeants.

Directed Patrol Training in The SPD

The SPD relied heavily on training to facilitate the orderly implementation of directed patrol in their department. MPO staff devoted considerable effort to the development of course materials for this training effort. One of these products was a very detailed manual on directed patrol strategies and tactics. All department personnel with the rank of sergeant and above (about 100 persons) attended a 40-hour training program in the Fall of 1979. The training had three primary purposes. First, it provided these officers with detailed information on the planned directed patrol model and the expanded responsibilities of the Crime Analysis Unit.

Second, it was designed to provide these managers and supervisors with new skills in problem identification and the planning and implementation of directed patrol in response to such problems. Third, the training was designed to obtain a committment of these officers to the basic MPO and directed patrol concept. The Chief of Police and/or Assistant Chief attended these sessions to stress the SPD's full committment to directed patrol and to respond to questions and comments from the trainees. The training course was well-designed and well-received by the trainees.

The second training component was designed to acquaint all patrol line officers with the revised crime analysis and directed patrol procedures and to provide instruction in the development of the

District Profiles. The initial 10-hour training for patrol officers was presented between December 1979 and February 1980. A second 10-hour training program was provided to all patrol officers between late February and March 1980 that was designed to review the profiling effort and to provide additional information on directed patrol and crime analysis. Also, in early 1981, a "refresher" training course was provided to command and supervisory officers.

Formal implementation of directed patrol in the SPD began in mid-May 1980. Before discussing the evaluation of directed patrol results it is first necessary to present a more detailed analysis of patrol workload in the SPD that was conducted as part of this evaluation project.

ANALYSIS OF SPD PATROL WORKLOAD

This section presents an analysis of patrol workload in the SPD before and during the introduction of a directed patrol program. The primary aim of this analysis is to provide quantitative evidence on the impact of directed patrol on patrol force allocation.

For the past several years, due to call volume and clerical shortages, Sacramento has only keypunched a 50% sample of all dispatch tickets. In 1981, following the termination of the Federal CETA program and the layoff of SPD's CETA workers, they stopped keypunching any dispatch tickets. Later in the year, however, an internal task force of clerical and light-duty officers were given the job of coding and keypunching a 25% sample of 1981 dispatch data. Thus, the analysis that follows is based on these two types of sample data.

For analysis purposes, this dispatch data was divided into the following six periods for comparison purposes:

Period 1: July 1979 to December 1980
Period 2: January to April 1980
Period 3: May to June 1980
Period 4: July 1980 to December 1980
Period 5: January 1981 to June 1981
Period 6: July to December 1981

These periods were chosen to coincide with specific changes that impacted the delivery of patrol services in the SPD. For example, in July 1979, the SPD: (1) changed from a 5-8 to a 4-10 Schedule; (2) Changed from 70% two-officer units to 70% one-officer units; (3) increased the staffing of the patrol force by the transfer of 26 officers formerly assigned to the Traffic Section; and, (4)

instituted the concept of "team integrity" (meaning that members of a patrol team had the same days on/off schedule). Analysis of data from the period prior to July 1979 would not be particularly useful since it would be comparing data under completely different operational procedures. May 1980 was the official starting date for directed patrol in the SPD. The periods after July 1980 allow for comparisons against the period prior to directed patrol implementation.

As noted, the dispatch data for the period prior to 1981 is based on a 50% sample and the 1981 dispatch data on a 25% sample. Given the volume of activity in the city, these samples are certainly adequate for an analysis of patrol workload. The primary disadvantage of this data is that each sampled day is from midnight to midnight (or 2300 to 2300) while two shifts overlap the midnight hour. Therefore, it is not possible, for example, to determine the activities for a specific shift such as 2200 May 5 to 0700 on May 6.

General Statistics on the Sampled Periods

Under the SPD's 4/10 Plan, the 1st Watch is from 2200 to 0800, the 2nd Watch is from 0700 to 1700, and the 3rd Watch is subdivided into two sections, one section of which works from 1600 to 0200 and the second from 1700 to 0300. The primary concern of this analysis is with the SPD patrol units that have responsibility for responding to citizen calls for service since these units are impacted the most by a directed patrol program. These units are termed "basic patrol units". There are 20 units designated as Alpha Units on the 1st Watch, 25 units designated as Bravo Units on the 2nd Watch, and 25 units designated as Charlie Units on the 3rd Watch. The total numbers of calls for service and self-initiated activities handled by these units in each of the sampled periods were as follows:

Period	CFS	Self-Initated	Total
Period 1 (7/79-12/79)	46,638	18,048	64,686
Period 2 (1/80-4/80)	28,611	11,520	40,131
Period 3 (5/80-6/80)	15,493	6,486	21,968
Period 4 (7/80-12/80)	45,172	18,044	63,216
Period 5 (1/81-6/81)	40,124	15,500	55,624
Period 6 (7/81-12/81)	40,820	15,516	56,336

These numbers were obtained by taking the totals from the sampled dispatch data and inflating for the sampling fraction. That is,

the sample totals for the first four periods were multiplied by two since they are 50% samples and the sample totals for the last two periods were multiplied by four since they are 25% samples. These totals show a slight decrease for the first four periods followed by a more significant decrease in 1981.

The change from Period 1 (July-December 1979) to Period 4 (July to December 1980) amounts to a 3.3% decrease in CFS while the self-initiated activities remained about the same. Combining Periods 2 and 3 to form a six-month period gives 44,104 CFS and 18,006 self-initiated activities which are quite close to the volumes of these activities in Periods 1 and 4. However, Periods 5 and 6 show a decrease of roughly 10% in CFS as compared to the prior 6-month periods and a 14% decrease in self-initiated activities. Part of this decrease may be due to sampling fluctuations since only a 25% sample was taken by the SPD in 1981 and part may be due to a greater than normal fluctuation in the city.

It appears, based on an assessment of other data sources available from the SPD that not all self-initiated activities are reported to the dispatch center and that the figures above understate the volume of such activity. In the analysis of directed activity set forth later in this section a higher level of self-initiated activity is assumed that is more in accordance with other SPD data.

The SPD uses a three-level call prioritization system ranging from serious or emergency calls (Priority 1) to non-emergency calls in Priority 3. As an example, in Period 6, roughly 16% of all CFS were Priority 1 calls, 52% were Priority 2, and 32% were Priority 3 calls. The percentage distributions for the other periods were fairly close to these figures with Priority 1 calls generally accounting for 12-16% of the total, Priority 2 calls for 40-50%, and Priority 3 calls for 30-37%.

Table 6-5 provides key statistics on the average elapsed time by period and priority for CFS and self-initiated activities handled by patrol units. The processing time in Communications for Priority 1 calls was generally around 2.5 minutes, for Priority 2 calls about 5 minutes, and for Priority 3 calls about 15 minutes. The longer processing time for Priority 3 calls is due to intentionally delaying these calls when the patrol units are busy with higher priority work or when the unit in the area of responsibility is tied up on another call. This table also shows that travel time differs significantly by priority class. Average travel time for Priority 1 calls is about 5.1 minutes, for Priority 2 calls about 7.2 minutes, and for Priority 3 calls about 11 minutes. The bottom portion of Table 6-5 shows the average incident time (i.e., time from dispatch to the time the call is completed) by period and priority class.

Table 6-5

Service Time Averages By Period And Priority Class

Average Communications Center Time

Priority	Period 1	Period 2	Period 3	Period 4	Period 5	Period 6
1	2.6 minutes	2.5 minutes	2.2 minutes	2.2 minutes	2.2 minutes	2.5 minutes
2	5.5 minutes	5.0 minutes	4.5 minutes	4.6 minutes	4.8 minutes	5.3 minutes
3	17.6 minutes	16.1 minutes	14.9 minutes	14.5 minutes	15.9 minutes	16.6 minutes

Average Travel Time

Priority	Period 1	Period 2	Period 3	Period 4	Period 5	Period 6
1	5.4 minutes	5.2 minutes	5.1 minutes	5.3 minutes	5.2 minutes	5.6 minutes
2	7.4 minutes	7.2 minutes	7.2 minutes	7.3 minutes	7.3 minutes	7.7 minutes
3	11.2 minutes	11.2 minutes	10.8 minutes	10.8 minutes	10.9 minutes	11.1 minutes

Average Incident Time

Priority	Period 1	Period 2	Period 3	Period 4	Period 5	Period 6
1	49.5 minutes	51.1 minutes	47.0 minutes	54.4 minutes	53.1 minutes	53.0 minutes
2	39.5 minutes	40.0 minutes	38.7 minutes	39.9 minutes	40.0 minutes	41.0 minutes
3	52.9 minutes	53.4 minutes	50.9 minutes	50.6 minutes	52.5 minutes	53.1 minutes

As noted, incident time is comprised of travel time plus on-scene time. The average incident times for Priority 1 calls are about 50 minutes, about 40 minutes for Priority 2 calls, and around 53 minutes for Priority 3 calls. The higher average for Priority 3 calls is partially due to higher travel times. Excluding travel time from total incident time shows the average on-scene time for Priority 1 calls to be 45 minutes compared to 42 minutes for Priority 3 calls. On the other hand, it is interesting to note that Priority 3 calls require higher average travel and on-scene times than Priority 2 calls.

The average incident time varies from a low of 21.9 minutes for Silent Alarms to a high of 88.2 minutes for Burglary Calls. Moreover, the percentage of calls requiring backups is quite large. For Suspicious Persons, backups were sent on 73% of the calls. In total, multiple units were dispatched on 61.3% of all calls. Note that backup units need not be another basic patrol unit as such units could also include supervisory cars or other specialized units (i.e., Traffic, Crime Suppression, etc.)..

Finally, average times were calculated for self-initiated activity of the basic patrol units. The average was about 24 minutes for such incidents and this average was quite consistent across all six periods with a range of from 23.3 to 24.9 minutes.

CFS Demand and Basic Patrol Unit Utilization

With the above information as background, it is now possible to consider the patrol operations of SPD basic units in more detail. Because of the considerable shift overlaps of the SPD's 4/10 Plan it is necessary to divide the day into segments or time blocks to account for the overlap. The most convenient divisions are as follows: 0700-1600, 1600-2200, 2200-0200, and 0200-0700.

Basically, the main overlap is from 2200-0200 since two shifts are simultaneously operating in the field. The tables that follow use these time divsions.

Table 6-6 sets out the average hourly volume of CFS and officer-initiated activity by day of the week and time block for the entire city. The first figure of each pair shown in the table is the average number of CFS per hour, the second is the average number of self-initiated activities per hour.

The volume of self-initiated calls, including directed activities, is dependent on the number of units allocated and how busy the units are on CFS. Table 6-6 shows that there are considerably more CFS during the overlap period from 2200-0200. Apparently, there

Table 6-6

Calls For Service and Self-Initiated Activity Per Hour

Day/Time Block	Period 1	Period 2	Period 3	Period 4	Period 5	Period 6
Sunday-Monday						
0700-1600	9.3/ 1.9	9.9/ 2.2	10.1/ 2.0	8.7/ 2.8	12.0/ 1.2	12.4/ 1.2
1600-2200	12.8/ 8.2	11.1/ 6.3	13.3/ 6.8	12.9/ 6.8	8.2/ 4.5	8.3/ 4.9
2200-0200	13.8/11.4	10.7/11.2	12.1/11.6	11.2/10.0	8.1/ 7.7	11.2/ 7.6
0200-0700	4.8/ 2.2	3.6/ 2.7	4.8/ 2.6	4.3/ 1.6	3.4/ 1.5	3.6/ 1.5
Monday-Tuesday						
0700-1600	10.7/ 1.8	10.5/ 2.8	10.4/ 2.4	9.8/ 2.5	11.6/ 2.5	11.5/ 2.2
1600-2200	14.0/ 6.6	13.0/ 6.3	14.1/ 5.4	13.1/ 6.2	14.4/ 6.0	12.2/ 4.5
2200-0200	12.1/11.1	11.7/ 8.8	13.8/ 8.2	12.2/ 7.9	9.2/ 8.1	11.6/ 7.4
0200-0700	4.9/ 2.1	4.3/ 2.0	3.8/ 2.4	4.9/ 1.6	3.2/ 1.7	3.5/ 1.7
Tuesday-Wednesday						
0700-1600	10.5/ 2.5	10.8/ 1.9	10.0/ 2.4	10.5/ 2.1	9.5/ 1.5	11.1/ 1.6
1600-2200	14.1/ 3.2	13.6/ 3.9	16.5/ 5.4	14.2/ 4.8	11.8/ 4.3	13.6/ 5.1
2200-0200	12.5/ 6.6	11.6/ 6.5	12.5/ 7.3	12.7/ 7.8	9.8/ 5.2	9.7/ 8.6
0200-0700	5.0/ 1.0	4.8/ 1.2	4.1/ 1.6	4.1/ 1.4	3.1/ 1.7	4.3/ 2.3
Wednesday-Thursday						
0700-1600	10.2/ 2.7	10.5/ 2.0	10.0/ 2.6	10.5/ 1.9	11.7/ 1.4	10.5/ 2.2
1600-2200	15.1/ 3.7	14.3/ 3.5	12.6/ 5.0	14.0/ 5.3	13.9/ 5.1	15.4/ 5.7
2200-0200	14.8/ 6.2	10.4/ 6.2	11.3/ 5.6	12.5/ 6.6	9.8/ 5.3	11.7/ 6.3
0200-0700	5.0/ 1.2	4.7/ 1.2	5.0/ 1.4	4.1/ 1.5	3.9/ 1.4	4.5/ 1.5
Thursday-Friday						
0700-1600	9.6/ 3.1	10.8/ 2.0	10.7/ 1.9	10.9/ 1.8	11.4/ 1.6	10.7/ 1.8
1600-2200	13.1/ 3.4	13.6/ 3.4	14.0/ 4.8	15.1/ 5.8	12.2/ 5.5	14.4/ 5.7
2200-0200	13.9/ 6.0	10.5/ 6.5	13.7/ 6.6	11.5/ 7.2	11.9/ 5.6	12.5/ 6.2
0200-0700	5.3/ 1.3	4.6/ 2.0	4.8/ 2.0	4.2/ 1.3	4.2/ 1.3	5.2/ 1.4
Friday-Saturday						
0700-1600	9.9/ 2.2	10.9/ 2.2	10.8/ 2.5	10.1/ 2.1	10.9/ 2.2	13.0/ 2.2
1600-2200	13.1/ 5.5	13.6/ 6.2	15.0/ 9.2	14.0/ 7.8	14.3/ 8.6	17.2/ 9.9
2200-0200	13.9/ 8.1	12.2/10.3	13.7/13.8	14.7/ 9.2	13.9/10.0	13.3/ 8.1
0200-0700	5.7/ 1.9	5.0/ 2.0	5.5/ 1.4	5.1/ 1.8	4.7/ 1.1	6.0/ 1.6
Saturday-Sunday						
0700-1600	9.9/ 1.9	10.5/ 2.2	10.2/ 1.7	10.3/ 2.0	14.4/ 2.3	10.3/ 2.4
1600-2200	13.4/ 7.9	12.3/ 7.9	13.1/ 7.3	12.1/ 8.2	17.3/10.4	10.6/ 7.0
2200-0200	15.6/12.9	12.3/12.1	14.8/13.2	13.7/11.6	11.1/11.5	12.9/ 8.5
0200-0700	6.6/ 3.2	5.8/ 2.8	6.7/ 2.2	5.1/ 1.9	6.8/ 2.3	5.1/ 1.6

are sufficient units fielded during this period to handle the CFS workload and still have time for self-initiated activity. On Saturday evenings, the self-initated activities have been higher both before and after the implementation of directed patrol in the SPD. For example, for the Saturday 2200-0200 time block there was an average of 13.7 CFS per hour and an average of 11.6 officer-initiated activities.

The next questions of interest are how many units are usually allocated and how busy they are on CFS and self-initiated activities. Shown in Table 6-7 is the actual number of basic patrol units actually fielded (based on an analysis of all units receiving one or more calls shown on the dispatch tapes made available to the evaluation team by the SPD). Between 2200-0200, for example, the number of patrol units generally exceeds thirty units while there is a sharp drop to about 10 units after 0200. Very few changes in the number of units fielded were noted over the thirty months of this evaluation. Comparing Periods 1 and 6 shows a slight increase of 1-2 units between the hours of 2200 to 0200.

A way of combining the call rate data, average service time data, and units fielded data is to calculate the "unit utilization" which is defined as the percentage of time that units spend on CFS work in a given time block. Table 6-8 shows the overall unit utilization for each time block and for each period. The utilization statistics have been calculated separately for CFS and self-initiated activity. For example, during the Sunday 0700-1600 time block, the average unit utilization during Period 1 was 31.7% for CFS and 3.9% for self-initiated activity. Adding these figures together gives the total busy time of these units as measured by dispatch tickets. The most striking feature of this table is the comparison of the time blocks for 1600 to 2200 with the time blocks for 2200 to 0200. Consider, for example, the Period 6 Thursday -Friday figures. During the 1600-2200 time block, the CFS unit utilization rate was 51.1% as compared to 31.1 % during the 2200-0200 time block. These figures clearly reflect the scheduling of more units in the latter period.

It should be noted that there have been slight decreases in the unit utilization rates on CFS over the six comparison periods - - primarily on Friday and Saturday evenings. For the 1600-2200 time block on Saturdays in Period 1, the unit utilization was 46.6%. In Period 6, during the same time block, unit utilization decreased to 36.6%.

