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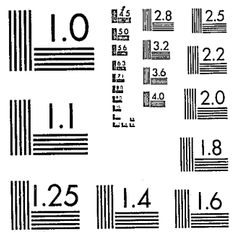

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SAN JOSE POLICE DEPARTMENT

PATROL EMPHASIS PROJECT

FINAL REPORT

SEPTEMBER 1976 - MAY 1978

This Project was supported by
Grant Number 76-DF-09-0032,
awarded by the Law Enforcement
Assistance Administration-United
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PREFACE

In March 1976, the San Jose Police Department submitted an application to the Law Enforcement Assistance Administration for grant funds to support a Patrol Emphasis Project. At that time, the Department was operating on an annual budget of approximately 19 million dollars. With a total complement of slightly less than 1,000 personnel, the Department provided service to the 564,000 citizens of San Jose. Operating from a centralized location in the Civic Center area, the Department patrolled some 1,300 miles of streets and responded to over 250,000 calls for service.

In June 1976, the Department received notice that the application for funds had been approved. The City Council ratified the grant award contract on October 12, 1976.

The application submitted by the Department proposed to accomplish, over a three year period, a primary goal of increasing the productivity of police personnel resources. Related objectives included strengthening management decision-making processes; deterring illegal acts; and increasing apprehension of offenders.

The administration of the Department placed the Project, organizationally, in the Bureau of Field Operations and designated a Captain, commanding a Patrol Division, as Project Director. A Sergeant, with a broad background of experience, was selected as Project Manager to direct the day-to-day operations. Professional staff, representing a variety of disciplines, were recruited as were support personnel. Office space for the Project became available in late November 1976. By February 1977, Project staffing was completed.

As the Project entered the final quarter, financial reports reflected

substantial underruns in certain budget categories. Requests for re-allocation of the excess funds and extensions of the grant award period were submitted to and approved by the Law Enforcement Assistance Administration. As a result, the Project was operated for a period of twenty-one months.

This is the final report for the Patrol Emphasis Project administered by the San Jose Police Department. It is fully recognized that the degree of success attained by the Project is directly related to the support of Departmental Administration, the cooperation of resident colleagues, and the willingness of the general membership to accept a new group. It is also necessary to acknowledge the invaluable support and cooperation given the Project by City Administration, the Grant Coordination Supervisor, and the Department of Finance. The Project was fortunate in that it enjoyed all those benefits.

The Background

The Patrol Emphasis Program, as described by the Law Enforcement Assistance Administration, would provide funds to police agencies to develop the capability "to place patrol manpower in a more effective position to prevent criminal attack and/or affect apprehension of the criminal". The Program description also identified functional areas of the agency for which funding would provide supplemental assistance; required the applicant to have a crime analysis unit; and, clearly stated--"Hardware and increased manpower is not the objective. The objective is to make a fuller utilization of what exists." The Program announcement also specified that the length of the project "should be no more than three years".

The Program, as defined, was ideally suited to address critical needs of the San Jose Police Department. At the time of the project definition the Department was in an excellent position to satisfy the expressed requirement for the existence of a crime analysis capability and the prohibition of acquiring hardware. Some expanded explanation of these statements is necessary for a fuller understanding of the operational status and support capabilities of the Department at the time consideration was given to the development of a grant application.

The organizational configuration of the Department in 1976 (when the Patrol Emphasis Project was implemented), is presented in Figure 1. As will be noted from the chart, the Bureau of Field Operations consisted of a Patrol Division and a Special Operations Division. Total sworn strength of the Bureau was 554. A Deputy Chief commanded the Bureau. There were 435 sworn members assigned the Patrol Division and 118 assigned to Special Operations.

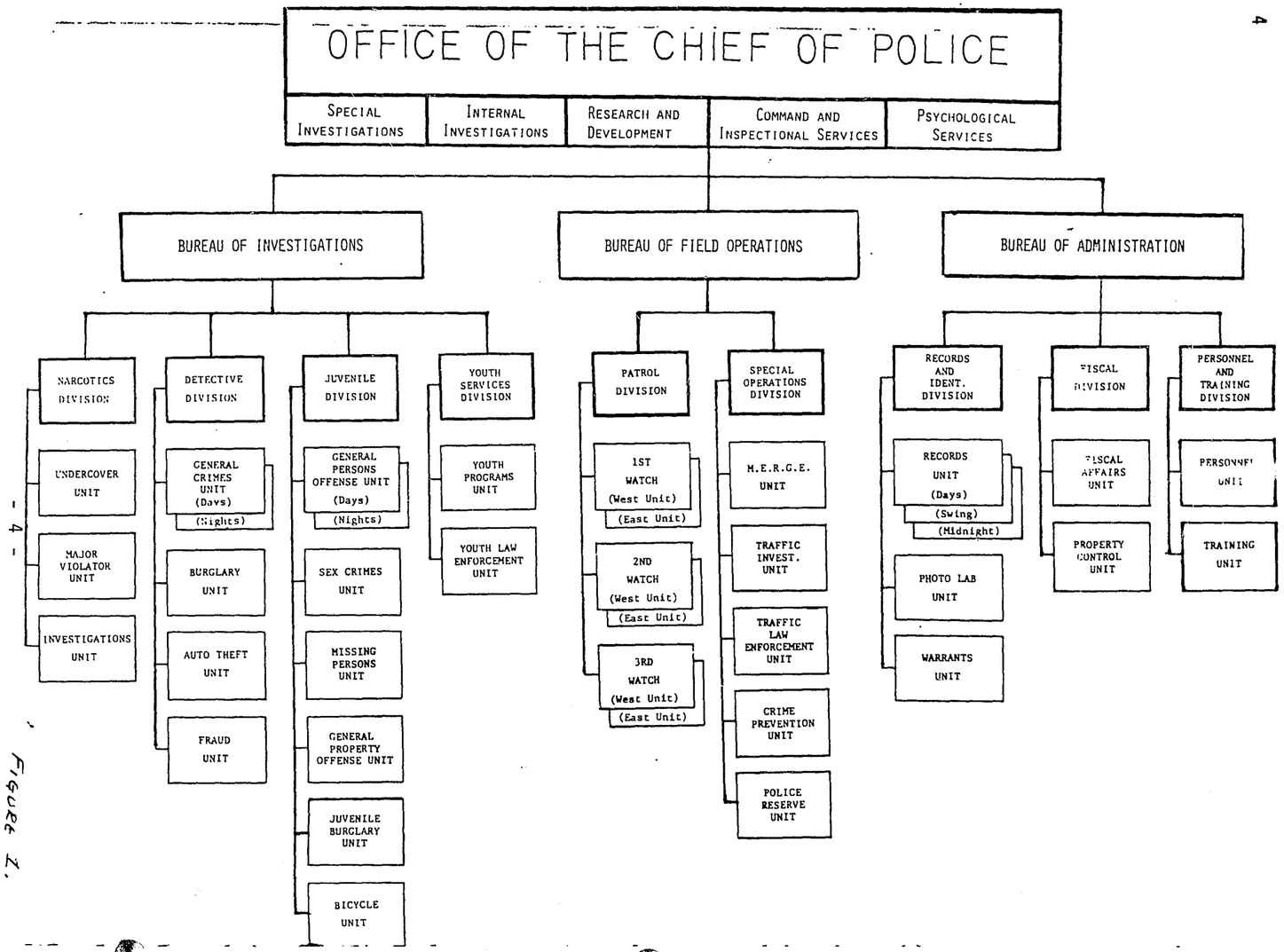
OFFICE OF THE CHIEF OF POLICE
SPECIAL INVESTIGATIONS
INTERNAL INVESTIGATIONS
RESEARCH AND DEVELOPMENT
COMMAND AND INSPECTIONAL SERVICES
PSYCHOLOGICAL SERVICES
BUREAU OF INVESTIGATIONS
BUREAU OF FIELD OPERATIONS
BUREAU OF ADMINISTRATION
NARCOTICS DIVISION
UNDERCOVER UNIT
MAJOR VIOLATOR UNIT
INVESTIGATIONS UNIT
DETECTIVE DIVISION
GENERAL CRIMES UNIT (Days)
(Nights)
BURGLARY UNIT
AUTO THEFT UNIT
FRAUD UNIT
JUVENILE DIVISION
GENERAL PERSONS OFFENSE UNIT (Days)
(Nights)
SEX CRIMES UNIT
MISSING PERSONS UNIT
GENERAL PROPERTY OFFENSE UNIT
JUVENILE BURGLARY UNIT
BICYCLE UNIT
YOUTH SERVICES DIVISION
YOUTH PROGRAMS UNIT
YOUTH LAW ENFORCEMENT UNIT
PATROL DIVISION
1ST WATCH (West Unit) (East Unit)
2ND WATCH (West Unit) (East Unit)
3RD WATCH (West Unit) (East Unit)
SPECIAL OPERATIONS DIVISION
M.E.R.G.E. UNIT
TRAFFIC INVEST. UNIT
TRAFFIC LAW ENFORCEMENT UNIT
CRIME PREVENTION UNIT
POLICE RESERVE UNIT
RECORDS AND IDENT. DIVISION
RECORDS UNIT (Days) (Swing) (Midnight)
PHOTO LAB UNIT
WARRANTS UNIT
FISCAL DIVISION
FISCAL AFFAIRS UNIT
PROPERTY CONTROL UNIT
PERSONNEL AND TRAINING DIVISION
PERSONNEL UNIT
TRAINING UNIT

Figure 2.

As stated in the Department's Annual Report for 1976:

> "The function of the Bureau of Field Operations is to assist the Chief of Police in maintaining police service to the community by providing for continuous availability of field units to respond to calls for service; to deter crimes by visible patrol; to detect, apprehend, and process persons actively involved in criminal activity; to recover and return lost or stolen property; and to ensure the safe movement of vehicular and pedestrial traffic."

Resources of the Bureau were assigned to seven geographically defined "districts". The "districts" were configured into two "areas", managed by a lieutenant on a basic three watch concept. The "districts" consisted of a total of forty-three "beats". The number of "beats" per "district" varied in number. There were forty-three "teams" consisting of a sergeant and a given number of officers. The "teams" provided service for the "beats" on the three watches. The foregoing represents the fixed manning plan that was in effect for the Patrol Division. The Special Operations Division scheduled personnel on a somewhat more flexible basis.

The rather detailed explanation contained in the foregoing is a necessary prelude to bringing into focus one of the major problems confronting the Department in 1976. In developing the district and beat configurations the Department had availed itself of computer technology and thus the geographical structures rested upon a sound foundation. However, insofar as the allocation of resources to serve the districts, and the time of deployment was concerned, no such logic had been applied.

To the contrary, manning patterns remained, for the most part, a matter of reliance upon traditional methods influenced occasionally by intuitive judgments. It was apparent that demands for service were increasing steadily. The conventional solution was to petition the City administration for additional sworn personnel. Such an approach was generally inappropriate. The Department was aware of the fact that there was little likelihood of personnel increases. Furthermore, the City administration expected the Department to make a clear showing that it had implemented measures "to make fuller utilization of what exists", as phrased in the L.E.A.A. announcement. Thus, the stated objective of the Patorl Emphasis Program provided the means for the Department to address a critical problem.

In 1976 the Department had a fully operational Crime Analysis Unit. The Crime Analysis Unit was and is an integral component of the Research and Development Section of the Office of the Chief of Police. The analyst directing the crime analysis function possesses exceptional qualifications. In addition to outstanding professional skills she has several years experience in the Department. Joining the organization several years previously as a staff member of an L.E.A.A.-sponsored program to reduce the incidence of burglary, she developed innovative analytical methods related to crime analysis.

The Crime Analysis Unit has access to a county-wide automated system that stores crime event related data elements. Identified by the acronym CAPER, Crime Analysis - Project Evaluation - Research, the data base of the system is generated by the review of crime reports and the encoding of selected data elements. Those elements include, as examples: the crime type; geographical location; type of premises where the event occurred; property taken; degree of violence applied; time of event as best known; descriptors of the victim(s) and offender(s); etc. The system

not only provides a sound base for crime analysis but also the means for evaluating tactical programs applied to identified problems. The Unit also has at its disposal two internal automated systems that further enhance its capabilities. The two systems are described in the following.

In 1971 the Department joined with the Santa Clara County Sheriff's Department in an L.E.A.A.-funded program to develop a system to improve the records maintenance function of the two agencies. Several years were devoted to the development of a shared system that would benefit both departments. The first phase of the system, identified as RIS-I (Records Index System-I), became operational in early 1975. Housed on the Santa Clara County computer, the system provided an automated pointer to a stored paper file. Subsequent improvements would capture and store additional data elements such as type of crime, location and beat, date and time occurred and reported, names, addresses, physical descriptors, vehicles, reporting officer(s), report forms on file, property stored as evidence or for safe keeping, etc. The system also has the capability for crime type reclassification, additional suspects/arrestees, clearance of property held, etc. Most recently, the system has been modified in phase two to reflect the exact current status of each case entered into the system.

As a result of a developmental effort conducted by personnel of this Department, an automated dispatch system was operationalized in September, 1976. The system, Computer Assisted Public Safety System (CAPSS), also housed on the County computer hardware, records and stores critical data elements on each event reported to the Department to which some form of police response is made. Those data collected include: a discrete identifier for each event; event type; police beat in which the event occurred; identification of responding unit(s); consumed time, in increments from

service request reception to dispatch time; unit(s) arrival time; closure time; and total consumed time. The system also records a disposition code reflecting the police action taken.

The foregoing is intended to serve several purposes. Primarily, it establishes how timely and well suited the Patrol Emphasis Program was to provide the means of addressing a critical need of the Department to achieve the most effective and efficient utilization of personnel resources available. Also, it reflects the ability of the Department to conform to constraints of the Patrol Emphasis Program. Lastly, it identifies operational automated systems and the wealth of readily accessible data that were stored in those systems and at the disposal of the Department. All those factors were presented to City administration and unquestionably influenced the decision of the City to give authorization to the Department to prepare an application for grant funds to support a Patrol Emphasis Program.

The Application Process

The San Jose Police Department became aware of the Patrol Emphasis Program shortly after it was announced by the Law Enforcement Assistance Administration in July 1975. The Director of Research and Development formed a group to develop a concept paper setting forth candidate program components. The proposal was reviewed and approved at a meeting of the staff of the Chief of Police held on October 11, 1975. Time was of the essence to meet the filing deadline of October 31, 1975 established by L.E.A.A.

The critical time factor was brought to the attention of the Grant Coordination Supervisor in the Office of the City Manager. Informal approval was given to submit the concept paper to the Director of L.E.A.A. Region IX on October 16, 1975.

In a letter dated November 20, 1975, the Director of L.E.A.A. Region IX advised the Department that the concept paper had been submitted to L.E.A.A. in Washington, D.C. Further, that "Based on the favorable response this office received", a complete grant application should be prepared and submitted. A telephone conversation with a representative of Region IX established that the filing deadline had been satisfied by the submission of the concept paper on October 16, 1975. The City's Grant Coordinator was informed of the communication from L.E.A.A. Region IX and the cooperation and support of the coordinator was requested. Development of the formal grant proposal was initiated immediately.

On March 11, 1976 the formal grant application was presented to the City's Grant Review Committee. The committee approved the sumbmission of the proposal to the Law Enforcement Assistance Administration. However, the committee specified that the application would not be submitted to the City Council without the prior review and approval of the City Manager.

Further, that the Law Enforcement Assistance Administration be advised of the fact that formal approval of the request had not yet been obtained from the City Council.

The formal application was submitted to the Law Enforcement Assistance Administration, Region IX on March 18, 1976. The letter of transmittal, signed by the City's Grant Coordination Supervisor, incorporated the constraints that had been expressed by the Grant Review Committee. The communication informed the Region that while the proposal "cannot be regarded as an offcial submittal", that it was "being submitted at this time in order to comply with L.E.A.A. time constraints". It was also stated that "given the merits of the program, it is my belief that the proposal will be approved by the City Council".

The forecast of the Grant Coordination Supervisor proved to be correct, for on May 25, 1976, the City Council adopted Resolution No. 47643. The Resolution authorized the City Manager to execute and submit the application for "funding the project entitled 'Patrol Emphasis Program'". On May 27, 1976, the Grant Coordination Supervisor notified the Administrator of L.E.A.A. Region IX of the action taken by the City Council.

On June 28, 1976, the Department received official notification from the administrator of L.E.A.A. Region IX that Grant Award Number 76-DF-09-0032 in the amount of $294,282 had been made to the California Office of Criminal Justice Planning as grantee and the City of San Jose - Police Department, San Jose California as subgrantee for a Patrol Emphasis Program. The period of the grant was established as September 1, 1976 through August 31, 1977. The award also contained the statement: "This award is subject to the Administration's current conditions governing grants as well as the attached Special Conditions."

The "Special Conditions" referred to above included requirements for the submisstion of: "a complete evaluation design and format for approval of Region IX"; specific assurance that the "$32,698 matching contribution is specifically appropriated cash"; and, a cost basis and itemization of fringe benefits budgeted, all contractual services contemplated and the monies budgeted for evaluation purposes. A deadline of September 1, 1976 was established for submisstion of response.

On August 25, 1976, the Department submitted the required documentation to the grantee, the California Office of Criminal Justice Planning. Notification dated December 6 and December 21, 1976 from the Administrator - L.E.A.A. Region IX advised the Department that the special conditions cited had been satisfied and were retired.

On October 12, 1976, the City Council of the City of San Jose adopted Resolution No. 48117 authorizing the City Manager to execute the Grant Award Contract for the Patrol Emphasis Program. The City Manager executed the contract on October 14, 1976. The way was now paved to initiate the implementation of the Project.

It should be noted that there were five modifications to the original Grant Award Contract submitted and approved. The first three modifications reflected the substitution of new out-of-state travel destinations for ones that had been identified in the original grant proposal. No inter-category budget revisions were requested. Each of the proposals were approved by the Office of Criminal Justice Planning.

On July 5, 1977 a request for a Grant Award Modification was submitted seeking approval of a ninety day extension to the Grant Award period. A companion request was made for approval of a reallocation of funds in the Project budget. The initial request cited delays in Project start-up as

the basis for extending the terminal date of the Project from August 31, 1977 to November 30, 1977. The budget revisions proposed were with one exception within category. New travel needs had been imposed upon the Project and the balance remaining in the travel account was not adequate to meet them. Approval was requested to transfer the sum of $5,198 from the consulting services category to augment the travel appropriation. On August 30, 1977 the California Office of Criminal Justice Planning approved both requests.

In early November 1977, with the extended terminal date of the Project approaching, a review of budget balances revealed substantial funds remained unexpended. The situation was discussed with the Program Manager of the Law Enforcement Assistance Administration. The Manager suggested that another ninety day extension be requested so that maximum utilization of the initial grant funds could be realized. The Program Manager agreed to address a communication to the California Office of Criminal Justice Planning to the effect that L.E.A.A. would recommend approval of a request to extend the grant award period. The letter was transmitted under date of December 15, 1977.

The recommendation of the Program Manager was brought to the attention of the City's Grant Coordination Supervisor. The supervisor concurred with the Program Manager's recommendation. Preparation of the necessary documentation was initiated. Budget revisions disclosed that unexpended monies were more than adequate to support Project activities for six months rather than the three months originally decided upon. The situation was given careful consideration and it was decided to request an extension of six months. The Program Manager at L.E.A.A. was advised of the decision reached, and agreed to inform O.C.J.P. that L.E.A.A. was in full accord with it.

On December 20, 1977 the Department submitted the necessary documents to request the terminal date of the Patrol Emphasis Program be extended through May 31, 1978. A revised, detailed budget accompanied the request. The most significant budgetary change proposed was the transfer of $41,000 from the consulting services category. Of that sum $25,000 would be added to the personal services category. An additional $16,000 would be used to augment the employee benefits category.

On January 31, 1978 the request for extension was approved by the Law Enforcement Assistance Administration. Related negotiations continued with the Office of Criminal Justice Planning in March 1978. In summary, the operations of the Patrol Emphasis Program spanned the period from September 1, 1976 through May 31, 1978.

The Implementation Phase

As early as April 1976, the San Jose Police Department took preliminary steps to facilitate implementation of the Patrol Emphasis Project on the assumption the proposal submitted would be funded. The Department initiated steps to acquire office space for the Project staff.

The original plan was to house the Project in privately owned office space. Funds had been requested in the grant application to defray the expenses of renting suitable office space. At the time the Department was faced with a critical shortage of working space. To alleviate the problem several units had been moved from the Police Administration Building to an adjacent City-owned facility. One of the units that had been displaced was the Research and Development Section. The section included the resident Crime Analysis Unit. Physical separation of the Project staff from the Research and Development section presented some critical disadvantages. To ensure the essential coordination of Research and Development and Crime Analysis efforts with those of the Project, it was most desirable to locate both units in the same facility. Equally important was the fact that if the units were separated, the Research and Development terminals accessing the information systems that store operational and crime event data would not be readily available to Project staff for analytical programs. The area occupied by the Research and Development section is severely limited. Nevertheless, a space allocation plan was developed that would provide space for the Project staff in the working area assigned the Research and Development.

In July 1976, the Department issued an announcement to all sergeants that the position of Assistant Program Manager for the Patrol Emphasis Project was available. The announcement set forth the duties of the position

and desirable qualifications. Those interested in the position were invited to submit resumes by July 9, 1976. A selection board was assembled and applicants were interviewed. Appointment of the Assistant Program Manager was made on September 12, 1976.

The formal grant application proposed retention of a Consultant Psychologist. Justification for the position was predicated on the fact that the Project would explore delicate and sensitive motivational and productivity issues related to individual performance and competence. It was further proposed that the services of a psychologist who had been a sworn member of the Department for two years be obtained on a sole source procurement basis. The rationale given included the notion that "those without such experience are ordinarily considered by law enforcement personnel to lack insight and understanding regarding police work". This proposal received the approval of the Law Enforcement Assistance Administration. Following execution of the grant award, the required agreement was drawn up and executed by the consultant and the City Council on November 2, 1976.