The basic conclusion that can be reached is that the statistics in these tables do not show that any significant changes have occurred in SPD patrol workload, units fielded, or overall unit utilization over the thirty-month period. In short, directed

Table 6-7

Average Number of Units Fielded

Day/Time Block	Period 1	Period 2	Period 3	Period 4	Period 5	Period 6
Sunday-Monday						
0700-1600	20.8	20.8	21.4	21.9	21.5	21.5
1600-2200	21.8	22.3	22.2	22.8	17.2	20.3
2200-0200	32.5	32.7	33.0	33.0	24.2	28.1
0200-0700	10.7	10.4	10.8	10.2	7.0	7.8
Monday-Tuesday						
0700-1600	21.6	24.4	25.5	25.6	27.5	25.3
1600-2200	20.5	22.6	22.5	22.6	22.8	21.3
2200-0200	30.5	32.5	32.5	33.0	32.7	30.8
0200-0700	10.1	9.9	10.0	10.4	9.8	9.5
Tuesday-Wednesday						
0700-1600	23.4	20.7	20.3	22.6	19.8	21.5
1600-2200	22.6	23.1	23.8	23.3	19.7	25.2
2200-0200	32.6	33.4	34.3	33.4	28.6	35.6
0200-0700	10.0	10.3	30.5	10.1	8.9	10.4
Wednesday-Thursday						
0700-1600	24.4	20.9	21.3	22.2	24.0	24.7
1600-2200	22.3	21.0	22.3	22.2	22.7	25.0
2200-0200	32.6	31.3	32.3	32.1	32.4	35.7
0200-0700	10.4	10.3	10.0	9.9	9.8	10.7
Thursday-Friday						
0700-1600	24.2	20.9	19.8	22.9	32.2	22.2
1600-2200	21.3	22.6	22.0	23.4	21.5	23.0
2200-0200	31.4	32.9	32.0	33.3	31.2	33.0
0200-0700	10.0	10.3	10.0	10.0	9.7	10.0
Friday-Saturday						
0700-1600	24.3	25.6	24.6	25.8	27.0	29.2
1600-2200	21.1	22.5	24.2	24.0	25.0	28.7
2200-0200	31.2	32.6	34.5	33.8	35.0	40.8
0200-0700	10.1	10.1	10.3	9.8	10.0	12.1
Saturday-Sunday						
0700-1600	20.7	21.1	20.3	21.6	32.8	23.0
1600-2200	21.9	22.6	24.0	23.4	31.0	24.0
2200-0200	32.5	33.4	37.5	34.0	44.3	34.1
0200-0700	10.6	10.8	13.5	10.6	13.3	10.1

Table 6-8
Unit Utilization For Calls For Service and Self-Initiated Activity

Day/Time Block	Period 1	Period 2	Period 3	Period 4	Period 5	Period 6
Sunday-Monday						
0700-1600	31.7/ 3.9	33.2/ 4.3	32.7/ 4.7	28.3/ 3.7	26.5/ 2.9	28.9/ 2.9
1600-2200	45.4/13.8	29.0/10.3	41.0/13.1	44.3/11.0	37.8/ 7.1	31.7/ 7.3
2200-0200	22.7/12.6	14.8/12.4	24.7/12.7	21.9/11.1	38.8/18.5	26.0/11.7
0200-0700	29.9/ 7.5	26.0/12.5	28.7/ 7.4	29.4/ 5.9	29.9/ 6.0	31.2/ 7.5
Monday-Tuesday						
0700-1600	39.8/ 3.2	33.2/ 4.9	32.2/ 5.1	31.3/ 4.7	34.9/ 5.0	37.8/ 3.8
1600-2200	54.6/11.7	48.2/12.4	47.6/12.9	49.1/10.6	48.7/11.1	48.8/ 8.4
2200-0200	28.7/14.5	25.1/ 9.9	26.3/10.7	25.4/10.0	19.5/ 8.5	27.7/12.2
0200-0700	30.7/ 7.9	28.3/ 9.1	27.0/12.0	29.8/ 5.8	26.0/ 3.4	29.3/ 7.0
Tuesday-Wednesday						
0700-1600	36.3/ 4.3	43.0/ 4.4	40.9/ 3.9	39.4/ 4.0	37.0/ 3.7	44.3/ 3.1
1600-2200	51.3/ 6.2	52.0/ 7.8	61.3/11.8	48.9/ 7.3	54.9/10.2	47.5/10.5
2200-0200	26.3/ 7.2	23.3/ 8.7	25.4/ 8.4	25.4/10.7	21.9/11.4	18.8/ 9.4
0200-0700	35.0/ 4.0	35.0/ 3.9	25.7/ 8.6	28.7/ 5.9	32.9/ 8.5	22.8/ 9.7
Wednesday-Thursday						
0700-1600	36.1/ 3.7	43.1/ 4.3	38.0/ 4.2	40.1/ 3.2	40.1/ 2.4	33.5/ 4.4
1600-2200	58.3/ 7.2	56.2/ 7.6	46.2/ 8.1	48.2/ 8.6	50.2/10.5	49.8/ 9.3
2200-0200	29.0/ 7.8	25.1/ 9.7	23.8/ 7.9	26.2/ 8.9	20.8/ 7.1	22.9/ 8.6
0200-0700	30.8/ 5.8	35.0/ 5.8	39.0/ 3.0	27.3/ 7.1	28.0/ 6.7	36.5/ 7.9
Thursday-Friday						
0700-1600	33.5/ 4.6	43.5/ 3.8	47.0/ 3.5	39.3/ 3.9	41.7/ 3.8	40.3/ 3.5
1600-2200	53.7/ 6.5	48.7/ 9.7	44.1/ 8.2	48.3/ 9.8	46.6/ 9.5	51.5/ 9.5
2200-0200	28.8/ 8.9	23.7/ 7.9	24.8/ 8.8	24.9/ 8.3	24.3/ 7.2	31.1/ 8.5
0200-0700	36.0/ 7.0	34.0/ 7.8	34.0/10.0	30.0/ 7.0	35.6/ 5.0	36.0/ 5.1
Friday-Saturday						
0700-1600	32.9/ 3.3	34.0/ 3.9	37.0/ 4.1	30.6/ 3.9	31.5/ 3.7	35.6/ 4.1
1600-2200	51.2/10.4	47.6/ 9.8	44.2/14.5	46.7/11.7	38.8/10.7	43.3/10.6
2200-0200	28.1/11.4	24.5/12.5	23.3/16.3	30.9/ 9.2	21.6/ 5.9	21.0/ 6.9
0200-0700	41.6/ 7.9	38.6/ 9.9	36.9/ 2.9	36.7/ 9.2	47.3/ 5.6	30.8/ 4.6
Saturday-Sunday						
0700-1600	35.3/ 3.4	35.4/ 4.7	38.9 2.5	33.3/ 3.7	31.4/ 3.3	31.7/ 3.5
1600-2200	46.6/14.6	40.3/12.8	41.7/11.7	39.7/14.1	43.0/13.7	36.3/12.9
2200-0200	25.3/16.3	26.5/12.9	21.1/13.5	25.7/13.9	20.9/ 8.9	25.0/ 7.4
0200-0700	41.5/15.9	39.8/10.2	25.9/ 6.7	36.8/ 9.4	18.5/ 9.3	38.2/ 7.4

patrol implementation in the SPD did not have a significant impact one way or the other on these variables.

SPD Patrol Performance Objectives

As part of this evaluation, the management of the SPD was asked to develop specific patrol performance objectives that could be measured using the microcomputer version of the Patrol Car Allocation Model (i.e., PATROL/Plan developed by the Institute of Public Program Analysis in St. Louis, Missouri is based on the PCAM model developed by Jan Chaiken and others at the Rand Corporation). As a result of their use of both versions of PCAM during the MPO project, SPD managers were quite familiar with both of the computer models.

After deliberation, SPD management provided the following patrol performance objectives to the evaluation team:

- Average Unit Utilization should not exceed 35%.

- Average Communications Center processing time for Priority 1 calls should not exceed 2 minutes. For Priority 2 calls this processing time should not exceed 4 minutes and processing time for Priority 3 calls should not exceed 15 minutes.

- The probability of a call being delayed because all units are busy should not exceed 5%

- Average Travel Time should not exceed 4 minutes for Priority 1 calls, 7 minutes for Priority 2 calls, and 15 minutes for Priority 3 calls.

- The minimum number of units fielded is dependent on the particular time block. At least 8 units should be fielded for the 0700-1700 time block; at least 10 units for the 1700-2200 time block; at least 16 units for the 2200-0200 time block; and, at least, 4 units for the 0200-0700. Note that these are simply bare minimums to handle citizen calls.

Performing a citywide analysis of these objectives for all sectors and time blocks was not possible due to resource constraints on this evaluation. Instead, Sector 2 of the City for the time block of 1600-2200 was selected: (1) to illustrate the effects of the objectives above on the patrol plan; and, (2) to illustrate the effects of two alternative approaches to directed patrol.

Table 6-9 shows the average number of units fielded and the volume of activities for Period 6 (July-December 1981) for Sector 2 during the 1600-2200 time block.

Table 6-9
Patrol Unit Statistics For Sector 2
1600-2200 Time Block - - Period 6

Day of Week	Average Units Assigned	Calls Per Hour	Unit Utilization
Sunday	4.7	2.2/1.1	33.9%/6.3%
Monday	5.2	2.2/1.0	38.1%/5.5%
Tuesday	5.5	2.8/1.0	36.6%/10.0%
Wednesday	6.0	3.4/1.3	38.6%/8.1%
Thursday	5.0	2.4/ .6	33.2%/5.2%
Friday	6.8	3.5/1.5	35.5% 7.2%
Saturday	5.7	2.2/1.0	27.3%/5.7%

The interrelationships between these averages are also influenced by incident service times (see Table 6-5). As the table above shows, the average number of units fielded ranges from 4.7 to 6.8. The unit utilization rate was fairly constant averaging about 35% for calls for service and 7.5% on self-initiated activity. Thus, while the number of units fluctuated somewhat in this sector by day of the week, the utilization statistics remained fairly constant.

The micromputer version of PCAM has a limitation that prevented the measurement of certain of the SPD patrol performance objectives. Specifically, the average processing time is based on the typical practice of holding non-emergency calls in communications when the unit in the area of responsibility is busy.

Unfortunately, this practice does not correspond to the queuing assumptions of the model which assumes that any available unit can be assigned to a call even if the unit is not the primary unit assigned to the area. Thus, the objectives for Priority 2 and 3 calls could not be accurately assessed and were dropped from the analysis.

The model analysis also assumes that each unit spent about 25% of their time as either backup units or on other non-CFS work which was not reflected in the dispatch tapes. Officer activity logs of SPD patrol officers are generally in line with this assumption.

The results of this analysis are shown in Table 6-10 The model indicates that the number of units needed to meet the stated patrol performance objectives varies from 8 to 11 units. Overall, the analysis shows the need for 2 to 3 more units than are currently allocated in order to meet the stated objectives.

The asterisks in the table denote the "dominating" objective. The dominating objective is that objective which is minimally satisfied by the number of units specified by the model. For example, the dominating objective for Tuesdays is the percent of calls for which all units are busy and the models estimates that 10 units are needed to meet this objective (compared to the 5.5 units that are actually assigned). That is, fewer than 10 units would not meet this objective but might meet the other objectives.

With regard to the directed patrol program, evaluation staff decided to test the effects of two alternative ways of performing directed patrol. The first alternative assumes that one unit is assigned during the entire time block to directed activity and is not available to handle CFS work. The second alternative considered assumes that the full complement of patrol units allocated and that each unit is required to complete one 45-minute directed patrol assignment during the time block.

The results of the analysis of these two alternatives are shown in Table 6-11. The top portion of the table gives the results of Alternative 1 where one unit is assigned exclusively to directed patrol. The effects of this alternative are to increase the performance measures, and, in general, the increases are beyond the stated patrol performance objectives. For example, on Tuesdays, the unit utilization increases from 25.5% to 28.3%, the percent of calls for which all units are busy increases from 3.4% to 5.4%, travel time to Priority 1 calls increases from 3.6 to 3.9 minutes and the travel time for Priority 2 calls from 6.4 to 7.0 minutes.

The bottom portion of the table shows the effects of requiring all patrol units in this sector to perform one 45-minute directed patrol assignment per time block. With this alternative, the utilization rates remain about the same but the travel times increase to about the same as those in the first alternative. However, the measure of the percent of time that all units are busy is greater than that of the first alternative. For example, on Tuesdays, this percentage is 6.7% as compared to 5.8% under the first alternative.

In summary, both alternatives increase the performance measures beyond the stated objectives. The second alternative keeps the unit utilization on CFS about the same (since the directed patrol assignment is assumed to be a non-CFS activity), keeps the travel times about the same as the first alternative, but increases the

Table 6-10

PATROL/PLAN Model Results for Sector 2
Period 6, Time Block 1600-2200

Performance Measure	Objective	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Units Needed (Model Output)	N/A	8	8	10	11	8	9	9
Unit Utilization on Calls	35.0%	22.8%	22.0%	25.5%	28.7%	20.7%	24.8%	15.8%
Percent of Calls -- All Units Busy	5.0%	4.3*	3.9*	3.4*	3.9*	3.4*	4.0	2.5
Travel Time for Pri. 1 Calls	4 min.	3.9*	3.8*	3.6	3.5	3.8*	3.7*	3.7
Travel Time for Pri. 2 Calls	7 min.	7.0*	6.9*	6.4	6.3	6.9*	6.7*	6.5*
Travel Time for Pri. 3 Calls	15 min.	13.2	13.0	12.9	12.8	13.3	13.5	13.1

Table 6-11

Alternative A -- One Less Patrol Unit Allocated

Performance Measure	Objective	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Units Assigned	N/A	7	7	9	10	7	8	8
Unit Utilization on Calls	35.0%	26.0%	25.1%	28.3%	31.5%	23.6%	27.9%	17.8%
Percent of Calls -- All Units Busy	5.0%	7.5	6.9	5.8	6.4	6.1	6.9	4.4
Travel Time for Pri. 1 Calls	4 min.	4.3	4.2	3.9	3.8	4.2	4.1	4.1
Travel Time for Pri. 2 Calls	7 min.	7.7	7.6	7.0	6.8	7.5	7.3	7.3
Travel Time for Pri. 3 Calls	15 min.	14.5	14.3	14.2	14.1	14.6	14.9	14.4

Alternative B -- One Directed Patrol Assignment Per Unit

Performance Measure	Objective	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Units Assigned	N/A	8	8	10	11	8	9	9
Unit Utilization on Calls	35.0%	22.8%	22.0%	25.5%	28.7%	20.7%	24.8%	15.8%
Percent of Calls --	5.0%	8.4	8.9	6.7	6.6	10.8	16.9	6.5
Travel Time for Pri. 1 Calls	4 min.	4.2	4.2	3.7	3.6	4.3	4.5	3.9
Travel Time for Pri. 2 Calls	7 min.	7.5	7.6	6.7	6.6	7.8	8.2	7.0
Travel Time for Pri. 3 Calls	15 min.	14.3	14.3	13.8	13.7	14.8	14.5	14.4

percentage of time when all units are busy more than the first alternative. Given these findings, the considerations that must be addressed by police management are: (1) whether their stated objectives can be relaxed so that directed patrol can be performed; or, (2) which of the two alternatives is the better from the a management and operational viewpoint.

Time Between Calls For Service in The SPD

The question of interest here concerns what guarantee there is under current workload conditions in the SPD that a patrol unit will be free from interuption for a call for a full 45-minute period to perform a directed patrol assignment. The time between the end of a call (or self-inititiated activity) and the start of the next call can be analyzed to answer this question. Again, Sector 2 was used for this analysis using the 1600-2200 time block in Period 6. Figure 6-1 is a composite over all days of the week and depicts the cumulative probability that the "gap time", time between activities exceeds a given amount. As this analysis shows, the probability of a gap time greater than 45 minutes in this sector in this time block is about 47%. Stated differently, if a patrol unit started a directed activity that required 45-minutes of activity, it would have been interupted to handle a call during more than half of the time. This concludes the analysis of SPD patrol workload. The sections that follow focus on the evaluation of directed patrol in the SPD.

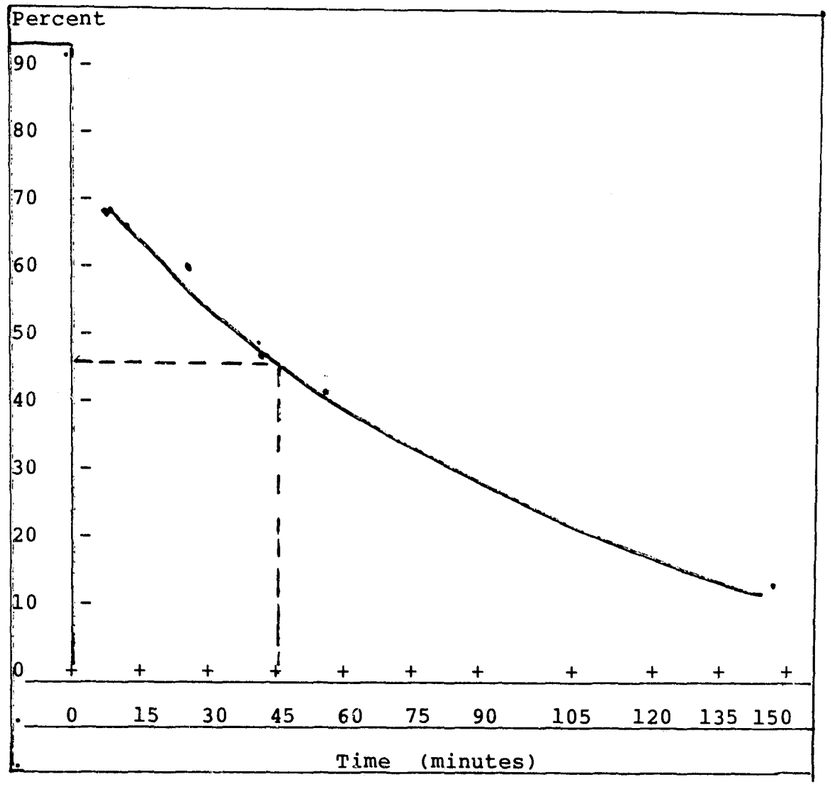
EVALUATION DATA AND METHODOLOGY

The evaluation plan for Sacramento was to use the department's existing operational information systems as well as several special data collection efforts. Over 100 hours of "ride along" observations of patrol operations, monthly interviews of key command, supervisory, and line officers, and a questionairre survey of the patrol force were used to generate additional data for the evaluation. Also, a continuing review of department internal memos, special reports, and logs maintained by different units were also collected and used in this evaluation.

The SPD's existing data collection systems available at the beginning of this evaluation and of continuing interest were the following:

Figure 6-1

Probability That { Gap Time is > t Minutes}



- **Radio Dispatch/Beat Survey System:** 50% sample of all dispatch tickets prior to 1981 and a 25% sample thereafter. All dispatch data was provided to the evaluation team on computer tape.

- **Sacramento Crime and Arrest Reporting System (SCARS):** An automated information system that provides selected "extract" data on all crimes reported to and arrests made by SPD officers. Used to provide breakdown of arrests by Division. Crimes cleared are also maintained in this system.

- **Officer Activity Reports:** An automated summary system that provides details on 24 functional categories of patrol officer activity on a monthly basis. Basic data source are the daily reports completed by officers. One of the categories is the number and amount of time devoted to directed patrol.

- **Information and Request Log:** This is a log maintained by the Crime Analysis Unit since May 1980 that contains a listing of all requests for information or special studies made by patrol personnel.

- **Monthly Report of Activity By Crime Suppression Teams:** This is a report made by CSU sergeants summarizing all activities by type of assignment and results.

- **Crime Pattern/Series Log:** This is a log maintained by the Crime Analysis Unit since mid-April 1980 containing basic information on each CPN, CSN, and associated Update Reports developed by the CAU, date issued, relevant watch or sector concerned, date closed, names of any persons arrested, and unit making the arrest.

- **Burglary Section Log:** This is a log maintained by the Burglary Section of the SPD Detective Division containing monthly statistics on the number of burglaries reported, arrests made by unit of assignment, and clearances.

- **Robbery Section Log:** This is a log maintained by the Robbery Section of the SPD Detective Division containing monthly statistics on the number of robberies reported, arrests made by unit, clearances, and cases filed.

- **Theft/Bunco Log:** Contains monthly information from thefts from locked autos which are classified as burglaries in California, as well as data on reported larceny offenses reported, arrests, and clearances.

These data sources were used to develop (to the extent feasible) evaluation baseline and operational information on the SPD's patrol and directed patrol operations. Considerable effort was also devoted to exploring the use of crime analysis in supporting patrol operations. Various problems were encountered with the data sources described above that will be discussed as appropriate in the text. The sections that follow present the results of this evaluation. The first section reviews crime analysis operations in the OPD.