Before the Project could be implemented there was much to be accomplished. As previously stated in this report, there were several special conditions imposed on the grant award that needed to be satisfied. Departmental staff concentrated on those issues. City administration focused their attention on the establishment of administrative and fiscal procedures. All the above tasks were time-consuming.

By October 12, 1976, the Council was satisfied that all preliminary requirements had been satisfied. On that date the Council authorized the City Manager to execute the Grant Award Contract and he did so on October 14, 1976.

Following execution of the contract the Department began to acquire equipment and recruit staff. Recruitment, selection, and appointment of Project staff was accomplished during the period November 11, 1976 through February 17, 1977. As staff were appointed they were oriented to the Project and the Department.

The delays and problems encountered during the implementation phase are not uncommon to the start-up of a new entity in an organization. Nevertheless, at the time they were matters of considerable concern to City, Department, and Project administration. They could not have been expected to foresee that unexpended Project funds would provide fiscal support for the Project during the periods of extension. The extensions also provided the critical time required by the central office of the Law Enforcement Assistance Administration for the processing of the continuation funding application submitted by the Department.

Summary and Conclusions

There were eight progress reports submitted during the twenty months that the Patrol Emphasis Project operated in the original funding cycle. In addition, an evaluation of the Project was completed by an independent contrator. A copy of the evaluation report is attached as Appendix "A". The report adequately documents and assesses Project activities from start-up through November 1977. The unevaluated period, from December 1, 1977 to May 31, 1978 will be incorporated into the second phase assessment.

The purpose of this section of the report is to single out, retrospectively, the most significant accomplishments of the Project during the initial phase.

It is not difficult to identify the most singular accomplishment of the Project. Attached, as Appendix "B" is the Patrol Allocation Plan. It was developed collaboratively by the statistical analyst retained by the Project and the statistical analyst of the resident Crime Analysis Unit. The plan was implemented on March 5, 1978. Simply stated, the plan provides management with a rational basis for the allocation of patrol manpower resources. A rigorous, long-term evaluation of the plan is presently being conducted. However, two preliminary reports clearly establish that despite the fact that demands for service have increased, response times have decreased. Concurrently, an increase in self-initiated activities conducted by field officers has been noted.

To summarize the above, the management of the Department is now in a position to assert that the most effective and efficient utilization of constraints, given certain organizational resources provided to perform the patrol function has now been achieved. Few public agencies can make

such a statement. The future advantages of being in such a position are inescapable. Thus, the Project has served the Department well. The outstanding qualities of the plan do not end there.

The real measure of any innovation such as the Patrol Allocation Plan is not only in its purely parochial benefits but also in the sense of what benefits it may offer to others. At this time, the methodology set forth in the Plan is being utilized by another law enforcement agency to reallocate resources. Many requests for copies of the Plan have been received from other police departments assessing the feasibility of instituting such in their organizations. In our view, all the above provide more than adequate support for the statement that the Patrol Allocation Plan is truly an exemplary achievement.

The Plan evolved from a lengthy series of analytical efforts conducted by the Project statistical analyst in the area of resource allocation models. The efforts were initiated early in the life of the Project and grew steadily in scope and complexity. At each step in the progression, management, midmanagement, and supervisors were encouraged to and did participate in the structuring and solving of the problem. The results were mutually beneficial. The analyst had the benefit of the officers' wealth of practical police knowledge and the participants, in turn, achieved a comfortable feeling for and confidence in the growing sophistication of the scientific principles being applied. The spirit of cooperation and participation that was instrumental in developing the plan likewise facilitated its implementation.

The Plan also satisfied a major conceptual component expressed in the Patrol Emphasis Program grant application:

> "Perhaps the underlying theme that ties the foregoing goals and objectives together and constitutes the basic hypothesis of the Project is that the utilization of police manpower can be brought to a high level by analysis, providing necessary and quality information, and by validating the decisions therefore made. And that the institutionalization of those very processes can be achieved only when the police officers and managers themselves are convinced that it permits them to reach their highest level of professional performance."

The implementation of the Patrol Allocation Plan included the reconfiguration of existing "beats" into eight districts as opposed to the previous seven. The re-design of district boundaries necessitated a significant revision to the "Beat Books" utilized by the San Jose Police Department. This updating was accomplished by the Project in conjunction with the allocation plan.

A "Beat Book" is a compilation of information necessary for field officers, supervisors, analysts, and the Complaint and Dispatch Units at the City-County Communications Center. The manual contains police beat-keyed information regarding the location of office buildings, shopping centers, fire stations, school districts, parks, etc. The main portion of the manual consists of a beat-keyed, map page index for every street in the city of San Jose. There is also a color coded map, with coordinates, for each police beat in the city. The Police Department and the Dispatch Center rely upon the maps as an essential directory for providing prompt response to calls for service. The Beat Book provides a "backup" location validation to the resident geo-file in the computer assisted dispatch system.

A copy of the "Beat Book" revised by a Project Analyst is attached as

Appendix "C". Attached is the methodology employed by the analyst in revising the previous issue of the book.

It is felt that many police departments of comparable size to this Department would find that the manual would be of high utility to the field officer. The methodology provides guidelines for the development of such a guide. We feel that the "Beat Book" revision represents a major accomplishment of the Patrol Empahsis Project.

In late 1977, the Chief of Police directed the Project to conduct a survey of San Jose citizens relative the quality of service provided by the Department. The task was assigned to the Consulting Psychologist retained by the Project. Attached as Appendix "D" is the report of the survey prepared by the psychologist and submitted to the Chief of Police. The Appendix includes the methodology applied in the survey. The report has been widely disseminated and has received very favorable reviews in national law enforcement journals.

To conclude, the Project was successful not only in satisfying the major goal established in the grant application but also in being able to respond to specific requests from Departmental Administration. Only the most singular achievements have been noted in this report. In addition there were a host of research efforts conducted that were either directly related to the major accomplishments or complimented them.

During the initial phase of the Project a conceptual model for future activities was developed and is presented here as Appendix "E". Long and short term programs related to the concept are attached to the Appendix.

It should be noted that the diagram clearly reflects the direction of the Project. The base of the figure "Resource Deployment" has been the primary target of the Project. It represents our feeling that future

crime analysis efforts will be most beneficial only when the highest level of strategic and tactical allocation of personnel resources has been achieved. Carefully phased crime analysis efforts will then be undertaken.

The rational allocation of resources reflects most favorably upon the administration. Further, it is an essential step in the achievement of a primary goal of the Chief of Police in the area of crime prevention. Additional personnel resources will, in all likelihood, not be available to the Department for some time. The allocation plan now in place will pinpoint "free time" available to field personnel to devote to crime prevention programs.

The Chief has made clear his philosophy. He feels that a massive mobilization of the community is required to carry out programs to protect themselves from criminal attack. Critical to the accomplishment of such programs is the need for field officers to have "free time" at their disposal so that they might become more sensitive to and aware of community feelings and needs. Analysis of the perceived needs will provide the framework for future crime prevention programs. The field officer would serve in an implementation mode for the programs, freely interacting and communicating with the citizens in a joint effort to reduce the incidence of crime.

We are now making the transition to the Integrated Criminal Apprehension Program. We feel well prepared to do so. The lessons learned during the initial period will serve us well. We are optimistic in the sense that we will continue to reach not only the national program goals but those of the San Jose Police Department as well.

APPENDIX "A"

(COPY OF EVALUATION)

FIRST YEAR EVALUATION
OF THE
SAN JOSE PATROL EMPHASIS PROGRAM

LEAA GRANT NUMBER
76 DF-09-0032

By:

Bernard Greenberg
Edmund Fennessy

November, 1977

A Report To The:

City of San Jose, California

E. FENNESSY ASSOCIATES
1199 Skyline Drive
Daly City, California
(415) 756-9036

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FOREWORD

The evaluators express appreciation to the many personnel in the San Jose Police Department who took the time from their busy schedules to candidly answer the many questions we raised regarding the Patrol Emphasis Program (PEP). We particularly thank Sergeant Tom Johnson, PEP Assistant Program Manager for his patience in discussing the history of PEP and the many factors occurring during this first year affecting the direction of the three-year planned program as it becomes the Integrated Criminal Apprehension Program (ICAP) for the second year.

Our general assessment of the grant is that it has provided the SJPD with highly useful products and services and that the quality of such PEP outputs has contributed to the strengthening of SJPD management decision making, particularly in the Bureau of Field Operations. In general, the project has done an excellent job in integrating itself into the Department and has laid a solid foundation for second and third year progress. At this point in the life of the grant, we believe that is just about where it should be in terms of capability development.

Rarely in our experience have we found an analytic-based grant integrate its program so smoothly in an operational environment as in this Department. Much credit is due to the sworn and civilian personnel whose dedication to detailed tasks and operations will assure the achievement of PEP/ICAP objectives.

EXECUTIVE SUMMARY

This is an Executive Summary of a detailed first year evaluation of the $326,000 San Jose Police Department's Patrol Emphasis Program (PEP). This project was funded by a Discretionary Grant from the U.S. Law Enforcement Assistance Administration. The PEP grant officially started on October 12, 1976 and - due to a 90 day extension - concluded its initial period of operation on November 30, 1977.

GOALS AND OBJECTIVES

San Jose's grant application to LEAA for the PEP grant proposed a three-year effort that had the following goal:

> Improve the productivity of police manpower and strengthen management and supervisory decision-making processes that allocate such manpower in to effectively and directly affect the potential victim, offender, and opportunity for crime.

The grant application also sets forth objectives and sub-objectives in three discrete, but closely related, program areas: 1) Patrol Methodology and Rationale; 2) Apprehension Techniques and Effectiveness; and 3) Supervision and Management of Resources. Table 1 lists the objectives for each program area.

It is important for the reader to understand that these objectives were designed to be achieved over a three-year period and that efforts directed at their accomplishment were to be initiated during the first project year. However, shortly after receiving this grant, the SJPD was notified by LEAA that the PEP Grant Category was being eliminated and that the second and third years of the project would be considered for funding under a new grant category known as the Integrated Criminal Apprehension Program (ICAP). We will discuss the implications of this change later in this summary.