EVALUATION OF CRIME ANALYSIS SERVICES IN SUPPORT OF SPD FIELD OPERATIONS

Although the "official" starting date of directed patrol in the SPD was in mid-May 1980, the CAU started production of Crime Pattern (CPN's) and Series (CSN's) Notices in January 1980. However, they only began to maintain a log of these reports in mid-April of 1980. By the time this log was initiated, the CAU had already issued a total of 59 notifications and 22 update reports. Data on these initial reports were incomplete and results obtained had to be reconstructed with CAU staff assistance. The dates of termination were unknown for 29 of these reports and outcomes, in terms of arrests, were unknown for 37 of them.

Based on actual log and the reconstructed data, the CAU issued a total of 379 original Pattern/Series Reports over the two-year period beginning on January 1, 1980 and extending through December 31, 1981. There were about 5 Crime Pattern Notifications issued for every Crime Series Notification. Thus, an average of 16 new notifications were issued each month. The number of notifications and the ratio between CPN's and CSN's was about the same for both years: 157 CPN's and 30 CSN's in 1980, and 161 CPN's and 31 CSN's in 1981.

In addition to the original notifications, the CAU issued "update" reports when new information became available on a pattern or series. These updates contained as much or more information as the original notifications. Over the two-year period, a total of 303 update reports were issued, in addition to the 379 "original" notifications. Thus, combining these figures, shows that the CAU issued 682 Crime Pattern or Series Notifications and updates over the 24-month evaluation period - an average of 29 such reports per

month. About 2/3 of the original notifications were updated (123 of 187 in 1980 and 76 of 192 in 1981). However, about one-fifth of those notifications received 2 or more updates and a few were updated as many as 5 or 6 times.

Table 6-13 shows the number of notifications and updates issued by the CAU by month for 1980 and 1981. When reviewing this table, keep in mind the very small number of CAU staff as well as the fact that this unit also prepares a number of other statistical reports and handles a wide variety of liason duties. In short, the production of this CAU was clearly exceptional. Despite this high level of CAU production, however, a question remains as to whether this is a sufficient number of workable patterns for directed patrol given the large number of officers in the SPD patrol operation.

Table 6-13

Crime Pattern and Series Notifications
January 1980 to December 1981

Offense Type	Number of Notifications		Number of Updates		Total		Distribution of Notifications (%)	
	1980	1981	1980	1981	1980	1981	1980	1981
Burglary, resid.	124	104	92	87	215	191	66.3	54.2
Burglary, comm.	24	18	26	9	50	27	12.8	9.4
Burglary, auto	9	39	8	24	17	63	4.8	20.3
Robbery, person	8	6	8	7	16	13	4.3	4.2
Robbery, comm.	12	17	11	7	23	24	6.4	8.3
Robbery, S/A	3	1	7	0	10	1	1.6	0.5
Theft	4	4	6	9	10	13	2.2	2.1
Rape	3	3	2	0	5	3	1.6	1.0
Total	187	192	160	143	347	335	100	100

The SPD Crime Analysis Unit concentrated their efforts on a rather narrow range of offenses. Evaluation staff reviewed the number of notifications and updates issued by the CAU by type of offense pattern or series. This analysis showed that burglary and robbery accounted for the majority of CPN's and CSN's issued in 1980 and 1981. Notifications related to some type of burglary series or pattern accounted for for 84% of all reports in both years and robbery for 12-13% of the total. Rape and theft from parking meters were the only other focus of CAU reports. The only shift in unit emphasis between these two years was within the burglary

category. More specifically, there was a major increase in reports related to theft from locked autos (an offense classified as a burglary in California). Theft from an unlocked auto is just that - a theft. And, within the category of burglary, the most frequent object of a CAU report was residential burglary (66.3% of all reports in 1980 and 54.2% of all reports in 1981).

The following calculations have not, to our knowledge, been made in prior studies and are one of the more significant results of this study. For a given offense type, only a certain portion of the crimes reported to the police are amenable to pattern recognition. A comparison of the total number of crimes identified as part of a pattern or series by the SPD Crime Analysis Unit to the total number of such crimes known to the SPD is shown below:

Offense Type	Number of Crime Reports		Number of CPN's & CSN's		Number of Crimes in Notifications	
	1980	1981	1980	1981	1980	1981
Burglary	10401	10835	157	161	2634	2701
Robbery	1604	1833	23	25	224	244
Rape	217	228	3	2	27	20

The comparison indicates that crime patterns or series were found in about 25% of the burglaries, 14% of the robberies, and 10% of the rapes reported to the police. There was an average of 16.7 burglaries in 1980 and 16.8 burglaries in 1981 per notification. There was an average of 9.7 robberies in 1980 and 9.8 robberies in 1981 per notification. For rapes, there was an average of 9 in 1980 and 10 in 1981 per notification. The evaluation staff has no way of determining how efficient the unit was in identifying patterns or series, but these figures do provide some of the first quantitative indications of the potential contributions of crime analysis in supporting the apprehension and clearance efforts of major police line units. What these figures suggest is that analysis can only go so far in assisting in the identification of crime patterns and series. For example, 75% of the reported burglaries, 86% of the robberies, and 90% of the rapes were not susceptible to pattern recognition by the SPD CAU given the data available to them

Judging from information contained in logs of the Crime Analysis Unit, 43% of the notifications issued in 1980 and 54% of of those issued in 1981 were closed with the arrest of one or more suspects linked to the pattern or series identified. Table 6-14 shows the number of notifications linked with arrested subjects and the

Table 6-14
Notifications Linked With Arrestees By Offense Type
(January 1980 to December 1981)

Offense Type	Number of Notifications		Number of Notifications				% Notifications w/Arrest Link	
			Arrest Linked		# Arrestees			
	1980	1981	1980	1981	1980	1981	1980	1981
Burglary, resid.	124	104	40	59	79	91	32.2	56.7
Burglary, comm.	24	18	17	6	19	16	70.8	33.3
Burglary, auto	9	39	3	17	6	25	33.3	43.6
Robbery, person	8	8	4	4	7	5	50.0	50.0
Robbery, comm.	12	16	8	10	8	20	66.7	62.5
Robbery, S/A	3	1	2	1	3	2	66.7	100.0
Theft	4	4	3	3	4	5	75.0	75.0
Rape	3	2	3	2	3	3	100.0	100.0
Total	187	192	80	103	129	167	42.8	53.6

total number of persons arrested by type of offense in 1980 and 1981.

The linking of arrestees to notifications issued should not be interpreted as meaning that the unit is taking credit for the arrests which appear to close out a pattern or series. The arrest information was entered on the log for the record using the following criteria. The crime pattern or series must relate to the area of operation or method of the person(s) arrested and the pattern or series must terminate. If the termination of a series of crimes such as rape, robbery, burglary, or purse-snatches is in question, a check is made with relevant detectives as to whether a link exists between a given arrestee or arrestees and a given crime pattern or series. Investigators at the SPD may clear cases by "method of operation" when a clear-cut relationship exists between the person or persons arrested and a given series of crimes which have been identified. Admittedly, this is somewhat subjective, but there is no other way of doing this unless there is undeniable physical evidence available or the suspect admits the offense. The latter is quite unlikely and the former happens far less frequently than one would think. The legal system raises formidible barriers to scientific analysis of police operations.

In an attempt to learn more about the extent to which crime analysis information may have assisted SPD officers in the arrest of culprits, evaluation staff analyzed the arrest of 72 suspects who were linked to 45 CAU crime pattern or series notifications issued during the first eight months of 1981. SPD arrest records were obtained on suspects in 42 of the 45 notifications. The arrest records of 60 of the 72 suspects named in the CAU logs were evaluated. The names of the suspects linked with 3 of the closed patterns and listed on the CAU logs were not listed on the SPD arrest log. The remaining nine suspects had been arrested by the SPD but not within the time period of the crime pattern/series notifications.

The arrest records reviewed confirmed the accuracy of the entries made on the Crime Analysis Unit Log in 42 of the 45 cases, with only minor differences. The locations of the arrest, for example, except for two of the notifications, were within the area defined by the CAU report. This finding should be highlighted: an arrest for a crime pattern or series offense occurred in the geographic area where the CAU predicted that the suspect was operating in 93% (42 of the 45 successful cases) of the time. Also, the criminal charges filed against the suspects matched the CAU log in all but two cases. And, the arresting unit (i.e., Patrol, Crime Suppression Unit, Detectives) matched the CAU log in all cases.

However, considerable problems were encountered by the evaluation staff in using actual arrest reports to determine the effect, if any, of the CAU notifications on the closing of cases by the arrest of suspects. More specifically, the descriptions of the circumstances of an arrest were exceptionally brief. Sometimes these descriptions were useful, sometimes not. Hence, the findings that follow must be considered tentative since they are based on these, sometimes less than comprehensive or incomplete, arrest records.

These arrest records confirm that patrol officers were involved in the apprehension of suspects in 60% of the CAU notifications studied (25 of 42) and in the large majority of these they are credited with the arrest (20 of 42). Further, in one-half of the 20 cases, the arrest was made while the crime was in progress.

Officers engaged in directed patrol using leads provided by crime analysis notifications, however, appear to account for arrests in only one-fourth of the cases studied (6 of 25). Information from citizens or informants, calls for service, and alarms account for the majority of leads used by patrol officers in apprehending suspects in 16 of the 25 cases.

The "feedback" procedure used by the SPD to obtain information from patrol on action takens relative to CAU-issued CPN's and

CSN's was not useful for evaluation purposes due to its quite restrictive nature (i.e., feedback report required only on those cases involving a crime "series" of a violent nature or when a physical injury is involved). Since these types of offenses are such a small percentage of total, those reports received were only very few in number.

Finally, one indication that patrol personnel are using these CPN's and CSN's is that they are routinely being cited by both patrol supervisors in their weekly directed patrol plans and by Crime Suppression Team sergeants in their monthly activity reports. In addition, patrol officers frequently submit Field Contact Cards that make specific reference to a CPN or CSN as justification for a car or person stop.

Three surveys of Sacramento patrol officers' opinions on crime analysis, directed patrol, and various organizational issues were conducted by the evaluators in 1979 and 1980 and in 1981. A total of 97 officers responded to the 1979 survey, 111 officers to the 1980 survey and 188 to the 1981 survey. Table 6-15 displays the response on the three surveys to the following question: How would you evaluate the current status of crime analysis support to patrol in terms of the following areas:?

Table 6-15

SPD Patrol Survey Results on Crime Analysis
Survey Question: How would you evaluate the current status of crime analysis support to patrol in terms of:

	1979	1980	1981
a) providing useful information?	2.46	2.90	2.66
b) providing timely data?	1.90	2.68	2.34
c) supporting directed patrol planning?	-	-	2.50
d) providing investigative leads to patrol?	-	-	2.20
e) coordinating the flow of crime and suspect information within the department?	-	-	2.36
f) responding to requests for information from patrol?	-	-	2.54
g) identifying crime patterns/series?	-	-	2.95
h) predicting probable times and locations of crimes?	-	-	2.33

Scale: 5 4 3 2 1
Superior Average Poor

Using 1979 as a baseline, the 1980 and 1981 survey findings show that a larger percentage of the respondents believe that the Crime Analysis Unit provides more useful and timely data than it did prior to the reorganization of the unit in early 1980. These findings should be viewed with some caution because, although the percentage of respondents increased with each survey (36.4% of total in 1979, 40.5% in 1980, and 68.6% in 1981), we are unsure as to how non-responding members of the patrol force might cluster in terms of their opinions about crime analysis support. It is, nevertheless, of interest to know from the 1981 survey, with over two-thirds of the patrol force responding, that the average score of the respondents for items (a) through (h) is 2.50. Having used the same survey question on 17 prior police management and operations studies, our experience has been that scores of 2.50 and over indicate satisfactory performance. This concludes the evaluation of crime analysis support of patrol. The next section will focus on the evaluation of the SPD directed patrol program.

EVALUATION OF BASIC UNIT DIRECTED PATROL IN THE SPD

There are two dichotomies in the SPD directed patrol program which must be discussed before turning to the evaluation: formal versus informal directed patrol and crime-oriented versus service oriented directed patrol. The department made the following distinction between formal and informal directed patrol: "...formal directed patrol occurs when a specific problem is defined, strategies developed, and an Operational Outline prepared." On the other hand, informal directed patrol can occur in "many ways." The SPD's Final Report on the MPO Project cites the following examples of informal directed patrol: a patrol officer sitting in a marked unit at high accident locations or writing reports in his marked unit in a shopping center parking lot experiencing a high number of thefts from autos. Concentrating individual patrol units in problem areas between calls for service is also viewed by the SPD as "informal" directed patrol. As they state in their final report on the MPO Project: "What is important here is the level of officer awareness as to the existance of district problems and how the officer maximizes the use of his time in relation to those problems."

The distinction between crime and service problems is that the former essentially relate to patterns and series of the targeted crimes of burglary, auto theft, robbery, purse-snatch, and rape whereas the latter relate to such on-going problems as traffic, prostitution, public inebriation, and youth or young adult gang activities. Service-oriented problems are, as the SPD notes: "of equal importance as crime series." However, service problems generally require long-range problem solving and the SPD believes that the most valuable source of information in regard to these

types of problems is the officer himself. The Crime Analysis Unit does not have sufficient staff resources to support the identification and analysis of service-oriented problems and provides support to the directed patrol program only in terms of targeted crime problems.

The focus of this evaluation is on formal directed patrol efforts dealing essentially with crime problems. Data were not generally available regarding informal directed patrol. And, changes in the level of knowledge of service problems among patrol officers were not easily measured. Some indirect measures, such as traffic and misdemeanor citations, will be reviewed to determine if there have been any significant changes over time which may be attributed to informal directed patrol and/or increased awareness and knowledge of service-oriented problems.

The initial question to be addressed is the development of an estimate of the number of "uncommitted" hours available to SPD basic patrol units that could, at least theoretically, be used for the performance of directed patrol.

Uncommitted Time and Directed Patrol

One quantitative measure of directed patrol implementation progress is the number of hours spent on this activity as a percentage of uncommitted patrol hours. Evaluation staff hoped to capture this information on dispatch tickets in the SPD, but for a variety of reasons mentioned earlier this was not possible. This meant that the best available data source were the Daily Activity Journals filled out by the officers. This data source is not considered to be totally reliable. Nevertheless, it did provide a standardized measure that provides a reasonable approximation of directed patrol progress.

Table 6-16 provides a summary of "actual on-duty patrol hours" per month from May 1980 through May 1982 (by watch) along with the percent of such hours that were "uncommitted" as well as the percent of total hours devoted to directed patrol. Table 6-17 shows the number of uncommitted hours per month, the number of reported directed patrol hours, and the percent of uncommitted hours devoted to directed patrol. Finally, Table 6-18 shows the number and percentage of uncommitted patrol hours devoted to directed patrol for each of the three patrol watches.

These tables show that over the first two years of the SPD basic unit directed patrol program that the number of hours devoted to this activity doubled in number - going from an average of 1,251

Table 6-16

Actual SPD On-Duty Directed Patrol Hours and Percentage Of Such Hours Uncommitted Or Used For Directed Patrol

Year	Month	1st Watch Act. Hrs	1st Watch U/A %	1st Watch DP/A %	2nd Watch Act. Hrs	2nd Watch U/A %	2nd Watch DP/A %	3rd Watch Act. Hrs	3rd Watch U/A %	3rd Watch DP/A %
1980	May	8713	29.6	4.4	10447	33.8	6.8	16534	18.0	1.5
	Jun	8968	29.4	4.8	10056	32.9	5.4	15442	15.9	1.8
	Jul	9574	29.2	4.6	10318	32.0	4.7	16289	17.2	1.8
	Aug	9349	32.7	4.9	10503	37.3	4.7	16307	16.6	1.7
	Sep	8410	32.5	5.9	9522	32.2	4.7	15960	16.8	1.7
	Oct	8345	32.1	5.7	10267	32.6	5.1	16072	16.7	1.5
	Nov	8465	34.5	5.0	10591	32.5	4.9	16038	19.7	2.4
	Dec	8017	36.6	5.2	10321	35.4	6.3	16745	19.2	2.8
1981	Jan	8536	33.5	5.3	11176	36.2	5.3	18833	19.6	4.9
	Feb	9654	33.9	8.2	13007	37.1	6.5	20350	18.5	4.7
	Mar	8989	33.0	8.2	10980	38.1	9.6	17538	20.0	4.0
	Apr	8029	33.5	6.9	9912	32.7	6.3	15926	19.8	5.0
	May	8582	29.2	8.0	10525	35.3	7.7	17438	17.8	5.5
	Jun	8345	24.0	5.9	8881	33.9	5.8	15694	16.4	4.8
	Jul	8985	26.1	6.1	9563	34.9	5.3	16803	18.0	5.4
	Aug	8214	25.3	5.7	9408	36.3	6.7	16464	18.4	4.7
	Sep	8155	29.2	10.0	9396	31.9	5.8	15554	20.6	4.7
	Oct	8666	31.2	9.1	10375	29.3	7.2	16730	18.5	5.0
	Nov	8901	31.4	10.8	10090	30.5	10.7	16863	19.4	4.4
	Dec	8708	28.2	7.8	10210	33.1	11.7	17157	19.7	4.7
1982	Jan	9484	29.0	7.7	11120	37.5	15.6	18463	20.9	5.2
	Feb	9144	28.5	7.3	11255	34.0	10.3	15121	20.0	4.8
	Mar	9458	28.8	7.8	12157	31.1	10.4	16845	18.0	5.5
	Apr	9023	29.1	8.1	10941	36.6	10.7	16272	27.9	4.6
	May	8769	32.2	8.1	11795	36.4	10.7	16611	30.4	4.3

Source: Officer Activity Report Summary, Report Z09R0200-A, Sacramento Police Department.

Note: Act. Hrs = hours available less hours sick, injured, etc.
U/A % = uncommitted patrol hours as percent of actual hours.
DP/A % = directed patrol hours as percent of actual hours.

Table 6-17

Directed Patrol Hours By Watch And Month

Month	1980			1981			1982		
	Hours		DP	Hours		DP	Hours		DP
	U	DP	%	U	DP	%	U	DP	%
Jan				10599	1962	18.5	10787	3420	31.7
Feb				11865	2586	21.8	9442	2550	27.0
Mar				10664	2492	23.4	9536	2923	30.6
Apr				9080	1975	21.7	8422	2660	31.6
May	9092	1339	14.7	9324	2457	26.3	8057	2697	33.5
Jun	8397	1255	14.9	7599	1760	23.2			
Jul	8868	1228	13.8	8707	1963	22.5			
Aug	9692	1236	12.7	8529	1871	21.9			
Sep	8492	1212	14.3	8578	2088	24.3			
Oct	8704	1234	14.2	8838	2357	26.7			
Nov	9525	1332	14.0	9148	2773	30.3			
Dec	9801	1528	15.6	9217	2690	29.2			
Av/mo	9071	1296	14.3	9346	2248	24.0	9249	2850	30.8

Source: Officer Activity Report Summary, Report Z09R0200-A, Sacramento Police Department.

Note: U = uncommitted patrol hours (patrolling hours plus directed patrol hours); DP = directed patrol hours; and DP % = DP/U.