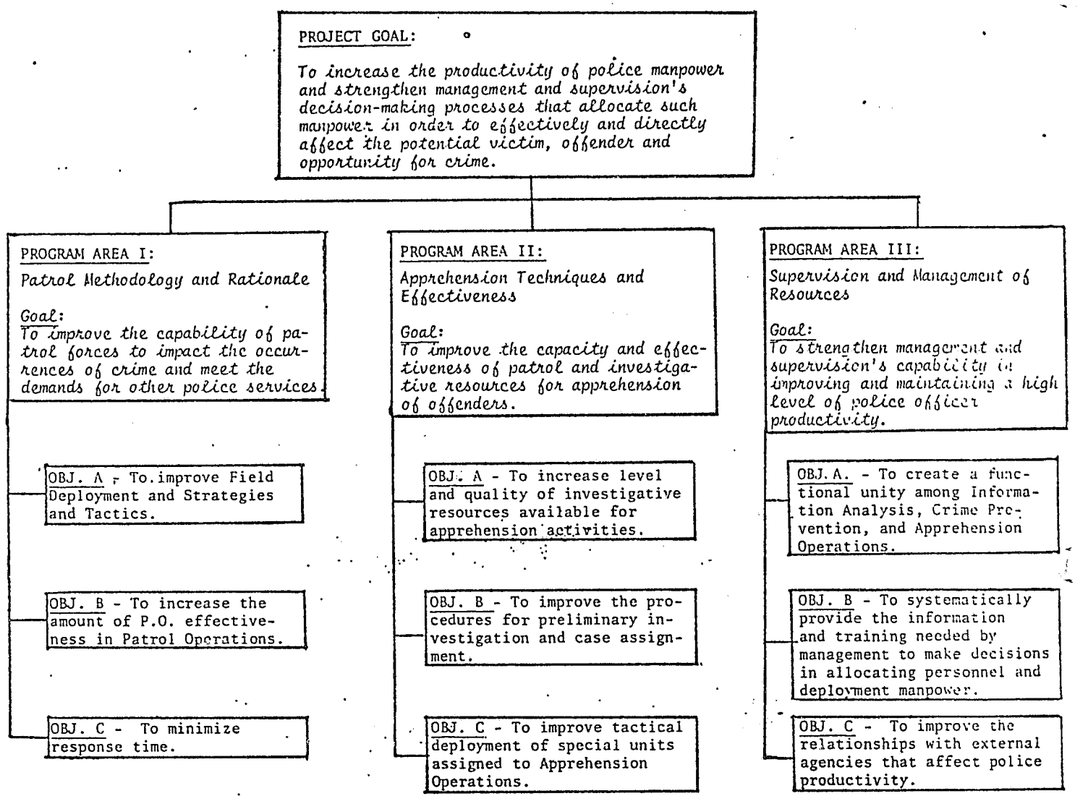


TABLE 1

- Project Rationale

Faced with increasing demands for police service in an era of tightened budgets, the SJPD decided to undertake the PEP grant to devise means of increasing police productivity and effectiveness. The SJPD proposed to do this by creating an operations analysis unit that would: 1) integrate the various computerized and manual data systems available to the Department into what they termed a Working Information System (W.I.S.); 2) use the data available from such systems to conduct strategic and tactical analyses of police operations; and, 3) assist SJPD management in using the results of such analytical efforts in making decisions related to the improved delivery of police services to the community. The central theme of the project was to assure that all information collected on SJPD operations was used to the maximum extent possible to enhance and support management decision processes.

PEP GOALS INFLUCENCED BY ICAP

- PEP/ICAP - Similiarities and Differences

While the PEP and ICAP grant categories are similar, in that both stress the upgrading of police patrol allocation and operations, ICAP is a more narrowly defined category that requires strong emphasis on the apprehension of recidivist or "career" criminals. The specific grant being evaluated here is the San Jose Patrol Emphasis Program. Nevertheless, the evaluation also recognizes that the PEP grant is moving toward ICAP status and that project staff were planning for this transition throughout the latter half of the project's first year.

Federal guidelines for PEP grants indicate that such grants must be directed toward increasing police agency capability to place patrol manpower in a more effective position to prevent criminal attack and/or affect apprehension of the criminal. The grant category stresses the need to blend crime analysis and crime prevention activities with patrol operations.

ICAP extends this concept, but also expects the grantee agency to focus efforts on:

- Upgrading patrol preliminary investigation capabilities,
- Initiation of case management and screening process,
- Development and/or enhancement of the crime analysis function,
- Development of a means to identify recidivist offenders,
- Development of a structured decision-making process for delivery of police services,
- Enhanced allocation and deployment decisions based on analysis of crime and service data,
- Tactical responses designed and integrated across unit lines to maximize effectiveness.

In brief, San Jose recognized the subtle differences between PEP and ICAP and anticipated the shift to the ICAP effort midway in the first year grant. This presents an evaluation problem because of the differences in emphasis of the two programs. It also presented operational difficulties due to the ambiguity of guidance provided by LEAA to grantees. We contacted over 10 other ICAP grantees and found a great diversity among the approaches they were taking to this grant program. However, the two central elements present in all programs were crime analysis and concentration on career criminals.

ORGANIZATION AND STAFFING

The Project Manager of the San Jose PEP, as described in the grant application, is a Police Captain assigned to the Patrol Division in the Bureau of Field Operations. The intent was to place project coordination in the line division that was of primary concern to the PEP. In practical terms, the vast majority of decisions relating to the project are made by the Assistant Project Manager - a police sergeant - who is assigned full-time to the grant.

The PEP grant is physically located in the Research and Development Division due to its proximity to SJPD data systems. The R & D Division provides considerable administrative support and guidance to the project.

The PEP grant is staffed as follows:

- One Consultant Psychologist (1,200 hours per year under a personal services contract).
- One Statistical Analyst
- One Staff Analyst
- One Principal Clerk
- One Stenographer/Clerk II
- One Clerk II
- Part-time Staff Aides (3,200 hours per year).

The PEP budget provided for one Programming Analyst III position and an additional Clerk II. Neither position was filled due to a management decision which will be discussed later.

The full report discusses the qualifications of project staff in some detail. We will simply note here that the quality of San Jose's PEP staff is exceptional. The project staff possesses outstanding educational and project-related qualifications. Project Management has done a first-rate job in staff selection and development. Specifically, the Assistant Project Manager devoted a signfficant amount of effort to developing the staff into a "team". This effort has paid off and the PEP staff has a true sense of "mission". The key members of the PEP staff were on-board and operational by February 1977.

PROJECT ASSIGNMENTS

• Chronology of First Year PEP Activities

Table II lists key project activities undertaken by PEP staff during the first year of the grant. The outcome and utility of these activities will be discussed later in this summary. The first quarter of the grant is not listed on this chart because this was a "limbo" period while awaiting City Council approval of the grant. Not listed on this chart are the numerous administrative activities conducted that were necessary to set up the project (e.g. secure space, purchase equipment, establish job specifications, recruit, hire and train staff, hosting ICAP visitors, preparation of quarterly reports, budget reports, grant modifications, etc.). These activities consumed a significant portion of staff time. In addition, while the chart indicates that PEP provided support to R & D in systems development, it should be noted that this support consumed a significant block of PEP staff time.

2nd Quarter October - December 1976	3rd Quarter January - March 1977	4th Quarter April - June 1977	5th Quarter July - September 1977	6th Quarter October - November 1977
• Developing trends in Patrol Deployment and response data • Detective Allocation Plan • Liaison with all SJPD Bureaus to explain PEP • Planning for Crime Analysis by collection of data and visits to other agencies with known crime analysis capabilities • Interviews relating to WIS development • Provision of support to CAPSS and RIS II systems to assist in system development	• Initial production of Beat Information Profiles (BIPS) • Design, Administration and Analysis of Shift Preference Survey • Analysis of Deployment patterns to isolate time lags and initial development of re-deployment plan • Initiation of 4th Watch Experimental Program • Analysis of Traffic Accident Data for Selective Enforcement Deployment • Midnight Watch Off-time Study • Development of Evaluation RFP • Seminar for Patrol Sergeants • Continued System Development Support	• Selection of Evaluation Contractor • Completed Evaluation of 4th Watch Experiment • Development of Alternative Proportional Manning Plan • Completion of BFO Training Evaluation • Initiation of Management Analysis of Juvenile Division • Completion and Submission of 2nd Year ICAP Grant Application • Second Phase Production and Evaluation of BIPS/DIPS • Provision of Support to Reorganization Task Force • Development of Schedule for Fall Watch • Continued System Development Support	• Completion of Juvenile Division Evaluation • Completion of Analysis of Night General Detail • Development of Unit Availability Model • Analysis of Sex Offenses • Initiation of Court Liaison Study • Development of Survey Plan and Instruments for Survey of Police Clientele • Continued Systems Development Support • Continued Support for Reorganization Task Force	• Continuation of Court Liaison Study • Initiation of Police Clientel Survey • Satellite Crime Lab Report • Development of Crime Analysis Objectives (Three Tier Plan) • Development of Attrition Model for Reorganization Task Force • Continued Systems Development Support

TABLE II

CHRONOLOGY OF PRIMARY FIRST YEAR ACTIVITIES OF THE PEP GRANT

- Significant Decisions or Events Related to the PEP Project

This section will briefly note those events or decisions occurring during the first year that we believe had an important effect on the PEP grant. The first event of importance was the change in command of the SJPD. The grant was written during the tenure of one chief, initiated during the tenure of an Interim Chief, and carried out during the tenure of still a third chief. Obviously, each chief had distinct philosophies and management styles. While we are not suggesting any detrimental effects on the grant due to these management changes, we do want to point out that the grant may have had to adapt its priorities to those of the incumbent chief.

A decision of importance was also made by project management. The grant application proposed the use of the GADS System (an interactive computer graphics system). After due consideration, almost $97,000 was budgeted for GADS-related expenditures. Also, funds were budgeted for external office space to house the PEP grant and for an additional clerk-typist. Since it was decided to house the PEP grant in R & D, there was no reason to use these funds. Thus, the grant will return slightly over $100,000 in unexpended funds to LEAA during its first year of operation. Actual first year grant expenditures then will be on the order of $226,000. Due to internal reorganization, there was also a change in Project Managers (the Police Captain position) in February 1977. Again, we have identified no specific deleterious effects of this change and simply point out that the grant staff had to adapt to this change in leadership. The net effect of this change, in our view, was to place additional management responsibilities on the Assistant Project Manager. Finally, one additional problem faced by the grant was the serious illness of the Staff Analyst - a key member of the project team. While this problem has now been resolved, it did result in the loss of a significant amount of this invaluable staff member's time.

EVALUATION OBJECTIVES AND METHODOLOGY

From an evaluative perspective, the stated goals and objectives of the PEP grant leave a lot to be desired. These objectives are not specific enough to permit precise measurement and they are structured to be accomplished over a three-year period. First year project objectives are not stated in measurable terms. In brief, as evaluators, we regard the project's stated goals and objectives more as expressions of general areas in which the PEP efforts will be concentrated rather than as specific end products to be achieved. The SJPD evaluation RFP recognized this problem and specified that the evaluation should focus on two issues: 1) grant approach to problem solving, grant organization and management; and, 2) evaluation of process and project implementation.

We used a process-oriented, case-study evaluation design for this effort. Primary evaluation criteria were as follows:

- Availability of resource allocation data to SJPD decision-makers prior to the PEP project versus Post-PEP.
- Quality and acceptability of PEP products and services.
- Evaluation of the PEP project and specific products by key command and executive personnel of the SJPD.
- Adequacy of PEP management planning and direction.
- Determination of the merits and drawbacks of PEP organizational placement in the SJPD.
- Utilization of PEP products in SJPD management decision-making.
- Change in the nature of SJPD decision-making processes that can be linked directly to PEP activities.