Six Month Averages	Hours		DP
	U	DP	%
May 80 to Oct 80	8874	1251	14.1
Nov 80 to Apr 81	10256	1979	19.3
May 81 to Oct 81	8596	2083	24.2
Nov 81 to Apr 82	9425	2836	30.1

Table 6-18

SPD Directed Patrol Hours (Total) Per Month

Year	Month	1st Watch			2nd Watch			3rd Watch		
		U Hrs	DP Hrs	DP/U %	U Hrs	DP Hrs	DP/U %	U Hrs	DP Hrs	DP/U %
1980	May	2577	381	14.8	3532	714	20.2	2983	243	8.2
	Jun	2638	435	16.5	3310	542	16.4	2448	277	11.3
	Jul	2798	442	15.8	3301	486	14.7	2796	299	10.7
	Aug	3057	462	15.1	3920	493	12.6	2714	281	10.3
	Sep	2737	497	18.1	3070	448	14.6	2685	268	10.0
	Oct	2675	472	17.7	3343	522	15.6	2685	239	8.9
	Nov	2920	423	14.5	3444	518	15.0	3162	391	12.4
	Dec	2934	413	14.1	3657	652	17.8	3209	463	14.4
1981	Jan	2860	452	15.8	4041	588	14.6	3698	922	24.9
	Feb	3274	793	24.2	4821	843	17.5	3769	950	25.2
	Mar	2966	740	24.9	4189	1051	25.0	3509	701	20.0
	Apr	2689	554	20.6	3242	627	19.3	3148	793	25.2
	May	2503	689	27.5	3712	813	21.9	3109	955	30.7
	Jun	2000	489	24.4	3010	517	17.2	2589	753	29.1
	Jul	2346	551	23.5	3334	510	15.3	3028	901	29.8
	Aug	2080	466	22.4	3416	634	18.6	3033	771	25.4
	Sep	2378	818	34.4	3002	541	18.0	3199	729	22.8
	Oct	2703	785	29.0	3042	743	24.4	3093	830	26.8
	Nov	2798	958	34.2	3077	1076	35.0	3272	739	22.6
	Dec	2458	678	27.6	3376	1198	35.5	3384	814	24.0
1982	Jan	2755	729	26.5	4167	1732	41.6	3865	959	24.8
	Feb	2602	668	25.7	3822	1159	30.3	3018	723	24.0
	Mar	2729	734	26.9	3778	1263	33.4	3029	926	30.6
	Apr	2508	730	29.1	3212	1176	36.6	2701	754	27.9
	May	2201	710	32.2	3486	1268	36.4	2362	719	30.4

Source: Officer Activity Report Summary, Report Z09R0200-A, Sacramento Police Department.

Note: U Hrs = uncommitted patrol hours (patrolling hours plus directed patrol hours); DP Hrs = directed patrol hours; and DP/U = directed patrol hours as percent of uncommitted.

hours per month during the first six months to an average of 2,836 hours per month during the last six months of 1981. As a percentage of uncommitted patrol time, directed activities increased from around 15% to 30% during the two-year time period. The first five months of 1982 suggests that this upward trend will continue.

A comparison of directed patrol activity by watch over the two years of the program reveals that directed patrol hours have increased to between one-fourth to one-third of uncommitted patrol time; the 2nd (or day) Watch showing the largest gain during the past six months. However, because uncommitted patrol hours on the 3rd (or swing) Watch are a smaller percentage of actual on-duty hours than the other two watches, the number of directed patrol hours on this watch is relatively smaller than such hours on the other two watches. For example, during the 6-month period from December 1, 1982 to May 31, 1982, directed patrol hours average only 5% of actual on-duty hours (total available time minus sick, injured, administrative leave time) compared to an average of close to 8% and 12% for the 1st and 2nd Watches respectively.

Weekly Sector Sergeants' Reports

In January 1981, sector sergeants were ordered (by the Deputy Chief, Office of Operations) to prepare: ..."a weekly report outlining directed patrol activities projected for the team." This report, in the form of a memo, was to be sent to the shift lieutenant for review and then returned to the sergeant who would write up the results (on the same memo) of directed activities during the week. The results were to include: time expended, number of contacts, FC cards, arrests, and citations.

These sergeants may base their weekly directed activity plan on three different sources of information: shared team knowledge of criminal activity in the sector, current crime patterns or series identified by the CAU, or the annual sector plans which identify on-going crime problems in the sector. This plan could also contain directed activity assignments given to a team by the Watch Commander.

Evaluation staff had high hopes for these reports as a source of comprehensive data on directed activity and results in the patrol division. Unfortunately, while some of these reports were well done and provided complete information on the planning of directed patrol and results obtained, a review of this data for all of 1981 by the evaluation staff indicated that a general lack of consistency ruled them out as a source of statistical information on

directed activities, hours spent, or results. A typical problem encountered with this data source was that the monthly total of directed patrol reported was far below the figures entered by officers on their daily activity journals for hours on directed patrol (e.g., a summary of these hours for September 1981 from the sergeants reports for one watch showed 257 hours of directed activity while the officer activity reports showed over 2,000 hours).

From an evaluation point of view, this type of weekly report by sergeants is regarded as an excellent data source, but only if a standardized reporting instrument with a built-in series of quality control checkpoints could be developed.

One positive aspect of this review was that a large majority of the sergeants' sector plans were based on (and cited specific) Crime Pattern or Series Notifications issued by the CAU. These plans indicated that fairly substantial amounts of directed patrol effort were expended in the geographical area of the burglary, robbery, or rape patterns. This provides a solid indication that crime analysis output is definitely being used in planning tactical deployment.

Changes in Indicators of Patrol Output or Productivity Since Directed Patrol Implementation

One evaluation objective of this project was to determine if the implementation of a directed patrol program produces a significant change in a standard set of measures of patrol output or "productivity" (e.g., traffic enforcement, arrests, field interrogations, etc.). The number of felony arrests, misdemeanor arrests, misdemeanor citations, and field contact (FC) cards made or issued by the patrol force before and after implementation of directed patrol in Sacramento on May 1, 1980 were used as measures of patrol output.

Because a large majority of the crime pattern and series reports issued by the CAU deal with burglary or robbery, changes in the number of patrol arrests for these offenses were also considered in the analysis.

It was not feasible to use any measures of traffic enforcement activity by patrol in the evaluation due to a somewhat unique situation affecting SPD traffic enforcement. More specifically, in October of 1980, the State of California initiated a four-year experiment in the administrative adjudication of certain traffic violations.

Sacramento was one of the test sites for this experiment. The SPD had considerable reservations as to the feasibility of this program and this was reflected in traffic enforcement output. We, therefore, decided to exclude this measure from the evaluation.

Felony And Misdemeanor Arrests By Patrol

Evaluation of changes in these indicators covered a five year period extending from January 1977 through April 1982 - three years prior to and two years after directed patrol evaluation. Three output measures were used: patrol felony arrests, patrol misdemeanor arrests, and misdemeanor citations. The data source was the STARS system which provided data on the name and unit of assignment of the officer signing the arrest report or citation. Arrest information from officer activity reports was not used here because they overstate arrests. For example, if three officers are involved in the arrest of a burglary suspect, all three will take credit on their activity reports for an arrest. However, only one arrest occurred and usually only one officer will sign the arrest report as arresting officer.

This is not only a problem within an SPD Division, it is also a problem between SPD Divisions. For example, there are separate Burglary and Robbery Sections in the SPD Detective Division each of which submit a monthly report showing number of arrests made by the unit during the past month. In 1981, the SPD reported that burglary arrests amounted to 1,301. The STARS System (which lists the name and unit of assignment of the arresting officer) shows officers assigned to the Burglary Section made 18% of total SPD arrests for burglary. The Burglary Section Monthly Log claims credit for 74% of all burglary arrests by the SPD in 1981. The STARS System shows that officers assigned to the Robbery Section accounted for 22% of the 510 Robbery Arrests made by the SPD in 1981. The Robbery Section Log for the same period claims credit for 52% of all SPD Robbery Arrests. In short, assigning credit for arrests to this or that unit is not as simple as it might appear. The amount of evaluation effort that could be devoted to reading each and every felony arrest report in order to determine who actually deserves credit for an arrest was far beyond the modest resources of this grant.

Table 6-19 provides a summary of felony arrests by patrol by Watch and per officer for the period from 1 January 1977 through April 1982. This table shows that the number of felony arrests by patrol increased slightly since the implementation of directed patrol. However, average number of felony arrests per assigned patrol officer per month declined from 1.34 during the first six months of 1979 to 1.16 during the last six months of 1979. This decline may be related to the changeover from a 5/8 to a 4/10 schedule and

shift from 70 percent two officer cars to 70 percent one officer cars that happened on July 1, 1979. Also, another 26 officers were transferred to patrol from traffic at that time.

Table 6-19

Felony Arrests By SPD Patrol Watch From January 1977 to April 1982

Time Period		Number Felony Arrests				Av. Fel. Arrests/Man/Month			
		Patrol Watches 1st	2nd	3rd	Total	Patrol Watches 1st	2nd	3rd	Total
1977	Jan-Jun	378	320	845	1543	1.07	1.01	1.45	1.23
	Jul-Dec	430	314	857	1601	1.21	0.99	1.47	1.28
1978	Jan-Jun	438	294	859	1591	1.24	0.92	1.47	1.27
	Jul-Dec	478	225	787	1490	1.35	0.71	1.35	1.19
1979	Jan-Jun	501	277	796	1574	1.55	0.92	1.46	1.34
	Jul-Dec	485	344	814	1643	1.39	0.82	1.27	1.16
1980	Jan-Jun	451	338	816	1605	1.34	0.79	1.28	1.15
	Jul-Dec	440	345	837	1622	1.31	0.81	1.28	1.16
1981	Jan-Jun	444	370	934	1748	1.32	0.83	1.38	1.20
	Jul-Dec	475	389	957	1821	1.41	0.90	1.42	1.26
1982	Jan-Apr	295	279	606	1080	1.27	0.89	1.44	1.12

Source: Arrest Statistics by Division, Sacramento Police Department, Report No. Z07R5001. Number of Patrol Officers used in calculating average number of felony arrests per month based on department's monthly Detail.

Note: Av. Fel. Arrests/Man/Month = felony arrests divided by number of months divided by number of patrol officers.

Table 6-20

Misdemeanor Arrests By Patrol Watch
January 1977 to April 1982

Time Period	Number Misd. Arrests				Av. MisdArrests/Man/Month			
	Patrol Watches				Patrol Watches			
	1st	2nd	3rd	Total	1st	2nd	3rd	Total
1977 Jan-Jun	816	458	1482	2756	2.31	1.44	2.54	2.20
Jul-Dec	869	426	1649	2944	2.45	1.33	2.83	2.35
1978 Jan-Jun	664	375	1541	2580	1.88	1.18	2.65	2.06
Jul-Dec	788	365	1693	2846	2.22	1.15	2.91	2.27
1979 Jan-Jun	814	554	1808	3176	2.51	1.85	3.31	2.71
Jul-Dec	854	584	1942	3380	2.45	1.39	3.02	2.40
1980 Jan-Jun	866	748	2051	3665	2.58	1.76	3.22	2.62
Jul-Dec	837	616	2065	3518	2.49	1.45	3.16	2.48
1981 Jan-Jun	781	507	1908	3196	2.32	1.14	2.81	2.19
Jul-Dec	742	455	1865	3062	2.21	1.05	2.77	2.13
1982 Jan-Apr	459	306	961	1726	1.98	0.98	2.29	1.79

Source: Arrest Statistics by Division, Sacramento Police Department, Report No. Z07R5001. Number of Patrol Officers used in calculating average number of felony arrests per month based on department's monthly Detail.

Note: Av. Misd. Arrests/Man/Month = misdemeanor arrests divided by number of months divided by number of patrol officers.

Table 6-21

Misdemeanor Citations By Patrol Watch
January 1977 to April 1982

Time Period	Number Misd. Citations				Av. Misd. Cit/Man/Month			
	Patrol Watches			Total	Patrol Watches			Total
	1st	2nd	3rd		1st	2nd	3rd	
1977 Jan-Jun	220	237	661	1118	0.62	0.75	1.14	0.89
Jul-Dec	258	231	665	1154	0.73	0.73	1.14	0.92
1978 Jan-Jun	178	322	625	1125	0.50	1.01	1.07	0.90
Jul-Dec	405	309	664	1378	1.14	0.97	1.14	1.10
1979 Jan-Jun	262	366	821	1449	0.81	1.22	1.50	1.24
Jul-Dec	183	381	873	1437	0.53	0.91	1.36	1.02
1980 Jan-Jun	216	517	998	1731	0.64	1.21	1.57	1.24
Jul-Dec	231	527	1161	1919	0.69	1.24	1.78	1.36
1981 Jan-Jun	188	529	850	1567	0.56	1.19	1.25	1.07
Jul-Dec	138	530	758	1426	0.41	1.22	1.13	0.99
1982 Jan-Apr	106	514	649	1269	0.46	1.65	1.54	1.32

Source: Arrest Statistics by Division, Sacramento Police Department, Report No. Z07R5001. Number of Patrol Officers used in calculating average number of misdemeanor citations per month based on department's monthly Detail.

Note: Av. Misd. Cit/Man/Month = misdemeanor citations divided by number of months divided by number of patrol officers.

Thus, despite an increase in size of the patrol force, productivity per officer as measured by felony arrests declined slightly.

No significant gains in overall production of misdemeanor arrests or citations occurred between the baseline and implementation periods as shown in Tables 6-20 and 6-21.

Table 6-22 (next page) sets forth burglary and robbery arrests (the primary targets of the directed patrol program) by patrol slightly before and after the implementation. There has been a slight increase in burglary arrests since the implementation of directed patrol. No significant change in patrol robbery arrests was exhibited during the time period studied.

There was a slight increase in the percentage of all SPD felony arrests that were made by patrol and the crime suppression teams combined over the period extending from 1977 through 1981. These percentages are shown below:

Year	All SPD Felony Arrests	% by Patrol	% by Patrol + CSU
1977	5,657	55.6%	61.0%
1978	5,603	55.0%	67.5%
1979	5,388	59.7%	69.0%
1980	5,766	56.0%	70.6%
1981	6,016	59.3%	71.0%

Source: SCARS Report - Z07R5001

One problem with this data is that there is no measure of the "quality" of such arrests. Thus, one felony arrest for burglary by patrol during the directed patrol on the basis of crime analysis information may terminate a pattern. This type of arrest may be more important than the arrest of a skid row "bum" that breaks a window to steal a bottle of wine. Thus, if there was a change in the internal structure of arrest quality, it was not susceptible to discovery during this evaluation.

Other Measures of Patrol Output

The first measure to be addressed is the number of field contact cards written by SPD patrol officers. Table 6-22A displays this

Table 6-22

Burglary/Robbery Arrests By Patrol Watch
January 1980 to December 1981

BURGLARY/ROBBERY ARRESTS BY WATCH

Time Period	No. Burg. Arrests				Av.BurgArsts/Man/Month			
	Ptl. Watches			Total	Ptl. Watches			Total
	1st	2nd	3rd		1st	2nd	3rd	
1980 Jan-Mar	77	56	81	214	.46	.26	.25	.30
Apr-Jun	56	45	56	157	.33	.21	.17	.22
Jul-Sep	74	29	73	176	.44	.14	.23	.25
Oct-Dec	64	40	82	186	.38	.19	.26	.26
1981 Jan-Mar	49	61	92	202	.29	.28	.27	.28
Apr-Jun	75	42	83	200	.44	.19	.25	.28
Jul-Sep	74	38	93	205	.44	.17	.28	.28
Oct-Dec	72	70	99	241	.43	.32	.30	.33

Time Period	No. Robb. Arrests				Av.RobbArsts/Man/Month			
	Ptl. Watches			Total	Ptl. Watches			Total
	1st	2nd	3rd		1st	2nd	3rd	
1980 Jan-Mar	13	14	27	54	.08	.07	.08	.08
Apr-Jun	10	15	22	47	.06	.07	.07	.07
Jul-Sep	23	23	31	77	.14	.11	.10	.11
Oct-Dec	14	18	33	65	.08	.08	.10	.09
1981 Jan-Mar	15	8	37	60	.09	.04	.11	.08
Apr-Jun	13	22	48	83	.08	.10	.14	.11
Jul-Sep	21	16	33	70	.12	.07	.10	.10
Oct-Dec	13	22	38	73	.08	.10	.11	.10

Source: Special extract from STARS System, Sacramento Police Department.

Note: Av. Burg/Robb. Arsts/Man/Month = number of arrests divided by number of months divided by number of patrol officers.

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3 OF 4

Table 6-22A

Patrol Field Contact Cards By Watch
January 1979 to May 1982

Time Period	No. Fld. Contact Cards				Av. FC. Cards/Man/Month			
	Patrol Watches			Total	Patrol Watches			Total
	1st	2nd	3rd		1st	2nd	3rd	
1979 Jan-Jun	777	529	2382	3688	2.40	1.76	4.36	3.15
Jul-Dec	1765	670	2724	5159	5.07	1.60	4.24	3.66
1980 Jan-Jun	1712	624	2939	5275	5.10	1.46	4.62	3.77
Jul-Dec	1609	644	2579	4832	4.79	1.51	3.94	3.46
1981 Jan-Jun	1720	876	2427	5023	5.12	1.97	3.58	3.45
Jul-Dec	1910	822	2330	5062	5.68	1.90	3.47	3.51
1982 Jan-May	1536	800	1472	3808	5.30	2.05	2.80	3.16

Source: Officer Activity Report, Sacramento Police Department, Report No. Z09R0200. Number of Patrol Officers used in calculating average number of FC. cards per month per man based on department's monthly Detail Report.

Note: Av. FC. Cards/Man/Month = number of FC. cards divided by number of months divided by number of patrol officers.

data by watch for 18-months prior to directed patrol implementation and for 22 months after. Using 1979 as a baseline, the year prior to directed patrol implementation, an analysis of this data shows the following:

Quarter	1979	1980	1981	1982
Jan to Mar	1,841	2,671	2,658	2,896
Apr to June	1,847	2,605	2,366	-
Jul to Sept	2,525	2,273	2,324	-
Oct to Dec	2,636	2,561	2,738	-
Total	8,688	10,110	10,086	-
% Increase	-	+16.3%	+16.1%	-

This table shows an increase of roughly 16% in the two years of directed patrol implementation in FC production compared to the baseline year. Unfortunately, there is no way of separating the impact of 4/10 implementation on this measure. Note the sharp rise in FC production which began in July 1979 - the date that the department shifted to the 4/10 plan.

A second output indicator is the patrol workload as measured by the number of crime reports taken. The volume of crime reports by quarter taken by patrol officers from January 1977 through March 1982 is shown below:

Quarter	1977	1978	1979	1980	1981	1982
Jan-Mar	5,089	5,496	6,074	6,114	5,981	6,533
Apr-June	4,789	5,389	5,812	5,695	5,597	-
Jul-Sept	4,989	5,486	5,519	5,636	5,693	-
Oct-Dec	5,747	5,824	5,952	6,216	6,920	-
Total	20,614	22,195	23,357	23,661	24,191	-

Other than the fact that more crimes are being reported and consequently more reports are being taken by patrol officers, the only discernible pattern evident here is that work volume is higher

during the winter period from October through March than it is during the summer months of April through September. This may be related to the fact that there are less officers on duty during the latter months due to vacations.

Before discussing crime clearances, it will be necessary to review the work of the SPD's Crime Suppression Teams - the split force component of the directed patrol program.