Our evaluation efforts were directed at four specific areas: 1) understanding the organization and operations of SJPD; 2) understanding the PEP/ICAP grant programs; 3) understanding the SJPD PEP project; and, 4) case studies of specific PEP products. The primary evaluation techniques used involved a combination of review of documentation and extensive interviews with SJPD Executives, PEP management and staff, users of PEP services, and external agencies. Pre and post meetings were held with the Chief of Police to define initial expectations and to present evaluation findings. Drafts of this report were critically reviewed by PEP staff prior to final publication. An expanded discussion of methodology is contained in the detailed report.

PROGRAM MANAGEMENT APPROACH DECISIONS

- **Action-Oriented Grant Application**

From a program evaluation perspective, the objective and scope of the Patrol Emphasis Program as developed in the original grant application portray an active program intervention intent over a three-year period to meet the stated goal: "To increase the productivity of police manpower and strengthen management and supervision's decision-making processess that allocate such manpower in order to effectively and directly affect the potential victim, offender and opportunity for crime". Considerable thoughout was given by the Research and Development Task Force to structure the proposed program into three major areas, each having subsidiary goals and objectives (See Figure V-1, page 65 - Application of Alternative Candidate Systems).

- **Program Emphasis Influenced by Impending Shift to ICAP**

No sooner had the PEP grant became effective, LEAA signalled that criminal justice priorities were being reordered to emphasize

control of the career criminal. Consequently, PEP was being phased out and replaced by the Integrated Criminal Apprehension Program. Although patrol operations are still considered critical to the ICAP goals and objectives, emphasis was directed to the development of a crime analysis capability to enhance patrol operations and investigative procedures leading to increased apprehension of repeat offenders and career criminals. Anticipating a second-year shift to ICAP priorities, the PEP grant management charted what has appeared to be a cautious but stable approach during this initial program development and transitional year. First, the project management correctly perceived the need to acquire a competent and balanced multidisciplinary staff that would be responsive to the broad project requirements. Second, the importance of staff exposure to and acceptance by Department personnel at various operational levels was immediately recognized. Third, since PEP objectives call for selective changes in police operations to meet current goals, and since imposed change is generally viewed with apprehension and resistance by those potentially affected, task assignments were largely undertaken on the basis of requests for support assistance. Self-initiated task assignments have been minimal.

- **Program Focus Perceived Differently**

One consequence of the first year project approach has been the perception in the Department that the PEP undertakings have been somewhat fractionated, lacking in a coherent direction and focus. The evaluation team and Department observers aware of the extensive grant application submissions to LEAA for PEP and ICAP (the latter practically a reissue of the original PEP proposal) were anticipating more of an active intervention orientation.

Project management decisions were predicated largely on two major perceptions. One was the direct involvement in Patrol operations and BFO commander's perceptions of need to develop logical manning and schedule procedures. The second, PEP being located administratively within R & D perceived a natural

interrelationship evolving due to the ongoing development of RIS and access to CAPSS for crime analysis purposes.

- PEP/Crime Analysis Unit Interrelationship

Since a crime analysis function is the keystone for achieving the ICAP goals, a major PEP decision was made to undertake long term support for further development of the Department crime analysis capability vested in R & D. The PEP/CAU interaction leaves an open question, however, regarding PEP's management involvement as to the crime analysis product output having utility and impact on planned second and third year ICAP activities.

- Three Tier Crime Analysis Approach

PEP/CAU crime analysts have conceptually structured a three tier building block of crime analysis functional objectives that, in effect, specify crime and operational data analytic output applications: (1) resource deployment; (2) pattern identification; and (3) suspect/offense correlation.

PEP/CAU analysts have already produced studies utilized for resource deployment application. Pattern recognition output had been undertaken by CAU over a period of time in the form of neighborhood profiles of burglary incidents and other crimes. PEP had undertaken an aborted effort to augment these profiles (e.g., BIPS/DIPS). The third tier building block, suspect/offense correlation, is largely in a development phase. This category of crime analysis is a longer-range objective and falls into the M.O. (modus operandi) area. Probably, it is the most controversial and least understood investigation tool in today's scene.

A statement was made early in the evaluation interview phase that a crime analysis plan is not being formally developed. This is interpreted as a policy decision not to produce routine periodic volumes of statistical data and crime incident summary reports. But rather, a procedural system is being developed in the form of a data base management information system, that would be responsive on demand for special purpose operational needs.

ATTAINMENT OF PROGRAM OBJECTIVES

- Management Approach Justified

Notwithstanding reservations held relative to the chosen responsive versus alternative activist mode pursued, a strong case can be made that PEP activities undertaken in the first year have addressed the grant objectives. Inasmuch as the program was planned for execution over a period of three years, staff training, data building, and credibility establishment were adjudged to be most important in laying the groundwork for undertaking the impending complex ICAP effort.

- Program Study Emphasis

Inspection of Figure VI-1, PEP Project Response to Program Objectives, reveals that the Patrol Methodology (Program Area I) and Supervision and Management of Resources (Program Area III), received the greatest amount of overall emphasis in terms of the number of projects undertaken. Within the overall crime analysis conceptual framework, this effort falls into the first tier, "resource deployment building block." This project area, having been responsive to the BFO needs for development of patrol manning and scheduling procedures, stands out as having achieved a relatively high degree of acceptance and utility. PEP has augmented CAU by application of the CAPSS, computer-assisted-data-base, to an operational problem -- a classical operations analysis/research technique.

PROGRAMS & OBJECTIVES / PROJECT ASSIGNMENT	PATROL METHODOLOGY			APPREHENSION			MANAGEMENT		
	Deployment A	Effectiv. B	Response Time C	Inv. Sup. A	Pre. Inv. Case Assgn B	Tal. Unit Assignment C	Crime Analysis A	Decision Making B	Interagency C
1. Detective Deployment	X							X	
2. Accident Survey	X							X	
3. Beat/District Profile		X							
4. Sergeants Seminar		X							
5. Fourth Watch	X		X					X	
6. BFO Training Evaluation		X							
7. Swing Watch Assignment	X							X	
8. Shift Preference Survey		X							
9. Juvenile Bureau Analysis								X	
10. Detective Night Detail				X				X	
12. Court Liaison Analysis*								X	X
13. Supervisors Training Evaluation		X							
14. Reorganization Seminars								X	
15. Fall Watch Schedule	X							X	
16. Midnight Watch Free Time	X							X	
17. Unit Availability Model	X							X	
18. Citizen Survey *								X	
Unnumbered activity									
o RIS II Support							X		

*In progress as of 11/1/77

FIGURE VI-1: PEP PROJECTS RESPONSE TO PROGRAM OBJECTIVES

In contrast, Program Area II - Apprehension, had only one project (e.g., Night General Detail Evaluation) addressing this topical area, with but inconsequential effect.

Most of the task assignments undertaken impacted on Program Area III - Management Decision-Making. As yet, of untested utility is the strong support going into the RIS II data base. This effort is believed by project management to offer the keystone potential for the crime analysis function leading to achieving the career criminal control objectives. Within the project management hierarchy, however, there has been a caution raised. A concern was raised relative to a deficiency in basic skills in patrol operations. Consequently, a greater sophistication embodied in crime analysis having an anticipated impact on patrol capabilities may be a misplaced emphasis. This concern has legitimacy in the context of the discussion contained in the section on program planning and internal assessment of long term goals.

- Program Output Amenable Only to Qualitative Impact Assessment

Contrary to initial expectations, the nature of the program studies undertaken was not susceptible to quantitative assessment of impact. For example, rarely were the schedule and manning recommendations implemented as submitted. The PEP models developed served an extremely useful function in providing a basis for manpower tradeoff negotiations between the watch commanders.

Two basic management-oriented type of studies concerning analysis of the detective Night General Detail and the Juvenile Bureau raised critical issues that went beyond the ability of the project to appropriately address. These two studies further typify the type of PEP undertakings that are not amenable

to impact assessment in a quantitative sense. However, a subjective qualitative measure of utility of most of the task assignments was obtained from the requestor/users.

Generally speaking, those project assignments concerned with BFO patrol operations and scheduling were received very well. They met the needs as specified. The success of the undertakings was measurable by the number of repeat requests for assistance. The one scheduling assignment undertaken for BI was not useful; but for reasons beyond the control of PEP.

Assignments calling for analyses of the Juvenile Bureau and the Detective Night General Detail, although not measurable for impact, had an effect to alert and/or confirm upper command's view of organizational problems, again within the Bureau of Investigations.

Assignments calling for PEP observing seminars and training sessions again did not permit assessment of actual impact.

Generally, among the requestor/users of PEP studies, there was an expressed appreciation for the work completed and a recognition of staff capability. BFO appears to be the one operating Bureau capable of implementing PEP recommendations. The BI will be a much more difficult Bureau to accommodate as attested by the lack of PEP activity in the Program Area II, Apprehension.

PROGRAM PLANNING

- Planning Influenced by Uncertainties

The impending shift from PEP to ICAP goals and objectives appeared to cast a measure of indecision over the appropriate project direction. Although the PEP grant application

specified a fairly action-oriented approach, project direction spoke to a more restrained, longer-range buildup of capability and credibility.

The long talked about Department reorganization also had an effect on project planning and decision-making. As a consequence of these two factors, no formal planning instrument became evident. Assignments were made as problems were presented. A long range commitment was made, however, to support the data buildup for RIS II and to develop computer software modules in anticipation of processing the stored information extracted from crime incident reports. But no formal plan has emerged on means to test utility.

- Upper Management Guidance Essential

While there appears to be a consensus among the middle and upper Department management levels that PEP has a demonstrated analytical capability and a promising potential, nonetheless, there is a general vagueness relative to actual impact effected. What appears to have been lacking is upper management involvement to assist PEP in defining a firm focus leading to discernible results. Top management commitment to PEP interests will be crucial during the next quarter to prevent conflicting demands and decisions made that could dissipate resources.

In view of the major Department reorganization which took effect on November 6, 1977, which subordinates BFO and BI under a newly created position of Director of Operations, it is anticipated that a greater degree of interaction will occur between these Bureaus than has probably occurred in the past. The success of the San Jose Robbery Prevention Project (another LEAA grant) in large measure can be attributed to the cooperation of BI and BFO elements.

The role of the ICAP effort in this new organizational environment can be vital. Consequently, we suggest placing the grant in a position where the Director of Operations can use their capabilities to the maximum. Later in this report we suggest several specific organizational placement alternatives. Along with providing direct staff assistance to the Director of Operations, we regard it as absolutely essential to the successful accomplishment of ICAP objectives, that ICAP staff have appropriate delegated authority to pursue their grant responsibilities.

In this regard, PEP will have turned back as much as $100,000 to LEAA at the end of the first project year. While the project decision was probably correct not to fund certain activities because of doubtful results, given the benefit of top management guidance, it may have been possible to redirect those funds to other more appropriate tasks. Major PEP/ICAP decisions - particularly those having this level of fiscal impact - should have the benefit of management policy and decision-making counsel.

- Workplan and Schedule Appear Necessary

PEP has been attempting to bring an analytic technology into the management decision-making process. But it can only survive by having the full understanding and support by middle and upper Department managers. "Understanding" is emphasized, because it is incumbent on the PEP project management and staff to devise an operational plan that would propose to accomplish certain expected results by undertaking specific tasks, recommend changing certain procedures, and/or institute selected experimentation.

Our checking with other LEAA-funded ICAP projects indicates a general confusion among the various proponents as to how to "get the show on the road". The SJPD Project is so far advanced with regard to resources being in place, compared to the other jurisdictions, it is no small wonder that a parade of visitors has passed through during the project's last half year. While this

is flattering, it no doubt has been a distraction. The distraction factor is only mentioned in the sense that the next year ICAP effort should be more results-oriented and will require definitive program planning for appropriate resource allocation.

- Internal Assessment of Long Term Goals

The ICAP guidelines specify, and the PEP management and staff are committed to, a long range goal of evolving a functional crime analysis capability leading to a reduction of the career criminal population. ICAP (no longer PEP) planning should assess whether the approaches they are undertaking or propose to undertake will produce desired results to achieve stated objectives.

Attention is called to several LEAA-funded studies that address the following:

- Crime analysis in support of patrol operations;
- The investigative function; and
- Elements of investigation leading to suspect identification and apprehension.

These studies have rigorously treated such topics and are particularly illuminating with regard to state-of-the-art operational and skill limitations constraining hoped for results.

The career criminal component of the ICAP goals and objectives is recognized as highly controversial and possibly subject to judicial due process restrictions. Apart from this, the implications of burden placed on the investigation process to assure conviction on multiple charges cannot be overlooked. CJIC and CJIS will provide knowledge of criminal histories. Expectations are that RIS II will permit the linking of arrested offenders to other crimes committed, or even reveal the identity of an unknown offender by his unique MO.

While the value of computer-based information systems is unquestioned with regard to storing and retrieving definitive events or items, they remain marginal in an intelligence function whereby random events and items can be clustered to provide a revelation of "something" not otherwise manually possible.

SECOND YEAR APPROACH

Given that there were events in the first project year approach that PEP should follow, the fact that the ICAP submission to LEAA contained practically the same PEP program goals and objectives leads to the assumption that the SJPD intends to pursue an action, results-oriented approach. Both the first- and second-year grant applications speak to the systematic evaluation of candidate application alternatives. An appropriate evaluation design can only be realistically devised at the time a structured workplan is evolved. The cautious, relatively unstructured first year activities could only be subjected to a process evaluation.

The SJPD and project management can best determine whether the second year ICAP effort will be more results-oriented and consequently can be evaluated for impact. Given this decision, the following approach is suggested:

- Shortly after LEAA approves the second year grant, the ICAP management and key staff should have prepared for Department management a brief regarding proposed project activities.*
- The Assistant Chief in charge of the new operations bureau should provide a brief of his needs for which ICAP could provide assistance within the specified grant guidelines.

*Subsequent to submission of this report in draft form, we were pleased to learn that grant staff initiated work on development of a detailed plan to guide second-year operations.

- While organizational placement of the grant in BFO was appropriate to first year PEP goals, it is clearly not appropriate for ICAP whose mission cuts across the total police organization. It is not our place to make a specific organizational placement recommendation. However, we suggest that management consideration be given to: 1) placing the ICAP grant directly under the newly created position of Director of SJPD Operations; 2) forming a small (two or three member) inter-Bureau Management Advisory Panel to assist ICAP in achieving its goals; or, 3) placing the grant directly in the Office of the Chief of Police. Irrespective of the option chosen our key point here is that the option should be one that invests the ICAP staff with appropriate delegated authority, subject to management review, to carry out its responsibilities under the grant.

- At this stage, it is suggested that a workshop be convened that would systematically consider those interventions that appear desirable and feasible to undertake. The second year evaluators should be involved in this process to the extent that their experience can contribute to a project task intervention design and provision made for internal evaluation.

- Attention is called to Appendix D - Evaluation Plan - of the second year ICAP grant application. ICAP and SJPD management should carefully examine this document with regard to the enormous burden to be levied in the Department for data collection and evaluation that is explicitly called for. On pages 2 and 3, the Evaluation Plan calls for specific evaluations to have been undertaken during the first program year. We have no quarrel with the four areas specified for evaluation, as they correspond to the proposed first year grant program approach. What appears necessary is a reconciliation with actual program elements to be undertaken during the ensuing two years, so that planned task interventions can be evaluated internally as they become operational.

- In accordance with the recommendations given in the paragraph above, an important function that should be undertaken jointly by the second year evaluators and the ICAP staff is to examine each of the evaluation criteria tabulated on pages 4 through 7 of the Evaluation Plan for relevance to the workplan developed.

- We suggest that each key member of the staff be assigned responsibility for one or more of the ICAP objectives during the second year of the project. These individuals should be responsible for preparing a plan to accomplish the objective and for documenting results achieved.

- Finally, we regard it as imperative that an analysis or study be undertaken by ICAP staff, early in the second year, that sets forth and describes exactly how the ICAP plans to attack the "career criminal" problem. We regard the general ambiguity of this concept as a barrier to more effective utilization of ICAP grant resources and feel that early resolution of this issue will serve to sharpen the precision of grant-related decision making.

CHAPTER I
INTRODUCTION

This report documents an evaluation of the San Jose Police Department's Patrol Emphasis Program (PEP). The first year of this project concluded on November 30, 1977. It was expected that this U.S. Law Enforcement Assistance Administration (LEAA) Discretionary Grant would be conducted over a three-year period. However, LEAA eliminated the PEP grant category. The second and third year of the project will be funded under a new grant category known as the Integrated Criminal Apprehension Program (ICAP). While PEP and ICAP are similar, in that they both stress the upgrading of police patrol allocation and operations, ICAP is a more narrowly defined program and is aimed primarily at the apprehension of "career" or recidivist criminals. Thus, this evaluation will concentrate on the assessment of Patrol Emphasis Program achievements but will also anticipate the coming transition to ICAP status.

The PEP grant had an official start date of September 1, 1976. Due to administrative delays, its actual start was on October 12, 1976, when the grant was approved by the San Jose City Council. Because of this, and other delays, the SJPD requested a 90 day extension - which was subsequently approved - that moved the first year grant termination date to the end of November, 1977.

The basic aim of the San Jose PEP grant is to increase police - particularly patrol - productivity and effectiveness through the enhanced integration and structured analysis of existing information resources. To accomplish this end, the SJPD created and staffed what is basically an operations analysis unit. This PEP unit concentrates its efforts in three areas: patrol methodology and rationale; apprehension techniques and effectiveness; and supervision and management of resources. The

project was fully staffed and operational by early 1977.

EFA was retained as evaluation contractor, after a competitive procurement process, on June 15, 1977. The project had been in operation roughly 10 months before the evaluator became involved.

The evaluation report is organized as follows. Chapter II presents a discussion of the PEP and ICAP programs and their purposes. Chapter III provides a detailed description of the San Jose PEP project. Chapter IV discusses evaluation objectives and methodology. Chapter V contains case studies and critique of PEP projects. Chapter VI presents our assessment of the program, and Chapter VII sets forth our suggested second year approach.

CHAPTER II
DESCRIPTION OF THE PEP/ICAP GRANT PROGRAMS

The purpose of this chapter is to provide a context for evaluation by describing the U.S. Law Enforcement Assistance Administration's (LEAA) Discretionary Grant categories for Patrol Emphasis Programs (PEP) and Integrated Criminal Apprehension Programs (ICAP). The similarities and differences between these two grant categories are of substantial importance to understanding this evaluation. The specific grant being evaluated here is the San Jose Patrol Emphasis Program. However, shortly after receiving this grant, San Jose was notified that this would be the last year for PEP grants and that the second and third years of the project would be funded under the ICAP category. Therefore, while this evaluation will focus on the achievement of PEP goals, it recognizes that the San Jose project is moving toward ICAP status.

The Patrol Emphasis Program (PEP)

The Patrol Emphasis Program (PEP) is a Discretionary Funding (DF) category established by the U.S. Law Enforcement Assistance Administration (LEAA). This type of grant is made directly by LEAA to the grantee and does not involve regional or State Criminal Justice Planning Agency "action" grant funds. As described in the 1975 LEAA Guide for Discretional Grant Programs, the general purpose of the PEP effort is as follows:

> 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 affect apprehension of the criminal.

More specifically, the guide goes on to state that:

> 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.

While speculative, we believe that the genesis of the PEP concept arose as a result of the work of the Police Task Force Report of the National Advisory Commission on Police Standards and Goals; the important, but controversial, results of the Kansas City Preventive Patrol Experiment; and related studies that stressed the overall importance of crime analysis and its relationship to upgrading police patrol operations. In brief, this grant category established a funding source for those police agencies interested in strengthening their patrol operations through the application of certain emphasis areas (e.g., crime analysis, enhanced preliminary investigation, etc.) that LEAA felt offered the most productive means to this end.

At the same time, however, LEAA was obtaining the results of a wide variety of research projects they had commissioned relating to criminal justice system effectiveness. Probably, the most important element of this work was directed at the concept of the "career criminal". Studies by the Institute for Law and Social Research, using the data base of the Prosecutor Management Information System (PROMIS) clearly demonstrated that the recidivist criminal was simply not deterred by the criminal justice system (CJS). The PROMIS data showed plainly that, while the CJS as a whole had many inadequacies, significant problems were encountered at the police level in terms of cases being lost because of insufficient evidence, poor preliminary investigations, inadequate deployment of resources, poor utilization of existing data resources for crime analysis, police training deficiencies and the like. Other studies bearing on this issue were the highly controversial Rand Corporation study of the "Criminal Investigation Process", Stanford Research Institute's studies on "Enhancement of the Investigative Function" and the "Felony Investigation Decision Model", and assessments of

preventive patrol, specialized patrol, and team policing conducted under LEAA's National Evaluation Program (NEP). Briefly stated, the preponderance of findings in these various reports stressed the need for a fresh look and reassessment of the criminal investigation and prosecution process

This led LEAA to create two more Discretionary Grant categories. The first was the Prosecutorial Career Criminal Program (PCCP). The goal of this program was to ensure and expedite the full prosecution of those persons whose criminal histories indicate repeated commission of dangerous criminal acts (e.g., robbery, forcible sex offenses, aggravated assault, burglary, homicide, etc.). The PCCP is designed specifically to quickly identify the violent recidivist after apprehension and to prioritize case processing to assure conviction for those individuals so identified. Grants in this category were made to District Attorney and Prosecutor offices.

The second of the new grant categories relates closely to the PCCP and is known as the Integrated Criminal Apprehension Program (ICAP). This category was first described in detail in the LEAA Guideline Manual entitled Guide for Discretionary Grant Programs (September 27, 1976). The ICAP effort is aimed specifically at police agenices. The overall objective of ICAP is two-fold:

1. Increased Criminal Apprehension by the police, and
2. Increased capability by police to identify and apprehend the career criminal.

The Guide indicates that police ICAP projects must show a commitment to the establishment, operation, and coordinated integration of:

- Preliminary investigation conducted by Patrol,
- Crime Analysis,
- Strategic planning, and
- Career criminal identification and apprehension.