Crime Suppression Unit - The Split Force Component of the SPD Directed Patrol Program

Originally formed in mid-1971, the Crime Suppression Unit (CSU) was made up of 5 teams (1 sergeant and 4 officers) and a Canine Team. The objectives of this unit are to: engage in directed activities based on crime patterns and series identified by the Crime Analysis Unit; the apprehension of suspects wanted by the Detective Sections; respond to Special Emergency Reaction Team (SERT) assignments; undertake special programs such as the Heroin Addict Location Program (HALT) and Truancy Enforcement; and perform special duty assignments related to events such as the Annual Jazz Festival, political rallies, etc. In January 1981 the number of CSU teams was reduced from 5 to 4 and in March 1981 another team was assigned full-time to the HALT Program.

The CSU teams and the Crime Analysis Unit are both assigned to the Selective Enforcement Section of the the Office of Operations of the SPD. CSU teams work varied duty schedules depending on the nature of their assignments. Their tactics are also dictated by the problem they are addressing and they could work in uniform in marked vehicles in order to engage in saturation patrol of an area in one assignment or in plainclothes and unmarked vehicles for those assignments involving decoys, stakeouts, or area/person surveillance.

Each CSU Team sergeant prepares a monthly activity report that contains a breakdown of his team's activities, hours spent on each activity, and results in terms of arrests. A review of operational hours for 1981 (actual hours minus sick, vacation, training time, etc.) shows that a majority of CSU effort is devoted to the location and apprehension of wanted subjects (i.e., wants, warrants). Table 6-22 presents the distribution of time for the three CSU teams that were active throughout 1981. Activity of the Canine Team was not included due to an absence of detailed information in monthly reports. In addition, some of the quarterly breakdowns of the three teams were also incomplete due to insufficient information.

Table 6-22

Distribution of CSU Team Activities
January to December 1981

Time Period	Team 10 Operational Hours				Team 20 Operational Hours				Team 30 Operational Hours			
	T. Hrs	W.S. %	DA. %	O. %	T. Hrs	W.S. %	DA. %	O. %	T. Hrs	W.S. %	DA. %	O. %
Jan-Mar	1936	37.2	48.8	14.0	2280	60.7	29.8	9.5	2480	69.7	22.9	7.4
Apr-Jun	2344	56.3	18.4	25.3	2184	57.9	27.8	14.3	2432	?	9.2	?
Jul-Sep	1720	80.9	11.2	7.9	1784	60.5	17.0	22.5	2288	?	14.7	?
Oct-Dec	2296	?	18.8	?	1952	74.2	13.9	11.9	2296	75.6	14.6	9.8

Source: CSU Team Monthly Activity Reports, Sacramento Police Department.

Note: T. Hrs = total operational hours available; WS. % = percent of operational hours spent apprehending wanted suspects; DA. % = percent of operational hours spent on directed activities (crime pattern & series assignments, surveillance assignments, etc.); and O. % = percent of operational hours spent on other activities (SERT call-ups, truancy enforcement, special details, special assignments and requests).

Crime patterns and series identified by the CSU are selectively assigned to the CSU teams. Frequently, joint-Patrol/CSU operations will be undertaken in relation to these crime patterns or series. Table 6-22 shows that Team 10 spent roughly 2,004 hours (or 24.1%) of available time on crime analysis-based directed activity. One fifth of the time (1,700 out of 8,200 manhours) of Team 20 was devoted to directed patrol activity. Team 30 spent 1,464 hours or 15.8% of its available time on crime pattern or series related directed patrol operations. Some portion of the time denoted as "other" could likely be classified as directed patrol as could the want and warrant related activity of these units and probably would be in other departments. This is one more indication of the difficulties encountered in classifying exactly what is and what is not "directed patrol". However, note that the time specified above was just that time that was used to combat specifically identified crime pattern or series offenses. In aggregate, these three "teams" devoted 5,170 man-hours to such assignments. It was

not possible, based on the data available, to segregate out those arrests made while on directed patrol assignments from the other arrests made by the CSU.

Overall SPD Arrests and Clearances

Table 6-23 shows total Part I Crimes reported, Part I Arrests, and Part I Clearances over the 5-year period extending from January 1 1977 through December 31, 1981.

Table 6-23

Part I Crimes, Clearances, and Arrests 1977 to 1981

	1977	1978	1979	1980	1981
Part I Crimes	26,898	29,185	31,952	34,699	36,661
Clearances	4,465	4,959	5,024	5,652	6,324
% Cleared	16.6%	17.0%	15.7%	16.3%	17.2%
Part I Arrests	5,210	5,135	4,999	5,610	5,725
Number of Part I Clearances Per Arrest	.86	.96	1.01	1.01	1.11

As Table 6-23 shows, the percentage of Part I Crimes "cleared" (by arrest or other means) has remained quite stable for the past 5 years in Sacramento, although the 1981 clearance rate is the highest recorded over this period. Given that SPD staffing has remained the same over these 5 years and reported Part I Crime in 1981 is 36% higher than 1977, the fact that the clearance rate has remained stable should be regarded as quite an accomplishment. It should be pointed out that the SPD cleared more crimes per arrest in 1981 than at any time in period studied. Specifically, the 1981 figure was almost 30% higher than 1977.

A more detailed breakdown of the crime analysis and directed patrol target crimes of burglary and robbery is provided in Tables 6-24 and 6-25 that shows the number reported, clearances, and

arrests for these offenses.

Table 6-24

Burglaries: Reported Number, Clearances and Arrests

Burglaries	1977	1978	1979	1980	1981
Reported	8,348	9,460	9,728	10,401	10,835
N Cleared	810	1,068	1,019	1,175	1,824
% Cleared	9.7%	11.2%	10.4%	11.3%	16.8%
N Arrests	1,156	1,263	1,121	1,288	1,302
Burglary Clearances per Arrest	.70	.85	.91	.91	1.40

Table 6-25

Robberies: Reported Number, Clearances, and Arrests

Robberies	1977	1978	1979	1980	1981
Reported	1,276	1,581	1,640	1,604	1,833
N Cleared	469	441	531	642	601
% Cleared	36.8%	27.9%	32.4%	40.0%	32.8%
N Arrests	549	498	510	479	510
Robbery Clearances Per Arrest	.85	.89	1.04	1.34	1.18

Table 6-24 shows a quite significant increase in 1981 for the percentage of burglaries cleared (from 11.3% in 1980 to 16.8%) as well as more clearances per arrest. While Table 6-25 shows an increase in the number of robberies cleared per arrest, the robbery clearance rate changes over these five years are quite variable although they reached their highest peak during the year (1980) of directed patrol implementation.

Note that the prior data related to all arrests by the SPD. Obviously, we would have liked to have detailed data on clearances by unit. Unfortunately, this data is not regularly reported by the SPD and the cost of full retrieval of this information was far in excess of the grant funds available. Therefore, we obtained two-months of sample data from the SPD SCARS System (on burglary and robbery arrests and clearances) for the months of April and November for the years of 1977, 1978 (pre-directed patrol) and 1981 (during directed patrol implementation. Again, the reader is cautioned that the person listed as arresting officer is not necessarily the one that did the most work on a case, but the name and unit of assignment is the best surrogate measure available. For example, the detectives may do all the work necessary to getting an arrest warrant issued on a crime suspect, but if the actual arrest is made by a patrol officer then that is who is listed as the arresting officer. Tables 6-26 and 6-27 provide the sample data on burglary and robbery arrests and clearances by unit.

The four months of baseline data on burglaries show an average of 55.3 arrests and 31.3 clearances per month by patrol. The sample data from the implementation period show an average of 77.5 burglary arrests and 40.0 clearances per month by patrol. These figures represent a 40% increase in monthly burglary arrests by patrol and a 28% increase in clearances. Similar calculations for robbery arrests by patrol during the baseline show an average of 21.5 arrests and 10.5 clearances. During the implementation period, patrol averaged 22.5 robbery arrests (+5%) and 13.0 clearances (+24%). However, the monthly variation in these measures is very wide in both the baseline and implementation periods, so these increases should be viewed with great caution.

This concludes the presentation of operational data, in the next section the evaluation will focus on some more "process-oriented" measures. The first question will address the perception of patrol personnel on "progress in implementing directed patrol."

Progress in Implementing Directed Patrol: Patrol Survey Findings

Patrol respondents in the September 1981 Evaluation Survey were asked to assess the degree of progress made in the directed patrol program during the prior year. They were asked to check one of five possible choices varying from "exceptional progress", at the most positive extreme, to "worse than before" at the least positive extreme. Table 6-28 presents the results of this assessment by 188 patrol officers and command/supervisory personnel.

Table 6-26

Sample of Burglary Arrests/Clearances By Unit

Mo./Year	Patrol				CSU				Burg. Detectives				Total	
	A	A%	C	C%	A	A%	C	C%	A	A%	C	C%	A	C
Apr 1977	61	51.7	36	46.8	5	4.2	1	1.3	43	36.4	39	50.6	118	77
Nov 1977	47	51.6	23	33.3	9	9.9	0	0	21	23.1	40	58.0	91	69
Apr 1978	71	60.7	47	50.0	11	9.4	3	3.2	26	22.2	40	42.6	117	94
Nov 1978	42	35.3	19	25.3	41	34.4	9	12.0	29	24.4	42	56.0	119	75
Apr 1981	53	51.0	32	24.6	20	19.2	3	2.3	23	22.1	91	70.0	104	130
Nov 1981	102	69.9	48	29.6	17	11.6	4	2.5	22	15.1	103	63.5	146	162

Source: Special extract from STARS System, Sacramento Police Department.

Note: A = arrest, A% = percent of total arrests, C = clearances, and C% = percent of total clearances.

Table 6-27

Sample of Robbery Arrests/Clearances By Unit

Mo./Year	Patrol				CSU				Robb. Detectives				Total	
	A	A%	C	C%	A	A%	C	C%	A	A%	C	C%	A	C
Apr 1977	34	61.8	14	35.0	4	7.3	1	2.5	14	25.5	21	52.5	55	40
Nov 1977	15	60.0	8	50.0	2	8.0	1	6.3	7	28.0	7	43.8	25	16
Apr 1978	15	41.7	7	25.0	4	11.1	0	0	13	36.1	19	67.9	36	28
Nov 1978	22	57.9	13	26.0	4	10.5	1	2.0	6	15.8	32	64.0	38	50
Apr 1981	26	51.0	16	35.6	13	25.5	0	0	8	15.7	25	55.6	51	45
Nov 1981	19	44.2	10	16.7	8	18.6	0	0	10	23.3	49	81.7	43	60

Source: Special extract from STARS System, Sacramento Police Department.

Note: A = arrest, A% = percent of total arrests, C = clearances, and C% = percent of total clearances.

Table 6-28

SPD Patrol Survey Rating Of Directed Patrol Progress

Assessment	Patrol Officers	Command/ Supervisory
Progress has been exceptional, a major improvement over past patrol practice	1.9%	0 %
Progress has been good, somewhat better than past practice	24.7%	20.8%
Very little progress, not much real improvement	22.2%	33.3%
We don't do enough directed patrol for me to fairly judge utility of program	25.3%	16.7%
Worse than before, directed patrol is a poor idea	9.9%	20.8%
No reply	16.0%	8.4%
Number of respondents	162	24

Direction: It has now been over one year since your department initiated a directed patrol program. How would you assess progress in this area at this point in the development of this patrol effort?

This table shows that about one-fourth of the patrol officers and one-fifth of the command/supervisory officers responding to the survey believe that progress in implementing directed patrol "... has been good or at least better than past practice." Only 10% of the patrol officers view directed patrol as a "poor idea". However, about 21% of the command/supervisors see directed patrol as a poor idea. On the other hand, 25% of the line officers and 17% of the command/supervisory personnel felt that they didn't do enough directed patrol to fairly judge the program concept.

Survey respondents were also asked to rate SPD performance in eight specific areas in implementing the directed patrol effort and their response to this question is reviewed in the section that follows.

Rating SPD Directed Patrol Implementation Performance

Table 6-29 displays patrol survey respondents rating of the SPD in implementing directed patrol in eight areas.

Table 6-29

Patrol Survey Rating of SPD Directed Patrol Implementation Performance

Areas Rated	Performance Rating: Directed Patrol Superior 1	2	Average 3	4	Poor 5	No. Resp.
Freeing up sufficient time for directed patrol	A. 0	0	17.3%	36.2%	46.5%	23
	O. 2.5%	3.8%	35.4%	25.9%	32.9%	158
Planning the directed patrol program (in general)	A. 0	8.3%	45.8%	37.5%	8.3%	24
	O. 3.8%	3.8%	39.6%	26.4%	26.4%	159
Day to day planning of directed patrol assignments	A. 0	4.3%	43.5%	34.8%	17.4%	23
	O. 1.3%	3.8%	37.6%	25.5%	31.9%	157
Providing adequate directed patrol training	A. 9.1%	0	54.5%	22.7%	13.6%	22
	O. 0	3.8%	40.8%	24.2%	31.2%	157
Developing internal support for the directed patrol program among all personnel	A. 0	4.3%	13.1%	34.8%	47.8%	23
	O. 0.6%	5.1%	34.8%	29.1%	30.4%	158
Coordinating directed patrol assignments with dispatch	A. 4.5%	18.2%	40.9%	9.1%	27.3%	22
	O. 2.5%	8.2%	41.8%	20.9%	26.6%	158
Developing clear written policy & procedures to guide directed patrol efforts	A. 8.7%	0	56.6%	21.7%	13.0%	23
	O. 0	2.5%	43.9%	21.7%	31.8%	157
Providing continuing crime, traffic, & problem analysis services to support directed patrol efforts	A. 4.3%	13.0%	47.8%	17.4%	17.4%	23
	O. 2.5%	8.8%	44.0%	17.6%	27.0%	159

(A = Command/Supervisory Officers)
(O = Patrol Officers)

Direction: Rate performance of department relative to directed patrol program. Rating: 1 to 5 with "1" meaning superior, "3" average, and "5" poor.

The results on this question support the rating shown in Table 6-28. For example, close to 60% of the line officers and 83% of the supervisors rated department performance in freeing up time for directed patrol from below average to poor. And, 57% of the line officers and 52% of the supervisors felt that the day to day planning of directed patrol was below average or poor. The adequacy of written policy guidelines for directed patrol was rated as below average or poor by well over half the supervisors.

Estimates of Directed Patrol Arrests

Another survey question, addressed only to line officers, asked if they had made any arrests while on a directed patrol assignment during the past year in a number of crime categories. Their response to this question in Table 6-30.

Table 6-30
Patrol Officers' Estimates of Directed Patrol Arrests

Crime Type	Yes	No	Don't Know	N
Burglary	29.0%	64.8%	6.2%	162
Robbery	8.6%	82.1%	9.2%	162
Auto Theft	10.4%	78.3%	11.1%	162
Larceny	9.3%	80.2%	10.4%	162
Narcotics/Drugs	10.5%	79.6%	9.9%	162
Drunk Driving	19.8%	72.8%	7.2%	162
Rape	4.3%	85.2%	10.5%	162
Assault	7.4%	51.9%	40.7%	162

This data shows that the top three offenses in terms of directed patrol arrests were: (1) Burglary (the primary directed patrol target crime); (2) Drunk Driving; and, (3) Narcotics/Drugs. The latter two types of arrests often come about as the result of traffic or FI stops which are an integral part of an aggressive directed patrol effort.

Supervisors' Ratings of Directed Patrol Benefits

Another question on the 1981 Evaluation Survey of patrol personnel was addressed only to the 24 command and supervisory officers that responded to the survey. They were asked if directed patrol implementation helped them fulfill their responsibilities by providing benefits to them in seven specific areas that relate to the management of patrol services. Table 6-31 shows their response to this question.

Table 6-31

Command/Supervisory Rating of Directed Patrol Benefits in Seven Areas

Rating Area	Yes	No	Not Sure	N
Better use of resources	20.8%	62.5%	16.7%	24
Evaluating performance of my subordinates	20.8%	62.5%	16.7%	24
Motivating subordinates	25.0%	58.3%	20.8%	24
Exerting improved control over the use of uncommit- patrol time	29.2%	50.0%	20.8%	24
Gaining better information on patrol effectiveness and efficiency	12.5%	70.8%	16.7%	24
Developing creative solutions to crime/traffic problems	25.0%	58.3%	20.8%	24
Setting and monitoring patrol performance objectives	20.8%	58.3%	20.8%	24

Based on the results of this table, it would appear that about one-fourth of these supervisors regard directed patrol in a favorable light. Another one-fifth have not yet formed a firm opinion on this patrol strategy. Between 50-60% of the respondents appear to regard directed patrol in unfavorable terms. These ratings support, and add validity to, the earlier overall rating of directed patrol progress assigned by these supervisors. The one area that stands out is that close to one-third of the respondents feel that directed patrol has enabled them to exert more control of the uncommited time of their patrol officers.

More to the point, an "open-ended" question on this survey asked the supervisors if to comment on what problems the implementation of directed patrol caused them. Not all of the supervisors responded to this question, but a sampling of their comments indicate that they had basic problems with directed patrol because of the following viewpoints: (1) Lack of patrol manpower combined with a high workload makes it difficult to capture time for directed

patrol; (2) A repugnance for any additional "paperwork"; (3) A lack of acceptance of the concept that a directed patrol assignment has the same priority as a non-emergency call for service from the public; and, (4) a perception that patrol officers are not enthusiastic over the program.

Another survey question (see Table 6-32) probed this last issue in more depth by requesting all respondents to provide their perceptions of the degree of interest and enthusiasm for directed patrol at different levels of the department. Basically, the question attempted to measure the perception of commitment to directed patrol. This commitment may be viewed at three different

Table 6-32

Degree of Interest and Enthusiasm For Directed Patrol At Different Organizational Levels (September 1981 Patrol Evaluation Survey)

Group Assessed:	Distribution of Patrol Officers' Assessment of Degree of Interest and Enthusiasm: High 1	2	Some 3	4	None 5	No Reply	No. Resp.
Top Management	23.5%	13.0%	25.3%	11.7%	11.1%	15.4%	162
Watch/Shift Commanders	9.9%	20.4%	35.8%	6.8%	11.7%	15.4%	162
Sergeants	9.9%	11.7%	45.1%	14.8%	11.1%	7.4%	162
Fellow Officers	6.8%	9.3%	34.6%	14.2%	27.8%	7.4%	162
Myself	8.6%	20.3%	25.9%	15.4%	22.2%	7.4%	162

Group Assessed:	Distribution of Patrol Supervisors' Assessment of Degree of Interest and Enthusiasm: High 1	2	Some 3	4	None 5	No Reply	No. Resp.
Top Management	37.5%	29.2%	16.7%	4.1%	0	12.5%	24
Watch/Shift Commanders	4.2%	29.2%	50.0%	8.3%	8.3%	8.3%	24
Sergeants	4.2%	4.2%	37.5%	29.2%	25.0%	0	24
Fellow Officers	8.3%	0	12.5%	20.8%	54.2%	4.1%	24
Myself	4.1%	12.5%	29.2%	20.8%	29.2%	4.1%	24

Survey Question: Assess the degree of interest and enthusiasm (on the average) for the department's directed patrol effort among the groups listed (assign a rating from 1 to 5, with a rating of "1" meaning high interest and enthusiasm; "3" meaning some interest and enthusiasm; and "5" meaning no interest or enthusiasm).

staff levels of a police agency: commitment to the concept, implementation, and continuation of directed patrol at the senior management or policy level; commitment to actively support the established directed patrol program by middle managers (watch commanders) and shift lieutenants; and, commitment to actually plan and perform the D/P assignments by field personnel.

Before discussing the response to this question, it is necessary to interject several comments based on the observations of the evaluation team. At the policy level, senior management has demonstrated in a number of quite convincing ways its commitment to the directed patrol concept as well as its intent to continue to include the program as an integral part of the annual SPD patrol plan. These policy makers have stressed again and again that the patrol force will engage in directed patrol. To date, all of the changes made in the Patrol Division as a result of the MPO Project - such as Team Conferences, the Patrol Reference Station, District Analysis Reports, Directed Patrol Reports, and Crime Analysis Support (the SPD recently received a grant of over $100,000 to upgrade the automation of crime analysis data under the California Police Career Criminal Apprehension Program) -- have been maintained. And, annual MPO training for SPD patrol personnel "to reinforce the goals and expectations of the directed patrol program, was provided in 1981 and 1982.

However, the data in Table 6-32 indicates that patrol officers and supervisors do not uniformly view "top management" as having a high degree of interest and enthusiasm (on the average) for the SPD's Directed Patrol Program. Only about one-third of the line officers and one-fourth of the supervisors responding to the survey assess top management as having a high degree of interest and enthusiasm" for the program. And, four percent of the supervisors and close to one-fourth of the officers assess them as having little or no interest and enthusiasm for the program.

With respect to middle management, the observations of the evaluation staff indicate that they have reservations about the directed patrol effort but are willing to support it as long as possible given available patrol manpower and the citizen demand for service (since they are the ones who are criticised when a citizen complains about slow patrol response to their request for service). As shown in Table 6-32, less than one-fifth (18.5%) of the patrol officers surveyed felt that watch commanders and shift lieutenants had little or no interest in the program (somewhat of a reversal of the actual feelings of this group regarding the program as shown in their responses to the earlier questions). Close to one-third of the line officers felt that this group had a high degree of interest and enthusiasm for the directed patrol

program.

The criticism most often made about the directed patrol program by middle managers is that calls for service are at such a high volume that sufficient time does not exist to carry out directed patrol at the level envisioned by the program. They may be carried out in fact (as our analysis of gap time has demonstrated) by pulling some patrol units off of calls for service work. In the Fall of 1981, a Watch Commander put it thusly in an internal memo: "...we are using directed patrol on everyday problems and sacrificing units in the field to become involved in important problems calling for directed patrol."

Most studies of police field operations stress the importance of the role of the patrol sergeant in determining actual as opposed to stated department policy and procedures. Based on the observations of evaluation staff, our subjective view is that many of the patrol sergeants do not find the directed patrol program credible enough to commit themselves to fully carry out the objectives of the program. The data in Table 6-32 appear to support this observation, with about one-fourth of the line patrol officers' perceiving their sergeants as having little or no interest and enthusiasm for directed patrol. Less than one-fifth of the 162 officers responding to the survey felt that their sergeants were committed to the program. A review of the Weekly Sector Directed Patrol Reports by evaluation staff tends to confirm this view. This review revealed that some sergeants prepared these reports in a consistently perfunctory manner. One even made duplicate copies of his directed patrol plan and used it as his sector plan for many weeks in a row. It should be noted however that many of these weekly reports were quite well-done and showed an obvious analysis of the CPN and CSN Notifications prepared by the Crime Analysis Unit.

The major concern of Sector Sergeants with directed patrol is the same as that of the middle managers, namely, having enough time to carry out directed activities.

Judging from both survey and interview data, the evaluators find that a majority of SPD patrol officers have some interest in directed patrol and generally support the objectives of the program. A considerable minority of these officers have little or no interest in the program. For example, Table 6-32 shows that of those patrol officers responding to the survey (over 2/3 of the patrol force), 38% stated that they had little or no interest in directed patrol; and 42% said that their fellow-officers had no or little interest in the program. This absence of commitment on the part of such a large percentage of the officers was also confirmed in many of the interviews and "ride-alongs" by evaluation staff. These negative views, it is believed, cluster around two

points: lack of enough uncommitted time to carry out directed patrol; and, program deficiencies related to directed patrol planning and supervision. The assessment of lack of time as a criticism of directed patrol varied by watch: 31% of of the 3rd Watch (swing), 26% of those from the 2nd Watch (days), and 17% of those from the 1st Watch (midnight). Criticisms related to poor planning of directed activities varied by watch by only a small percentage: with one-fifth of the patrol officers on the 1st and 3rd Watches making this criticism and one-fourth of the officers from the 2nd Watch. The next survey question of interest asked the officers to respond to specific statements regarding a series of organizational and patrol issues.

Extent of Agreement/Disagreement With Statements Regarding Organizational and Patrol Issues

Patrol personnel were presented with a series of statements dealing with various organizational and patrol issues and asked to indicate their extent of agreement/disagreement with the statement on a five-choice Likert Scale with answers ranging from Strongly Agree, Agree, Neutral, Disagree, and Strongly Disagree. Similar data was obtained on earlier evaluation surveys in the SPD Patrol Division so some comparisons can be made. Table 6-33 displays the response to these statements. This table shows only the percent of respondents that answered either "strongly agree" or "agree" with a statement.

Only 1/4 of the SPD respondents agree that directed patrol has resulted in an inprovement in the effectiveness of SPD patrol operations. (which agrees with the prior survey assessments). While improved from the May 1979 percentage of respondents (68.3%), well over half of the 1981 respondents still feel that at least 25% of the calls they are dispatched on are a waste of time. In general, the change in the response to the other survey statements is not regarded as particularly significant.

CHAPTER SUMMARY AND CONCLUSIONS

This final section of the chapter summarizes the results of this evaluation of the SPD Directed Patrol Program. The basic questions addressed in this study were as follows: (1) Given the formal implememtation of the program, are patrol officers actually using uncommitted time for directed patrol?; (2) Has the SPD Crime Analysis Unit provided adequate support for the operation of the program?; (3) What kinds of planning has taken place at the operational level to carry out directed patrol?;

Table 6-33

Percentage of Respondents that Strongly Agree and Agree With Statements Regarding SPD Patrol and Organizational Issues

Statement	Percent Agree		
	5/79	5/80	9/81
Our patrol productivity sometimes suffers from a lack of planning	47.9%	-	56.2%
At least 25% of the calls I am dispatched on are a waste of time	68.3%	-	56.2%
People are proud of belonging to this department	45.8%	53.2%	55.4%
There is a continuing feeling of pressure to improve performance in my division	43.3%	44.5%	51.9%
I have a clear understanding of the specific goals, objectives and policies of this agency	46.4%	50.5%	43.3%
Patrol officers are capable of doing a lot more planning of their activities than they are currently allowed	77.8%	76.5%	75.7%
I am a member of a well-functioning team	36.5%	50.5%	53.0%
There is little deviation from standard policies and procedures by officers on the street	35.1%	25.6%	41.9%
Directed patrol is a major advance in making our patrol operation more effective	-	-	23.8%

What level of acceptance has the directed patrol program achieved with patrol managers and line personnel?; What effects, if any, has directed patrol implementation had on measures of patrol effectiveness and efficiency?.

The directed patrol program implemented by the SPD had its origin in the Federally-funded Managing Patrol Operations (MPO) project which provided the department with a $175,000 grant, a general program design document, executive and technical training, and technical assistance throughout the grant period. The department's interest in directed patrol was such the during the life of the grant, which ran from September 1978 to August 1980, it more than matched the federal grant with its own funds.

Interest in directed patrol and the other MPO program components by senior policy-makers in the SPD was related to a general belief that their implementation would result in better management and delivery of patrol services. The need for improved management and delivery of patrol services was in turn related to rising crime rates and calls for service and to an expectation that proportionatly fewer funds would be available to run the department over time because of inflation and the passage of California's Proposition 13 in November of 1977 - a major property tax reduction referendum which would severely reduce city revenue derived from this source in future years.

The primary goal of the MPO project in Sacramento was: "To decentralize both the authority and responsibility for operational planning to the patrol team level for the resolution of crime, traffic, and community service problems and to change the posture of patrol from a reactive to a proactive stance." Implementation of the project's directed patrol model would, it was hoped, increase involvement of patrol officers in their work and improve accountability. Better crime analysis support, better communication and sharing of information between patrol and detectives, and improvements in patrol officer "beat awareness" would also significantly improve the planning and carrying out of directed patrol activities.

From the outset of the MPO project, the SPD's senior managers understood the magnitude of the change envisioned in the directed patrol model. They knew from past experience that major changes cannot be implemented in a short period of time and that resistance to the program would be encountered. The Deputy Chief in charge of patrol operations at the time, currently the Assistant Chief, stated that he would "...be happy if at least 50% of the patrol personnel affected by the proposed program wind up with an increased level of involvement and responsibility in their work and for controlling crime in the community."

This evaluation involved a detailed analysis of patrol workload using a computerized version of the Patrol Car Allocation Model. This analysis showed that (despite a quite sophisticated and effective array of Calls For Service (CFS) management techniques, the SPD patrol force is exceptionally busy on CFS work. Unit Utilization (one of the measures from the model) was consistently above 40% and over 50% in some time periods in the SPD Patrol Division. This level of workload, coupled with routine non-CFS work placed severe limitations on the amount of uncommitted patrol time that could be captured for directed patrol. Additional analysis showed that (during several critical time periods) if a patrol unit started a 45-minute directed patrol activity it would have been interupted to handle a CFS more than half the time.

Analysis of over two years of available data on directed patrol showed that the SPD has been carrying out directed patrol at an increasing rate over time. Currently, SPD patrol units are devoting close to 30% of their uncommited time to directed patrol activities. In terms of directed patrol hours, this data shows that "basic patrol units" devoted about 1,251 hours per month during the first six months of the program. By the end of 1981, the average number of directed patrol hours per month by basic patrol units had more than doubled to 2,836 hours. In terms of all patrol hours on duty, directed patrol acounted for between 5% of available time (on the 3rd or swing watch) to 8% and 12% for the 1st (or night watch) and 2nd (day watch) respectively.

Analysis of this and other data sources has also established that the SPD Crime Analysis Unit has provided timely and useful information to patrol for planning and performing directed activity and has done much to facilitate the exchange of crime-related information between detectives and patrol. However, only about 30% of the time devoted to directed patrol by basic units could be planned for controlling specific crime patterns or series identified by the Crime Analysis Unit. The remainder of the directed patrol time was used for general crime control, maintenance of order, and traffic control purposes. In addition to the directed patrol work of the basic units, the SPD has a "split force" or specialized patrol unit (known as the Crime Suppression Team) which has no CFS responsibilities. In 1981, this unit devoted over 5,100 officer hours to directed activities involving specific crime pattern and series notifications issued by the Crime Analysis Unit.

An evaluation of the Weekly Sector Sergeants' Reports, which set forth directed patrol plans and results, suggests considerable variability in the planning and performance of such assignments. This variability generally appears to be related to the degree of commitment to the program by officers and supervisors.

Observation of patrol activities, interviews, and surveys by the evaluation staff indicate that a sizable percentage of the patrol force, both officers and administrators, remain skeptical about the value of using uncommitted time for directed activities. Close to half of the patrol force, however, have expressed some degree of interest and enthusiasm for the directed patrol program. The Assistant Chief's criterion for the success of this component has therefore been achieved. The basic reason for this skepticism is, in the opinion of the evaluation staff, related to the difficulties encountered in coping with a high level of CFS work and, at the same time, freeing up time for directed patrol.

The effect that directed patrol implementation has had on the efficiency and effectiveness of the patrol force cannot be measured quantitatively with any degree of certainty at present. The available data suggests only that felony arrests by patrol have increased since directed patrol implementation. Two different problems, however, confound the analysis of available data. First, there is the problem of assignment of credit to patrol officers and detectives for arrests and clearances. The fact that an officer is listed as arresting officer on a report is subject to considerable misinterpretation (i.e., a detective could do the work that leads to an arrest and a patrol officer may physically apprehend the suspect and thus be listed as the arresting officer).

Second, prior to directed patrol implementation, the SPD patrol force shifted from a 5-8 Schedule to a 4/10 Schedule and at the same time changed over from 70% two-officer patrol units, 30% one-officer units to a reversal of this distribution and the authorized strength of the patrol force was increased by the transfer of 26 officers from the Traffic Section. Since these changes also have an effect on the quantitative measures of patrol output, they must also be considered in the interpretation of the data. For example, the average number of felony arrests per patrol officer show a 13% decline following implementation of the 4-10 Plan - - from 1.34 during January to July 1979 to 1.16 during July to December 1979. This lower rate was maintained in 1980 (formal implementation of directed patrol occurred on May 1, 1980). The first six months of 1981 show a 3.4% increase in felony arrests per patrol officer; the last six months a 5% increase. But the rate is still below that of the January to June 1979 time period. Thus, the recovery may be related to increases in directed activities and/or adjustments made by patrol to the 4/10 Plan and the other changes made in July 1979.

The number of reported Part I Crimes reported to the SPD has continued a pattern of increase over the eight year period considered in this evaluation, but the increase in the rate of such offenses (Part I Crimes Per 100,000) showed a substantial decrease in 1981

(the first full-year of directed patrol).

The percentage of Part I Crimes Cleared by the SPD remained relatively stable during this period - a not insignificant accomplishment given the fact that there have been no staff increases in the SPD coupled with the increasing number of such crimes reported. One variable that did show a change was a quite substantial increase in 1981 in the number of Part I Crimes Cleared Per Arrest - an increase from 1.01 in 1980 to 1.11 in 1981 (+10%).

The implementation of directed patrol in the SPD has led to a number of additional changes in the department which have significantly affected operations. The crime analysis function and its support for patrol operations have greatly improved and the CAU now plays a far more important role in the collection, analysis, dissemeniation, and coordination of crime information. The timely exchange of information between patrol and detectives is much improved over the situation that existed prior to directed patrol implementation. And, some detectives now rely on the CAU for some data analysis that would have been unthinkable prior to the major improvements in this unit's capabilities.

Finally, senior management of the SPD appear to be willing to continue directed patrol activities. Many patrol officers and administrators, still openly hostile to the program, have expressed their belief that "directed patrol" would follow the route of many federally funded programs in the department - - that is, slowly dry up and disapear when the grant ends. Thus, far, this does not seem to be the case with the Sacramento Directed Patrol Program. As of June 1982, in fact, the department started requiring the completion of a Crime Pattern/Series Feedback Report from patrol for each such CPN or CSN issued that details exactly what patrol has done to combat the identified problem.

CHAPTER SEVEN

COMPARATIVE ANALYSIS AND RESEARCH RECOMMENDATIONS

CHAPTER SEVEN

COMPARATIVE ANALYSIS AND RESEARCH RECOMMENDATIONS

Introduction

This concluding chapter is divided into two sections. The first section compares the results of directed patrol implementation in the Oxnard and Sacramento evaluation test sites. The second section identifies, prioritizes, and describes a specific set of recommended research needs and projects that were identified during the course of this study.

COMPARATIVE ANALYSIS OF THE OXNARD AND SACRAMENTO DIRECTED PATROL PROGRAMS

Any comparison between two different police agencies in terms of the results achieved with a similar program are subject to possible misinterpretation. Such comparisons may be affected by differences in program management, assumptions, implementation and operational strategies, and areas of emphasis as well as being influenced by the unique features of each community. Despite these caveats, the comparison of two similar programs has value if carefully made and if the areas of comparison are made explicit as in the analysis that follows. This analysis is based on a series of comparative tables that illustrate the jurisdictional and police agency differences between the Oxnard and Sacramento directed patrol programs and their outcomes. The data in Table 7-1 provides a comparison on basic jurisdictional characteristics.

Table 7-1
Test Site Jurisdictional Differences

Measure	Oxnard	Sacramento
1982 Population	115,000	285,400
Percent Population Change: 1970 to 1980	+54%	+ 7%
Square Miles	23	98
Housing Units	33,087	123,284

Table 7-1 (continued)

Measure	Oxnard	Sacramento
City Population as % of SMSA (1980)	21%	28%
Ethnic Breakdown (1980		
White	42%	63%
Black	6%	13%
Spanish - Origin	45%	14%
Asian/Pacific Islands	6%	9%
Other	1%	1%
Government Structure	City Manager	City Manager

Table 7-1 shows that Sacramento has more than twice the population of Oxnard and covers over four times as many square miles. However, while Sacramento's population growth between 1970 and 1980 has been relatively stable, Oxnard has experienced an explosive surge of over 50% during the same period. The ethnic distribution of the two cities is, as Table 7-1 shows, also quite different with close to half of Oxnard's population self-claiming Spanish-origin (mostly Mexican-American) heritage in the 1980 Census, compared to less than 15% in Sacramento. Table 7-2 compares differences in reported crime in the two cities.

Table 7-2
Comparison of Reported Crime in Oxnard and Sacramento

Measure	Oxnard	Sacramento
Part I Crimes (1981)	7,568	36,661
Change From 1980	-14.0%	+ 5.7%
Violent Crime as % of 1981 Part I Crimes	10.2%	9.6%
Part I Crime Rate (1981) (Per 100,000 Persons)	6,727	12,954
Percent Change in Part I Crime Rate (1980 vs. 1981)	-17.0%	+ 2.9%

Table 7-2 (Continued)

Measure	Oxnard	Sacramento
% of Part I Crimes Cleared 1981	21.5%	17.2%
Change in Percent of Part I Crimes Cleared 1980-81	+ 6.7	+ .9
Number of Part I Arrests 1981	1,874	5,725
Number of Part II Arrests 1981	6,663	12,344
Persons arrested per 1,000 population	74.2	63.4
Reported Burglaries in 1981	2,058	10,401
Change in Burglaries between 1980 and 1981	-20.4%	+ 4.2%
Reported Robberies in 1981	351	1,833
Change in Robberies between 1980 and 1981	-29.4%	+14.3%

This table shows that Sacramento reported almost five times as many Part I Crimes than did Oxnard in 1981. Oxnard recorded a 14% decrease in Part I Crimes in 1981 compared to an almost 6% increase in Sacramento. The rate of Part I Crimes per 100,000 persons in Sacramento is slighly less than twice as high as that of Oxnard. While Oxnard reported a 17% crime rate decrease between 1980 and 1981, Sacramento reported an almost 3% increase in the crime rate during the same period. Both cities reported respectable clearance rates. However, Oxnard had an increase of almost seven percentage points in its clearance rate while Sacramento recorded an increase of about 1 percentage point. Oxnard had an arrest rate of 74.2 per 1,000 population compared to an arrest rate of 63.4 per 1,000 population in Sacramento. Finally, Oxnard shows a considerable reduction in both burglaries (-20.4%) and Robberies (-29.4%) between 1980 and 1981 while Sacramento reported increases in burglaries (+4.2%) and robberies (+14.3%) for the same period.