LEAA believes that the following results should be obtained from an ICAP:

- Increased solvability and apprehension information from preliminary investigation.
- Increased directed patrol activities.
- Increased apprehension of repeat offenders and career criminals.

As will be made clearer in Chapter III, San Jose received a PEP grant in 1976 - probably one of the last issued - and expected to continue this effort for a three-year period. Instead, it became apparent during first year grant operations that PEP funding would be terminated. Therefore, San Jose requested second year funding to convert the PEP program to an ICAP program. While not dissimilar, the two programs do evidence significant differences. Specifically, PEP was a fairly broad mandate to upgrade patrol operations and productivity. ICAP, while still encompassing efforts to upgrade patrol, is a more narrowly defined effort whose primary aim is to enhance police efforts to apprehend the repeater or "career" criminal. These programmatic differences are subtle but they are particularly important, both from an operational and evaluation standpoint. The implications of this change are discussed in later segments of this report.

One point that we do want to make here is that both the PEP and ICAP efforts were, and are, evolving, and are not precisely defined program concepts. We have studied a wide variety of documents relating to both programs including grant guidelines, LEAA decision-memo's, descriptive reports, and have discussed such programs with LEAA officials and with the National Technical Assistance (TA) contractor for ICAP programs (Westinghouse National Issues Center).

To gain perspective on ICAP, we contacted a number of cities with ICAP grants for comparative purposes. The programmatic direction these cities have taken is presented below:

- Simi Valley: Provides funds for crime analysis and four crime prevention officers.
- San Francisco: Provides for a staff of 10 police officers and civilians. Primary effort devoted to crime analysis, upgrading training and apprehension efforts, better utilization of automated information systems, liaison with Prosecutorial Career Criminal Program.
- Oxnard: Provides for crime analysis capability development and eight officer tactical unit to focus on recidivist offenders.
- San Diego: Originally part of law enforcement component of Prosecutor's Career Criminal Grant. Now an ICAP effort. Concentration on crime analysis and upgrading police apprehension capabilities.
- Portland (Oregon): Operated as PEP for two years - now an ICAP effort. Originally used civilian Crime Analysts and concentrated on sophisticated trend analysis of crime and service demands and upgrading patrol operations. Significant shift in program emphasis under ICAP. Placed sworn Crime Analysts in precincts supported by central staff. No longer use civilian analysts. Emphasis is now on developing prevention and apprehension tactics in cooperation with beat officers.
- Fort Worth: Incorporates a crime analysis capability and provides for intensive training of field officers in utilization of crime analysis data - also involves purchase of mini-computer and microfiche systems.
- Austin: Developing Crime Analysis Unit and setting up files for M.O. Analysis system will be built around mini-computer and involves close liaison with D.A. for career criminal purposes.

After this review, we concluded that the ICAP program is moving toward precise definition but has not yet arrived at the point where a local grantee can rely totally on LEAA guidance for determining exactly what their programs should achieve. At this stage of ICAP development, a general framework and direction has been defined but the program is still ambiguous enough to allow the grantee significant latitude and flexibility in approaching the problem. We want to stress here that we are not criticizing LEAA. The ICAP concept is an inordinately complex, difficult and ambitious endeavor and it can only be defined in precise terms in an iterative fashion based on the experiences and results achieved under operational conditions.

In any event, the general description of the ICAP by LEAA does provide a framework for program development. Specifically, ICAP is based on an interlocking series of assumptions. We formulated these assumptions primarily from LEAA resource materials and they are as follows:

- 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.
- Directed patrol will involve pre-programmed activities as opposed to present random preventive patrol.
- Better management of existing 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 investigation, and encourage better working relationship between police and prosecutors.
- Police decision-making must be formalized and involve analysis to a greater degree than at present.

Based on these and other related assumptions, LEAA's ICAP Program is expected to encompass a series of efforts in a grantee agency to: Improve Police Patrol Resource Allocation and Deployment Tactics and Strategies based on a Systematic Data Collection and Analysis; Decrease Crime Target Vulnerability; and Improve Patrol Force Investigative, Apprehension and Prosecution of Career Criminals. As a result of pursuing this general objective, LEAA anticipated the following results from the ICAP:

- Increased preliminary investigations (by Patrol Force)
- Increased suspect identifications from preliminary investigations
- Increased clearances from suspect identification and arrests
- Increased arrests (by Patrol Force)
- Increased number of Patrol Force arrests accepted for prosecution
- Increased career criminal arrests by Patrol Force and prosecution of career criminals
- Decreased follow-up load for Investigative Division.

- Increased attempted burglaries/larcenies resulting from target hardening techniques (decreased burglaries/larcenies)
- Increased security surveys conducted by Patrol Force
- Increased tenure and seniority within Patrol Force
- Increased Patrol Force strength in relation to agency strength
- Increased operations - training exchange for training purposes for upgrading Patrol Force activity.

Now, clearly these are laudable end products and represent fairly concrete targets for guidance of an ICAP. However, even in its most optimistic moments, we doubt that LEAA expects these targets to be achieved overnight. Instead, we believe that LEAA sees the ICAP effort as a beginning point in helping police agencies to move toward achievement of such objectives.

The latest LEAA initiative is the development of Integrated Police/Prosecution Programs to combat the Career Criminal. This is an attempt to link efforts such as the Integrated Criminal Apprehension Program and the Prosecutorial Career Criminal Program with the Managing Criminal Investigation (MCI) Program and the "STING" anti-fencing effort into a comprehensive career criminal program in a jurisdiction. A recent meeting of police and prosecutors at Harpers Ferry (Virginia) was convened to discuss this concept. As noted in a recent Westinghouse Technical Assistance Letter:

> Initially, participants had some difficulty in recognizing the common links between the two programs (e.g., ICAP and PCCP). Discussion focussed on the mutual interest of the police and prosecutor not only in the apprehension of the serious recidivist offender but in his successful prosecution. One specific objective within ICAP, the enhanced role of patrol in preliminary investigation can be linked directly with prosecutor's need for better evidence, both physical evidence and witness testimony. Discussion of this aspect of ICAP allayed a concern of attending prosecutors, i.e., that ICAP is directed solely to the increased apprehension of the serious offender.

At this writing, a fully integrated comprehensive career criminal program is yet to be achieved. However, LEAA is not attempting to force the full program on participating jurisdictions. A jurisdiction can have ICAP or PCCP, or both and funding is not dependent on implementing both.

Chapter Summary and Conclusions

San Jose was initially funded under the LEAA Discretional category for Patrol Emphasis Programs (PEP) a fairly open-ended grant category designed to enhance police patrol operations. However, LEAA has now dropped this category and the final two years of San Jose's efforts will be funded under the Integrated Criminal Apprehension Program (ICAP). ICAP essentially extends the PEP concept, but also narrows it so that primary emphasis is placed on upgrading police capabilities (particularly Patrol Force capabilities) to deal with the recidivist or "career criminal".

More specifically, the ICAP category requires the grantee agency to focus their efforts on:

- Upgrading patrol preliminary investigation capabilities,
- Initiation of case management and screening process,
- Development and/or enhancement of the crime analysis function,
- Development of a means to identify recidivist offenders,
- Development of a structured decision-making process for delivery of police services,
- Enhanced allocation and deployment decisions based on analysis of crime and service data,
- Tactical response designs and integrated across unit lines to maximize effectiveness.

In summary, San Jose recognizes the subtle differences between PEP and ICAP and anticipated the shift to the ICAP effort midway in the first year grant. This presents an evaluation problem because of the differences in emphasis of the two programs. It also presented operational difficulties due to the ambiguity of guidance provided by LEAA to grantees. In the chapter that follows, we will focus specifically on describing the San Jose Patrol Emphasis Program.

CHAPTER III
PROJECT DESCRIPTION

This chapter describes the background, objectives, current operations and other relevant details regarding the San Jose Police Department's Patrol Emphasis Program (PEP). The chapter is based on examination of the grant applications, project files, quarterly reports, project reports, and extensive interviews with SJPD management and project personnel. The chapter is designed to provide a context for the evaluation results presented later in this report. Before describing the project, we will first present some salient material on the City of San Jose and the San Jose Police Department.

The City of San Jose

The City of San Jose was first established in 1777 as the first Spanish pueblo in California. After California was ceded to the U.S. by Mexico, San Jose became the first capital of California in the year 1849. Located in Santa Clara County at the southern tip of San Francisco Bay, San Jose's present boundaries encompass almost 150 square miles and contain over 1,500 miles of surface streets.

San Jose is one of the fastest growing cities in the U.S. Population more than doubled between 1960 and 1970 and the present (1977) population of the city is approximately 575,000 persons. The city expects a population of 865,000 by 1985, according to City Planning Department projections.

The population composition of the city is predominantly white-caucasion. The 1970 census showed that only 2.5% of the population was black. The City Planning Department estimates that roughly 15% of the City population is of Mexican-American heritage.

San Jose's population has a fairly high personal income on the whole. Median family income is in excess of $16,000 per year. The City displays a typical older downtown core area (which is in the process of redevelopment) as well as numerous shopping centers that have been constructed throughout the city. Most industry is located in surrounding communities and San Jose serves basically as an exceptionally large "bedroom" community.

San Jose has had a Council-Manager form of government since 1916. The Council is composed of six members and the Mayor and is elected at-large. The City Manager is appointed by the Council and is the Chief Executive and Administrator of the City. The City Manager appoints the heads of all City Departments, including the Chief of Police.

The San Jose Police Department

The San Jose Police Department's history dates back to 1849. Over the years, the SJPD has gained a regional reputation as an innovative, firm and effective police agency. It is one of the first cities in the U.S. to have required its applicants to have completed 60 semester units in an accredited college or university as a condition of employment.

In 1976, the SJPD had a total of 988 police employees, including 771 sworn officers and 217 civilians. An additional 30 sworn positions were recently authorized which will bring the total sworn complement of the SJPD to over 800 officers.

The Department is currently in the process of a major internal reorganization that we will discuss in some detail later in this report. However, for the first year of the PEP grant, the SJPD was organized into three major bureaus each of which was commanded by a Deputy Chief. Figure III-1 shows the organization structure of the SJPD at the time of this evaluation. As an indication of the SJPD's rapid growth, we note that in 1960, the Department had only 239 employees. By 1977, this staffing had increased by over 325% to the present figure of over 1,018 employees.