Table 7-3

Characteristics of The Test Site Police Agencies

Measure	Oxnard	Sacramento
Authorized Sworn Officers	127	511
Authorized FT Civilian Employees	46	192
Sworn Officers Per 1,000 Population	1.10	1.79
Sworn Officers as % of Total Employees	83%	73%
Per Capita Cost For Police Services	$66.04	$96.14
Average Cost To Field One Sworn Officer	$59,677	$53,620
Percent of all Sworn Officers Assigned to Patrol (excluding special units)	69.4%	53.6%
Percent of all Sworn Officers Assigned To Investigations Division	16.9%	20.4%
Percent of all Sworn Officers Assigned to Traffic Division	1.6%	6.6%
Number of Officers Assigned to "Split Force" or Specialized Patrol Units	7	29
Percent of Patrol Units that are one-officer cars (Swing Shift)	94%	70%

As Table 7-3 shows, there are some significant differences between these two directed patrol evaluation sites with regard to police services. For example, with 1.79 sworn police officers per 1,000 population, the SPD has a 63% higher level of police staffing than the OPD's 1.10 sworn officers per 1,000 population. On the other hand, Sacramento is not only the capital of the State of California, it is also a major agricultural and government center and its daytime population expands greatly with workers, shoppers, and tourists.

Despite these differences, Sacramento's 1.79 officers per 1,000 is still quite a bit below the national average for cities of this size. Some other differences of note in Table 7-3 include: (1) the percentage of all sworn officers assigned to patrol is quite a bit higher in Oxnard (69%) than Sacramento (54%); (2) the percentage of 1-officer cars on the swing (1600-0000) shift in Oxnard (94%) is much higher than Sacramento's 70%; (3) the per capita cost for police services in Oxnard ($66.04) is considerably lower than Sacramento's $96.14; and, (4) roughly 7% of all sworn officers in the SPD are assigned to a traffic unit while only 1% of OPD officers are in such a unit.

The next series of comparisons deals with measures of demand for police patrol services and is based on an analysis of dispatch data. One problem here is that SPD data for 1981 was only a 25% sample while 100% of the OPD was available. Another difference was that self-initiated calls were included in the SPD dispatch data. In the OPD, self-initiated calls were reported through the automated officer activity file rather than the dispatch file.

The specific problem with the SPD 25% sample data was that a simple extrapolation from this data results in an annual total of 80,944 dispatches of primary patrol units in response to citizen calls for service and an annual total of 31,016 self-initiated field activities. However, summary records maintained by the SPD show that 445,852 citizen's requests for police service were received by SPD complaint takers of which their records indicate that 33% (or 147,311) resulted in the dispatch of sworn patrol units. This latter figure will be reduced to eliminate traffic and special unit dispatches and therefore results in our estimate that SPD basic patrol units responded to an estimated 120,000 calls in 1981. This figure will be used in some of the comparisons shown in Table 7-4 together with some of the more detailed information developed in Chapter 6 on SPD "unit utilization". Call processing times, travel time, and call priority information used in these comparisons are based on the information obtained from the 25% sample data base from 1981. Table 7-4 displays the results of these calculations for both agencies.

Table 7-4

Comparative Data On Police Patrol Dispatch Workload

Measure	Oxnard	Sacramento
Number of 1981 Primary Unit Dispatches	43,456	120,000
Number of 1981 Self-Initiated Activities (excluding directed patrol)-Estimated	7,577	35,000
Percent of CFS with multiple unit dispatches	40%(A)	51%(E)
CFS Per Capita	.38	.52
Percent of 1981 CFS By Priority:		
Priority 1	30.3%	16.0%
Priority 2	31.8%	52.0%
Priority 3	37.9%	32.0%
Average Communications Center Processing Time by CFS Priority in Minutes:		
Priority 1	1.9	2.5
Priority 2	4.5	5.3
Priority 3	8.9	16.6
Average Travel Time by CFS Priority:		
Priority 1	3.0	5.6
Priority 2	4.0	7.7
Priority 3	5.5	11.1

Table 7-4 (Continued)

Measure	Oxnard	Sacramento
Average Service Time (Travel + On-scene) by CFS Priority in minutes:		
Priority 1	25.8	53.0
Priority 2	22.4	41.0
Priority 3	31.0	53.1
Primary CFS Per Patrol Officer in 1981	658.4	502.1
Hours on Primary CFS Per Patrol Officer in 1981	285.1	418.3
Unit Utilization in Selected Time Periods		
Friday/Saturday:		
1600-2200	27%	43%
2200-0200	14%	21%
0200-0700	18%	31%
Tuesday/Wednesday		
1600-0200	33%	48%
2200-0200	17%	19%
0200-0700	10%	23%

One of the more notable findings on this table is that the average service time (travel + on-scene time) is almost twice as high in Sacramento as it is in Oxnard. Thus, despite the fact that Oxnard shows more primary dispatches per patrol officer than Sacramento, a typical Sacramento patrol officer spends more time on such activity than does his/her Oxnard counterpart. Part of this difference is accounted for by longer travel times (due to the larger area of Sacramento). Another significant difference is the larger proportion of Priority 1 dispatches (30.3% of total dispatches) in Oxnard compared to Sacramento (16.0%). Again, due to the longer service times, the unit utilization figures for Sacramento are much greater than those in Oxnard during the selected time periods shown in the table. The implication of this finding is that Sacramento officers have

considerably less time potentially available for performing directed patrol than do their Oxnard counterparts. Table 7-5 provides comparative information on the use of uncommitted time for directed patrol in both agencies during 1981.

Table 7-5
Comparative Data on Directed Patrol Activity
Basic Patrol Units - 1981

Measure	Oxnard	Sacramento
Estimated percent of uncommitted patrol time in 1981	38%	26%
Estimated percent of uncommitted time between:		
0700-1600	40%	35%
1600-2200	34%	18%
2200-0200	30%	28%
0200-0700	45%	30%
Percent of uncommitted time used for directed patrol (1981 estimate)	13%	23%
Percent of total available patrol time used for directed patrol (1981 estimate)	5%	7%
Estimate of total hours devoted to directed patrol in 1981 by basic units	5,376	30,000

As this table shows, both agencies were able to devote between 5-7% of their total available basic unit patrol time to directed activity in 1981. On a per-officer basis, this works out to an average of around 84 hours per year in Oxnard and about 125 hours per year in Sacramento.

In the next comparison, Table 7-6 displays a selected set of measures of patrol output before and after the "official" start date for directed patrol implementation in the Oxnard and Sacramento Police Departments.

Table 7-6
Changes in Selected Measures of Patrol Output Before And After Directed Patrol Implementation In The Test Agencies

Measure	Oxnard	% Change	Sacramento	% Change
Burglary Arrests Per Patrol Officer Per Year	3.24/4.08	+ 26%	2.88/3.24*	+ 13%
Robbery Arrests Per Patrol Officer Per Year	0.84/1.80	+114%	0.96/1.08*	+ 13%
Traffic Citations Per Patrol Officer Per Month	14.4/14.1	- 2%	8.72/6.78	- 22%
Field Contact Cards Per Patrol Officer Per Month	4.30/5.71	+ 33%	3.40/3.50	+ 3%
Part I Arrests Per Officer (all) Per Year	13.5/16.1	+ 19%	9.89/11.4	+ 15%
Total (Part I + Part II) Arrests Per Officer (all) Per Year	47.0/68.9	+ 47%	43.5/41.5	- 4%
Total Part I Clearances Per Sworn Officer (all)	9.30/13.4	+ 44%	9.95/12.6	+ 27%

* based on two months of sample data (April/November in the baseline and implementation periods

Both agencies show substantial gains, with exceptions noted, in Table 7-6 on most measures. However, since this evaluation was not based on a "true" experimental design, it is not scientifically valid to attribute these positive changes solely to the implementation of directed patrol.

Table 7-7 presents the final series on interagency comparisons and focuses on the results of the 1981 Patrol Survey conducted in both agencies under this evaluation.

Table 7-7
Comparative Results on the 1981 Patrol Evaluation Survey

Measure	Oxnard	Sacramento
Percent of Patrol Officers Stating That they made arrests for the following crimes while on a directed patrol assignment:		
Burglary	43%	29%
Robbery	20%	9%
Percent of respondents rating directed patrol as major improvement or better than prior patrol practices	A = 43%* O = 46%	A = 21% O = 27%
Percent of respondents rating top management interest and enthusiasm for directed patrol as above average	A = 57% O = 58%	A = 67% O = 46%
Percent of respondents rating middle management interest and enthusiasm for directed patrol as above average	A = 22% O = 39%	A = 33% O = 30%
Percent of respondents rating patrol sergeant interest and enthusiasm for directed patrol as above average	A = 7% O = 30%	A = 8% O = 21%

*: A = response of command/supervisory officers; O = Officers

Table 7-7 (Continued)

Measure	Oxnard	Sacramento
Percent rating the interest and enthusiasm for directed patrol among fellow officers as above average	A = 15% O = 15%	A = 8% O = 16%
Percent rating own interest and enthusiasm for directed patrol as above average	A = 31% O = 27%	A = 17% O = 29%
Percent that agree with statement that directed patrol is a major advance in making our patrol operation more effective	45%	24%
Ratings of organizational factors (on a scale of 1 to 5 with 5 meaning superior and 1 poor):		
Effectiveness of department planning	3.31	2.62
Level of morale	3.19	2.42
Crime analysis support for patrol	3.94	3.11
Current methods of preventive patrol	2.62	3.08
Allocation of officers to shifts	2.49	2.36
Pro-active Directed Patrol operations	2.52	2.80

This survey data shows that a significantly higher percentage of OPD officers indicated that they made burglary arrests while on a directed patrol assignment (43%) than did the SPD officers responding to the survey (29%). With respect to robbery arrests while on directed patrol, 20% of the OPD patrol officers responded affirmatively compared to only 9% of the SPD officers.

The percentage of OPD respondents that regard directed patrol as an improvement over past preventive patrol practices was close to 50% compared to less than 25% in the SPD. Respondents in both agencies perceive a high degree of interest and enthusiasm for directed patrol on the part of their respective "top management" personnel. Only around one-third of the respondents in both agencies perceive a similar attitude among their "middle management" personnel. About one-third of the OPD respondents perceive a high degree of interest in their directed patrol program among patrol supervisors compared to a similar perception by around one-fifth of the respondents from the SPD.

On an overall agency basis most ratings were higher in the OPD than the SPD.

In summary, this analysis has presented a comparative overview of the characteristics and accomplishments of the two police agencies that served as evaluation sites during this project. This analysis, as well as the more detailed material in the case study chapters, indicates that both agencies have been successful in implementing crime analysis supported directed patrol programs. The outcomes of directed patrol recorded in Oxnard are generally quite impressive with respect to the evaluation measures. Sacramento's results are generally positive but are not of the same magnitude as those recorded in Oxnard. However, the OPD has been involved in directed patrol for almost four years while the SPD had just under two years of program experience at the time of this evaluation and their patrol workload in terms of CFS response is considerably higher than that of the OPD.

RECOMMENDATIONS FOR FURTHER OR RELATED RESEARCH

At the beginning of this evaluation project, one of our primary goals was to develop, based on lessons learned in this study, a "true" experimental evaluation design (i.e. involving randomization, controls, etc.) to guide further research on directed patrol programs. After careful consideration of this goal, we are forced to the conclusion that the expenditure of the large

amounts of NIJ funds necessary to support a major experimental evaluation of directed patrol is premature at the present stage of crime analysis and directed patrol program development and, at the same time, too late. Obviously, this contradictory conclusion requires further explanation.

First, one reason for such research would be to determine if directed patrol is, in fact, a superior alternative to the tradional preventive patrol model. An examination of the results of the national survey data in Chapters III and IV indicates that the majority of the police agencies surveyed have already arrived at this conclusion. Specifically, almost 80% of the agencies surveyed either had already implemented formal or informal directed patrol programs or planned to do so in the near future. In short, the evidence currently available to these agencies on the merits of directed patrol appear to be sufficiently compelling to preclude the need for a major and most likely very costly experimental evaluation of this innovative patrol management program. Further, due to the widespread and growing adoption of directed patrol, it is going to be increasingly difficult to find a test site that is not already "contaminated" from an experimental viewpoint.

Second, such an experimental study is also premature at this point because there is no <u>one</u> universally accepted model of directed patrol to be tested. As the literature review, ICAP and national surveys, and test site evaluations show, there are a wide range of directed patrol models (some of which are unique to a specific agency) existing. While all share certain common program elements (i.e., the use of crime analysis for tactical deployment of patrol officers, planning of pro-active assignments, etc.), the manner in which police agencies have designed and implemented their directed patrol efforts are truly legion. Further, as this study has shown, directed patrol is best viewed as a <u>part</u> of an **integrated** approach to the management of patrol resources. In brief, future research on directed patrol <u>must</u> include consideration of techniques used for management of service demand, allocation and deployment practices, investigative management techniques, crime analysis, and monitoring and evaluation systems. And, as we learned during the course of this evaluation, considerable research and evaluation studies are currently underway on the development of more advanced approaches to virtually all of these elements of the patrol management and service delivery system. Therefore, it is our firm conviction that further experimental study of directed patrol <u>alone</u> is far to premature at this time.

However, this study has identified a number of quite specific research needs and opportunities that could profitably be pursued by the National Institute of Justice that would be of

major benefit to the law enforcement community. These needs, in our assessment of priority order, are briefly outlined below.

Project A: Development of A Prescriptive Package For The Design and Implementation of A Police Directed Patrol Program

One of the things we discovered during this study was the intense interest of police executives and planners for a "how to" type of manual for the implementation of a directed patrol program. One of the most highly regarded publications of the NIJ in the police field is the 1977 report on Improving Patrol Productivity. However, this report is now somewhat dated, and a very real need exists to develop a similar manual that builds on the experiences of the DPR, ICAP, MCI, MPO, this study, and related efforts, and which discusses directed patrol as part of an integrated approach to directed patrol design, development, and implementation in the context of the overall patrol management system. It is also recommended that development of this manual be supplemented by a 5-day training course similar to those presented under the NIJ-sponsored National Criminal Justice Executive Training Program in Advanced Criminal Justice Practices.

Project B: Development of an "Actuarial" Data Base on Patrol Officer Output and Productivity

It is strongly recommended that the NIJ sponsor a study to determine averages and ranges for patrol officer work output, productivity, and performance in a sample of police agencies of different size and geographical location. As we found in this study, there are no data bases of this type available that would allow one to compare patrol officer performance to any type of average or standard to determine if an agency is above or below the norm in similar sized police departments. Such a data resource would be of exceptional value to police administrators and researchers, evaluators, planners, and municipal administrators. It could also be of considerable benefit in assessing agency performance in terms

of crime rates, arrests, and clearances as well as in determining agency staffing requirements.

Project C: Evaluate The Ability of Crime Analysis Units To Recognize Crime Patterns And Assess The Validity Of Their Predictions As A Basis For The Planning Of Directed Patrol Assignments

Apprehension-oriented directed patrol is based on the, as yet, untested assumption that police crime analysis units, based on the assessment of prior trends, patterns, and series of robberies and burglaries can predict - at least in general terms - the locations, possible targets, and times of future offenses. A key assumption of directed patrol is that this predictive information can be profitably be used to plan specific directed activity to intercept such crimes in progress or prevent their occurrence by police presence. Research studies are needed to test the validity of this assumption under operational conditions. It would not be a particularly difficult study to plan or carry out, could be conducted at a reasonable cost, and would be of enormous value to the police community and particularly to those agencies now engaged in, or planning to implement, a directed patrol program.

Project D: Conduct an Evaluation of Police Patrol Apprehension Capabilities

While some work has been done in this area in the past, a study is needed to provide baseline data on the circumstances under which burglary and robbery arrests are made by police patrol officers. This study should involve an analysis of a fairly substantial number of patrol arrests related to these offenses in a sample of 3-5 police agencies serving populations between 100,000 --500,000 persons. This specific goal of this study will be to determine exactly how an arrest was made and clearances recorded for burglary and robbery offenses. the primary aims of the study will be to determine how credit should be allotted for making such arrests - with emphasis on the "quality" of each arrest - and which patrol or police tactics are most productive in this regard.

APPENDIX A

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APPENDIX B

NATIONAL DIRECTED PATROL SURVEY FORM

****

NATIONAL DIRECTED PATROL SURVEY

****

PLEASE RETURN TO:

Lt. William Cady
OXNARD POLICE DEPARTMENT
251 South "C" Street
Oxnard, California 93030

Survey Conducted Under Cooperative Research Grant
81-IJ-CX-K001

Grant Awarded by:

Office of Program Evaluation
NATIONAL INSTITUTE OF JUSTICE
U.S. DEPARTMENT OF JUSTICE

****

THANK YOU FOR YOUR ASSISTANCE

****

PART ONE: AGENCY IDENTIFICATION

1. Name of Agency:_____

2. Street Address:_____ 3. City:_____

4. State:_____ 5. Zip Code:_____ 6. Phone ( )_____

JURISDICTION CHARACTERISTICS

7. 1980 Population:_____ 8. Square Miles:_____

9. Total Part I Crimes (1980):_____

POLICE AGENCY

11. Total Police Budget (most recent fiscal year): $_____

12. # of sworn officers:_____ 13. # of civilian employees:_____

14. # of sworn officers (all ranks) assigned to the: Patrol Division:_____ Investigations Division:_____

15. Are the majority (over 50+) of patrol units on duty on a typical swing shift (i.e. 1600-0000):

A. One Officer Units:____
B. Two Officer Units:____

16. What type of work schedule is in effect in your patrol division:

A. 4/10 Plan (4 ten hour days on duty): ____
B. 5/8 Plan (5 eight hour days on duty):____
C. Other (what?):_____

17. Does this agency have a formal written policy for screening calls for police service (i.e., types of requests for police service for which the department will or will not dispatch a patrol unit)?

A. Yes___
B No___

24. If this agency has a Crime Analysis Unit, does this unit engage in any of the following activities?

A. Prepares reports identifying existing or evolving crime patterns or series? Yes___ No___

B. Provides statistical information on crime frequency or trends by time, type, and location? Yes___ No___

C. Provides investigative leads to line units (i.e., suspects, suspect vehicles, modus operandi, etc.)? Yes___ No___

D. Provides regular flow of crime analysis information to support the daily tactical deployment of patrol units? Yes__ No___

25. Are an equal or nearly equal number of patrol personnel in this agency allocated to each major shift/watch?

A. Yes___
B. No___

If you answered "no" to this question, which of the following statements best describes the allocation of patrol personnel in this agency? (Check the most appropriate statement)

A. More officers are assigned to the evening shift/watch (1600-0000) than to the day or midnight shifts. _____

B. More officers are assigned to the day shift (0800-1600) than to the swing or midnight shifts. _____

C. More officers are assigned to the midnight shift (0000-0800) than to the day or swing shift. _____

D. Other (please describe briefly):_____

._____

18. Does this agency have a formal written policy for prioritizing calls for service (i.e., certain types of calls require immediate dispatch; certain types of calls must be dispatched within "X" minutes; etc.)?

A. Yes___
B. No ___

19. How many calls for service were dispatched in the most recent year for which you have statistics available? #_____ (what year?)_____

20. Does this agency have a computerized information system that provides police managers with access to data on:

A. Calls for Service By time, type, and location? Yes__ No___
B. Officer Activity? Yes__ No___
C. Reported Crime by time, type, and location? Yes__ No___
D. Traffic Accidents by time, type, and location Yes__ No___

21. Does this agency have an "Expeditor" or "Tele-Serv" Unit (i.e., a unit that takes certain types of citizen reports over the phone or provides telephone referrals in order to reduce the need for the dispatch of patrol units)?

A. Yes___
B. No___

22. Does this agency have any employees assigned full-time to the analysis of crime patterns, trends, and offender activity (i.e., a Crime Analysis Unit or similar designation)?

A. Yes___
B. No___

If you answered yes to this question, how many people are assigned to this unit? _____sworn _____civilian

23. Is the Crime Analysis Unit organizationally assigned to:

A. The Patrol Division____
B. Technical Services Division___
C. Chief's Office____
D. Investigations Division____
E. Administrative Services Division____
F. Other (what?)_____

PART TWO: DIRECTED PATROL

For the purposes of this survey, the term "directed patrol" is defined as follows:

A directed patrol program is designed to replace some portion of the time traditionally devoted to "preventive" or "random" patrol (i.e., the time when patrol units are not busy with dispatches or related work) with pre-planned activities that direct patrol units to specific places to engage in specific work on the basis of crime, traffic, or social problem analysis.

26. Given this definition of "directed patrol", which of the following statements best describes your agency?

A. Our patrol force is currently engaged in a formal, crime analysis-supported directed patrol program. _____

B. Our patrol force is engaged in directed patrol on an informal basis (i.e., we do it, but there are no specific written policies; we do not have a full-time Crime Analysis Unit; limited or no specific training in directed patrol has been provided, etc). _____

C. We are not currently engaged in a directed patrol program but we plan to implement this type of program in the near future. _____

D. We are not currently engaged in directed patrol and have no plans to do so. _____

27. If this agency is <u>not</u> engaged in directed patrol at the present time (Answers C or D to Question 26), please indicate which of the following best states your position on directed patrol:

A. ____ Current patrol efforts are viewed as quite effective and efficient and we have no need for this type of program.

.....Question 27 continued on next Page.....

Question 27 (continued)

B. ____ Our call for service workload is too heavy at the present time to enable us to free up sufficient time in which to perform directed patrol.

C. ____ We need more and better information and evidence on the costs and benefits of directed patrol before we would consider implementation.

D. ____ Directed patrol (as we understand the program concept) is too costly to implement in the present fiscal climate.

E. ____ Other (please explain briefly)______________________________

____

>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>><<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<

The remaining questions in this survey apply only to those agencies that are currently engaged in directed patrol. If your agency is <u>not</u> engaged in directed patrol at the present time, please return this survey form with your answers to the first 27 questions to the Oxnard Police Department.

>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>><<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<

28. Does this agency have written policy and or procedures with respect to directed patrol operations?

A. Yes___
B. No___

29. In what year did this agency implement its directed patrol program?______

30. How long did it take this agency to plan and develop its directed patrol program from initial decision to proceed to formal implementation?

A. 0 - 3 months ____
B. 4 - 8 months ____
C. 9 - 12 months ____
D. 13 - 16 months ____
E. 17+ months ____

31. Did this agency provide any formal classroom training to patrol command, supervisory, or line officers prior to or during directed patrol implementation?

A.______yes
B.______no

If yes, how many hours of such training were provided to:

A. Command Officers:______hours
B. Supervisors: ______hours
C. Patrol Officers: ______hours

32. Prior to (or perhaps as a result of) implementing directed patrol, did this agency make any changes in any of the areas listed below in order to make more effective use of, or free up additional, patrol time? (check all that apply):

A. Call Screening: ______
B. Call Prioritization: ______
C. Crime Analysis: ______
D. Patrol Allocation: ______
E. Patrol Deployment: ______
F. Other ______ (what?)______________________________

33. On the average, how much time does the typical patrol officer in your agency devote to directed patrol per shift?

A. less than 30 minutes ______
B. 31-60 minutes ______
C. 61-120 minutes ______
D. 120+ minutes ______

34. Does this agency have a specialized crime suppression or tactical unit that devotes full time to such activity:

A. Yes____
B. No____ If yes, how many sworn officers?____

35. How do you keep track of the amount of time that your officers devote to directed patrol?

A. Dispatch Cards __
B. Officer Activity Reports__
C. Special Forms __
D. Other __ (what?)______________________________

.....PAGE SEVEN.....

36. The listing below sets forth some of the presumed benefits of directed patrol. Please rate the extent to which these benefits have been realized in your agency based on your experience to date with this program. Use a rating scale of 1 to 5 with a rating of "1" meaning major benefits; "2" moderate benefits; "3" some benefits; "4" slight benefits; and, "5" no benefits.

A. Increased ability to define and resolve short term crime problems Rating:_____

B. Increased ability to define patrol performance objectives Rating:_____

C. Improved utilization of patrol resources Rating:_____

D. Increased ability to evaluate patrol performance Rating:_____

E. Improved morale and job satisfaction in patrol Rating:_____

F. Improved supervision of uncommitted patrol time Rating:_____

G. Increased clearances and arrests for Part I Offenses by Patrol Rating:_____

H. Other (what?):_____

_____

37. In implementing directed patrol, did this agency encounter any of the following problems (check as many as apply)?

A. ___ Inability to consistently free-up blocks of patrol time to perform directed activity.

B. ___ Opposition and or lack of interest by middle management.

C. ___ Opposition and or lack of interest by supervisors

D. ___ Opposition and or lack of interest by line officers

E. ___ Poor or inadequate crime analysis support

F. ___ Inadequate quantity or quality of training

G. ___ Other (what?):_____

APPENDIX C

TEST SITE PATROL EVALUATION SURVEY FORM

PATROL OFFICER SURVEY ON DIRECTED PATROL

The Oxnard and Sacramento Police Departments are currently participating in an initial comparative evaluation of police directed patrol programs that is being sponsored by The National Institute of Justice, U.S. Department of Justice (Cooperative Research Grant 81-IJ-CX-K001).

The enclosed survey aims to solicit your views and opinions on the directed patrol efforts of your department. Somewhat similar surveys have been conducted in both agencies in prior years related to the evaluation of Oxnard's Integrated Criminal Apprehension Program (ICAP) and Sacramento's Managing Patrol Operations (MPO) Program. The results of this survey will be compared with these earlier surveys to see if you have changed your opinion of directed patrol now that the program has been in operation for over a year.

These survey results, as well as related evaluation activities, are quite important and will be used in the development of findings and recommendations of the directed patrol evaluation project. The final report of this study will be distributed by the National Institute of Justice to police agencies throughout the United States to assist them in deciding on the relative merits of implementing or not implementing a program of directed patrol.

Please note that the survey does not ask for your name. All responses to this survey will be kept confidential by the evaluation staff and will be used only in developing aggregate statistical findings. If you want to discuss your views in more detail with members of the research team, please contact (call collect): Dr. Joe Carrier at (213) 454-8256 or Mr. Ed Fennessy at (415) 665-9247.

A locked box is set up in the patrol roll call room to receive your responses. The deadline for receiving your response to this survey is on September 30, 1981. If you would prefer to mail the survey direct to the evaluation team, please send it to the address below:

Fennessy Associates
1841 24th Avenue
San Francisco, CA 94122

Your cooperation in participating in this survey is most appreciated.

2. How would you evaluate the current status of crime analysis support to patrol in terms of:

Rating Factor	Superior 1	2	Average 3	4	Poor 5
a. providing useful data			X		
b. providing timely data				X	
c. supporting directed patrol planning				X	
d. providing investigative leads to patrol				X	
e. coordinating the flow of crime and suspect information within the dept.					X
f. responding to requests for information from patrol			X		
g. identifying crime patterns or crime series		X			
h. predicting probable locations and times of crime			X		

3. What area of crime analysis support to patrol is most in need of improvement? _____

4. It has now been over one year since your department initiated a directed patrol program. How would you assess progress in this area at this point in the development of this patrol effort?

A. Progress has been exceptional, a major improvement over past patrol practice_____

B. Progress has been good, somewhat better than past practice____

C. Very little progress, not much real improvement X

D. We don't do enough directed patrol for me to fairly judge the utility of this program_____

E. Worse than before, directed patrol is a poor idea_____

10. Rate the performance of your department, relative to your directed patrol program, in the following areas. Use a rating of 1 to 5, with "1" meaning superior; "3" meaning average; and,"5" meaning poor:

a. freeing up sufficient time for directed patrol — Rating 4

b. planning the directed patrol program (in general) — Rating 3

c. day to day planning of my directed patrol assignments — Rating 4

d. providing adequate directed patrol training — Rating 4

e. developing internal support for the directed patrol program among all personnel — Rating 5

f. Coordinating directed patrol assignments with dispatch — Rating 5

g. developing clear written policy and procedures to guide directed patrol efforts — Rating 5

h. providing continuing crime, traffic, and problem analysis services to support directed patrol efforts — Rating 3

11. What is your major criticism of the department's directed patrol program? No free time to "Direct patrol." During 1st half of shift 22-0800hrs

12. Assess the degree of interest and enthusiasm (on the average)for the department's directed patrol effort among the following groups (assign a rating from 1 to 5, with a rating of "1" meaning high interest and enthusiasm; "3" meaning some interest and enthusiasm; and "5" meaning no interest or enthusiasm)

A. Top management 3
B. Watch/shift commanders 3
C. Patrol sergeants 1
D. Fellow officers 3
E. Myself 2
F. Dispatchers 3
G. Investigators UNK(4-5)

The information requested below is needed for statistical comparison purposes:

A. Agency: Oxnard P.D.____ Sacramento P.D. X

B. Rank:

Patrol Officer X
Sergeant ____
Other ____ What?____

C. Years of Sworn Police Experience:

less than one year ____
1-5 years ____
6-10 years X
11-15 years ____
over 15 years ____

D. Are you assigned to the Patrol Division?

yes X no___ If no, to what unit are you assigned?

_____

E. Education:

High School only ____
0-59 college credits ____
A.A./A.S. ____
60+ college credits ____
B.A./B.S degree X
M.S./M.A. degree ____

F. Have you received any formal classroom training in directed patrol?

yes X no____

G. What hours do you work? From: 2200 To: 0800 (use military time).

APPENDIX D

EVALUATION OF OPD CRIME ANALYSIS UNIT WITH RESPECT TO TECHNICAL, PROCESS, AND OUTCOME ISSUES

OPD CRIME ANALYSIS EVALUATION

Technical Issues

Evaluation Factor	Pre-Program Status	Mid Point July 1980	Present Jan/1982
Offense Report Design	5	8	8
Quality of C/A Source Data (FI cards, arrest, crime data etc.)	3	7	9
Quality control of Data (audits,etc)	2	6	8
Filing, cross-index systems maintained or available to CAU	3	8	9
Training, experience, skill of CAU staff	2	8	9
Timeliness and processing efficiency of input to output	1	5	8
Technical quality and sophistication of CAU products/service	2	7	8
Level of CAU effort devoted to operations support (% of total)	1	6	8
Level and quality of automated systems support of CAU	2	4	9
Ability to respond to special requests for crime information in a timely manner	1	6	9

Scoring System: 1 2 3 4 5 6 7 8 9 10
.....Poor....Mediocre....Average...Good...Excellent

Technical Evaluation Of OPD Crime Analysis Unit

continued

Evaluation Factor	Pre-program Status (1977)	Mid-point July 1980	Present Jan/1982
Report Formats and dissemination systems	1	7	8
Clarity of CAU objectives and unity of technical systems design in relation to objectives	0	7	9
Production of Basic Crime Statistics and trend data	5	7	7
Production of exception reports of crime increase in basic reporting areas on regular basis	2	7	9
Ability to produce crime pattern and series reports on a high volume and self-initiated basis	2	6	7
Maintenance of known offender and suspect vehicle files on an on-going basis	3	7	9
Ability to assess user needs on regular basis	1	6	7
Design of systems to provide user feedback and evaluation of CAU services	0	5	5
CAU management and planning in relation to "state of the art"	0	7	9

Technical Evaluation of OPD Crime Analysis Unit

Continued

Evaluation Factor	Pre-Program Status 1977	Mid-Point July 1980	Present Jan/1982
Flow of sensitive crime/suspect information from line officers to CAU	2	6	8
Physical facilities of the CAU (adequacy, equipment, location)	2	7	8
Quality of incident location and geographic base files	2	5	8

TECHNICAL SCORES FOR OPD CAU	PRE-PROGRAM	MID-POINT	PRESENT	% CHANGE
	42	149	179	+326%

OPD CRIME ANALYSIS EVALUATION

Process Issues

Evaluation Factor	Pre-Program Status (1977)	Mid-Point July 1980	Present Jan/1982
Motivation of CAU management and staff toward supporting directed patrol	0	8	8
Day-to-day management of CAU effort	2	9	9
Credibility of CAU products and services with patrol	2	7	8
Ability of CAU staff to maintain a continuing flow of crime and suspect info between and among different line units	1	6	7
Top management support and resource committment to Crime Analysis Unit	2	9	9
Integration of crime analysis into overall department operations	2	7	8
Constraints (organizational or otherwise) that detract or hamper CAU operations	2	8	8
Pro-active nature of crime analysis support of patrol operations	1	8	9
Adequacy and level of CAU staff training	2	7	7

OPD CRIME ANALYSIS EVALUATION

Process Issues (continued)

Evaluation Factor	Pre-Program Status	Mid-Point July 1978	Present Jan/1982
Productivity of CAU staff in support of patrol	2	8	9
Blockages in the input and output of crime analysis information (i.e., late, invalid, resistance, etc.)	1	6	9
Organizational and "marketing" skills of CAU in building support for its services	0	6	7
Adequacy and level of training of patrol personnel on the role and services of the CAU	1	5	5

PROCESS SCORES FOR OPD CAU	PRE-PROGRAM	MID-POINT	PRESENT
	18	94	103

OPD CRIME ANALYSIS EVALUATION

Outcome Issues

Evaluation Factor	Pre-Program Status	Mid-Point July 1980	Present Jan/1982
Ability to detect "workable" crime patterns and to provide data to line units in a timely manner	3	7	8
Degree of utilization of crime analysis output by patrol in planning and performing directed patrol	1	6	8
Increase in the utility and flow of crime incident and suspect information within OPD as a direct result of CAU efforts	4	8	9
Volume of requests from patrol for CAU analysis and support	2	7	7
Patrol managers and supervisors' assessment of CAU services and products	3	8	8
Line officers' assessment of CAU products and services	2	7	8
Perceived value of CAU by key police policy makers as reflected in budgetary support of the program	2	9	9

OPD CRIME ANALYSIS EVALUATION

Outcome Issues (Continued)

Evaluation factor	Pre-Program Status	Mid-Point July 1980	Present Jan/1982
Ability of CAU to support directed patrol operations on a continuing basis	1	6	8
Estimated contribution of CAU to increasing the apprehension capability of patrol	2	7	8

OUTCOME SCORES FOR OPD CAU	PRE-PROGRAM	MID-POINT	PRESENT
	20	65	73

SUMMARY SCORE FOR OPD CAU	Pre-Program Status	Mid-Point July 1980	Present 1981	Maximum Possible	% of Max.
Technical Issues	42	149	179	220	81%
Process Issues	18	94	103	130	79%
Outcome Issues	20	65	73	90	81%

APPENDIX E

AGENCIES PROVIDING DATA FOR NATIONAL DIRECTED PATROL SURVEYS

AGENCIES PROVIDING DATA FOR THE NATIONAL SURVEYS

Redondo Beach, California
Kansas City, Missouri
Greensboro, North Carolina
Palo Alto, California
Memphis, Tennessee
Metro-Dade County, Florida
Santa Barbara, California
Los Angeles County, California
Oakland, California
Richmond, California
Modesto, California
Santa Clara County, California
Santa Rosa, California
San Mateo, California
Berkeley, California
Fresno, California
San Francisco, California
Newport Beach, California
Oxnard, California
Santa Monica, California
Hayward, California
Gainsville, Florida
Quincy, Massachussetts
Springfield, Massachussetts
Charlotte, North Carolina
Hartford, Connecticut
Fairfield, California
Montpelier, Vermont
Nashville, Tennessee
Louisville, Kentucky
San Jose, California
Houston, Texas
Denver, Colorado
Colorado Springs, Colorado
Salem, Oregon
Marion County, Oregon
Fort Worth, Texas
Springfield, Illinois
Newark, New Jersey
Toledo, Ohio
Corpus Christi, Texas
Waco, Texas
Fairbanks, Alaska
Newport News, Virginia
Washington, D.C.
Knoxville, Tennessee
Torrance, California
Kansas City, Kansas
New Orleans, Louisiana
Dallas, Texas
Chicago, Illinois
Birmingham, Alabama
Los Angeles, California
West Covina, California
Modesto, California
Richmond, Virginia
Santa Ana, California
Fullerton, California
Bakersfield, California
Fremont, California
Garden Grove, California
Long Beach, California
Stockton, California
Inglewood, California
Sacramento, California
Contra Costa County, Cal.
Dayton, Ohio
Atlanta, Georgia
Springfield, Missouri
San Diego, California
Aurora, Colorado
Virginia Beach, Virginia
Portland, Maine
Boise, Idaho
Salt Lake City, Utah
Lexington, Kentucky
Yonkers, New York
Cleveland, Ohio
Sunnyvale, California
Multnomah County, Oregon
Anchorage, Alaska
Portland, Oregon
Eugene, Oregon
Jersey City, New Jersey
Bridgeport, Connecticut
Akron, Ohio
St. Petersburg, Florida
Orlando, Florida
Honolulu, Hawaii
Fairfax County, Virginia
Spokane, Washington
Amarillo, Texas

NATIONAL SURVEY AGENCIES (Continued)

Tulsa, Oklahoma
Mobile, Alabama
Irving, Texas
Miami Beach, Florida
Portsmouth, Virgina
Austin, Texas
Evanston, Illinois
Prince Georges County, Maryland
Montgomery County, Maryland
Buffalo, New York
Boulder, Colorado
St. Louis, Missouri
Omaha, Nebraska
Ann Arbor, Michigan
Independence, Missouri
South Bend, Indiana
Topeka, Kansas
Columbus, Ohio
Tallahassee, Florida
Rochester, New York
Tucson, Arizona
Harrisburg, Pennsylvania
Pueblo, Colorado
Las Vegas, Nevada
Boise, Idaho
Savannah, Georgia
Tampa, Florida
Winston-Salem, North Carolina
Montgomery, Alabama
Minneapolis, Minnesota
Arlington, Texas
Maricopa County, Arizona
Marin County, California
Pima County, Arizona
Dane County, Wisconsin
Lawrence, Kansas
New Haven, Connecticut
Sacramento County, California
Shreveport, Louisiana
Lubbock, Texas
Tuscaloosa, Alabama
Norfolk, Virginia
Macon, Georgia
Warren, Michigan
Reading, Pennsylvania
Baltimore, Maryland
Wilmington, Delaware
Rapid City, South Dakota
Lakewood, Colorado
Des Moines, Iowa
Cincinnatti, Ohio
Pontiac, Michigan
Grand Rapids, Michigan
Indianapolis, Indiana
Wichita, Kansas
Alexandria, Virginia
San Antonio, Texas
Syracuse, New York
Phoenix, Arizona
Tacoma, Washington
Reno, Nevada
Tempe, Arizona
Arlington, Virginia
Roanoke, Virginia
Fort Lauderdale, Florida
Albuquerque, New Mexico
Anaheim, California
Peoria, Illinois
Bibb County, Georgia
Santa Clara, California
San Joaquin County, Cal.
Orange County, Cal.
Broward County, Florida
Jacksonville, Florida
University City, Missouri
Simi Valley, California

END