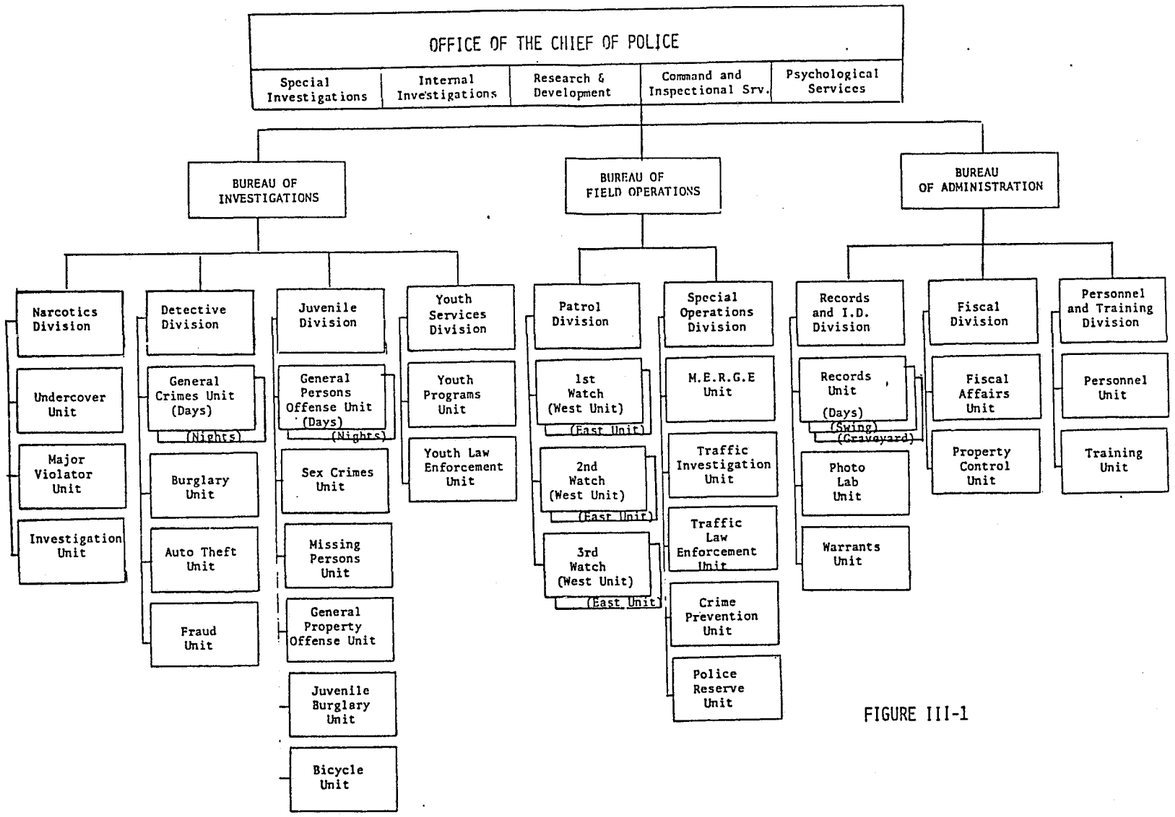

OFFICE OF THE CHIEF OF POLICE
Special Investigations
Internal Investigations
Research & Development
Command and Inspectional Srv.
Psychological Services
BUREAU OF INVESTIGATIONS
BUREAU OF FIELD OPERATIONS
BUREAU OF ADMINISTRATION
Narcotics Division
Undercover Unit
Major Violator Unit
Investigation Unit
Detective Division
General Crimes Unit (Days)
(Nights)
Burglary Unit
Auto Theft Unit
Fraud Unit
Juvenile Division
General Persons Offense Unit (Days)
(Nights)
Sex Crimes Unit
Missing Persons Unit
General Property Offense Unit
Juvenile Burglary Unit
Bicycle Unit
Youth Services Division
Youth Programs Unit
Youth Law Enforcement Unit
Patrol Division
1st Watch (West Unit)
(East Unit)
2nd Watch (West Unit)
(East Unit)
3rd Watch (West Unit)
(East Unit)
Special Operations Division
M.E.R.G.E Unit
Traffic Investigation Unit
Traffic Law Enforcement Unit
Crime Prevention Unit
Police Reserve Unit
Records and I.D. Division
Records Unit (Days)
(Swing)
(Graveyard)
Photo Lab Unit
Warrants Unit
Fiscal Division
Fiscal Affairs Unit
Property Control Unit
Personnel and Training Division
Personnel Unit
Training Unit

FIGURE III-1

SJPD staffing by function is shown in Table III-1.

The Bureau of Field Operations, the primary target group of PEP, is further broken down into the Patrol Division (426 sworn) and the Special Operations Division (118 sworn). The Patrol Division works a three-shift operation under a 4-10 plan.

The Special Operations Division (SOD) consists of four main units: the M.E.R.G.E. (two-man felony cars) Unit; Traffic Investigation Unit; Traffic Law Enforcement Unit; and the Crime Prevention Unit. Police reserve forces are also part of the SOD.

At the staffing levels indicated in Table III-1, the SJPD has 1.37 police officers per 1,000 people - a figure that is significantly under the national average for cities of this size.

The total SJPD budget for FY 76-77 was $23,450,000 - of which 83.6% was devoted to salaries and wages. The SJPD budget accounted for roughly 23% of the total City of San Jose budget.

Table III-2 shows actual Part I crimes in the City between 1973 and 1976.

This table indicates that Part I crimes increased by 17 percent during this four year period. During the same period, San Jose's population increased by roughly 11 percent.

The SJPD has been evaluated by outside consultants on a number of occasions. The most recent study was a comprehensive management survey of the Department by the California Commission on Peace Officer Standards and Training (P.O.S.T.) in 1971.

A new chief was appointed at that time (1971) who served until mid-1976. For a five-month period, the SJPD had an interim Chief of Police (who is now serving as Assistant Chief). In October 1976, Joseph McNamara - former Chief of Police of Kansas City, Missouri - was appointed Chief of the San Jose Police Department.

TABLE III-1

SJPD STAFFING BY FUNCTION*

	Sworn	Civilian	Total	% of Total
Office of the Chief	32	20	52	5.2
Bureau of Field Operations	554	58	612	61.9
Bureau of Investigations	140	19	159	16.1
Bureau of Administration	45	120	165	16.8
TOTAL	771	211	988	100.0

*Based on 1976 Annual Report.

TABLE III-2

PART I CRIME IN SAN JOSE

	1973	1974	1975	1976	% Increase 1973-1976
Murder	25	29	39	38	+52
Negligent Hom.	35	24	26	28	-20
Forcible Rape	182	210	234	296	+62
Robbery	687	807	887	967	+15
Aggravated Ass.	486	551	954	1,223	+152
Burglary	9,168	11,180	13,846	12,096	+42
Larceny/Theft	21,212	23,329	24,467	22,063	+4
Auto Theft	3,767	3,775	3,654	3,828	+2
TOTAL	35,562	39,815	43,885	41,539	+17

The San Jose Patrol Emphasis Program

Work on the San Jose PEP grant application was initiated in late 1975. The application was prepared by a Research and Development Division Task Force.

The official start date of the project was September 1, 1976. However, the grant was not officially accepted by the San Jose City Council until October 12, 1976 and no expenditures were authorized until that date. The grantee was the State of California and the sub-grantee was the City of San Jose. The project was assigned LEAA grant number 76-DF-09-0032. While the first year grant was expected to terminate as of August 31, 1977, the SJPD requested a 90-day extension - which was subsequently approved, extending the termination date of the grant to November 30, 1977.

Project Rationale

San Jose's grant application for a Patrol Emphasis Program began with the following statement:

> The San Jose Police Department ... responds to well over 250,000 calls for police service annually. ...with the demand for police service increasing at a steady rate of 10-14% annually, the Department is experiencing a decreased ability to meet the increased demand. It has become obvious, however, that responding to increased workloads solely through addition of manpower and equipment does not provide an adequate solution. The Department realizes that it must find means of making its available resources both more efficient and effective at all levels of operation.

In short, the primary reason why the SJPD desired to undertake this project was to devise means to increase police productivity and effectiveness in the face of growing service demands and tightened budgetary allocations. It proposed to do this by creating an Operations Analysis Unit that would: 1) draw

together the various sources of information on SJPD operations available from automated and manual systems in the Department; 2) analyze such data, and, 3) assist management in using the results of such analyses in making decisions relating to SJPD effectiveness and productivity. A little background is necessary here to understand this approach.

The SJPD Research and Development Division has done an outstanding job in developing design specifications for computerized systems to support Department operations. Specifically, the following systems have been installed:

- Computer-Assisted Public Safety System (CAPSS) An automated computer-aided dispatch system that provides data regarding dispatch times (receipt, dispatch, arrival, and cleared) necessary for measurement of response and manpower utilization. The system provides historical data on number and types of calls by type and location.

- Records Index System I & II (RIS II) This is an automated joint SJPD/Santa Clara County Sheriff's Department system that contains incident and crime report data. The system provides data on incident type, case number, jurisdiction, location, date, time of occurrence, etc. This system was initially called the RIS I system. RIS II, which is currently nearing completion, will include specific crime related descriptive data (such as M.O.) and Case Control Information.

- Automated Single Fingerprint System: This North American-Rockwell system utilizes computer techniques to match latent crime scene prints against a data base of known offenders' fingerprints.

Other systems in various stages of development in the SJPD include an Automated Property File designed to centralize the cross-match all property reports (stolen, found, recovered, pawned), and an automated Field Interview (F.I.) system designed to expedite the search for field interview information with the purpose of linking persons or vehicles to crime occurrences.

In addition, there are a number of County-level systems that contain information relating to SJPD operations. These include the Santa Clara Criminal Justice Information System (CJIC) - an automated subject-in-process system; the CAPER system - an automated offense and crime specific information system - that will be replaced by RIS II; and the Geo-Data Analysis and Display System (GADS) - an interactive computer graphic system using CRT terminals to display geographically-oriented data.

The problem with all of these systems is that they can produce masses of data relating to all aspects of SJPD operations. However, raw data is not useful for decision-making purposes and the SJPD did not have a group of analysts that could properly use this data for strategic analysis of operations. The SJPD R & D Division has a Crime Analysis Unit, a long-range Planning and Budgeting Unit, a Systems Development Unit, and a Methods and Procedures Unit. Aside from the excellent work being done by a Crime Analyst, there was no unit specifically responsible for detailed analysis of this data.

Given this problem, the SJPD proposed to utilize existing automated data bases and other information sources to form what they termed a "Working Information System"(W.I.S.). The product of the analysis of these WIS outputs would be used to support specific decisions relating to resource management, patrol methods, apprehension techniques, and crime prevention. Thus, the central theme of the project was to assure that information collected related to SJPD operations is used to the maximum extent to support SJPD decision-making. The grant application provided a detailed statement of goals and objectives based on this rationale which are described below.

PEP Goals and Objectives

The overall goal of the SJPD Patrol Emphasis Program was stated as follows:

> To increase the productivity of police manpower and strengthen management and supervision's decision-making processes that allocate such manpower in order to effectively and directly affect the potential victim, offender, and opportunity for crime.

Under this goal, there were three "program areas" each of which had both primary and sub-objectives.

The first program area was titled Patrol Methodology and Rationale. The primary objective of this category was as follows:

> To improve the capability of patrol forces to impact the occurrences of crime and meet the demand for other police services.

Specific sub-objectives in this program area were as follows:

1.1 To improve field deployment and strategies and tactics.

1.2 To increase the amount of police officer effectiveness in patrol operations

1.3 To minimize response times.

The second program area was titled Apprehension Techniques and Effectiveness. The primary objective of this program category was:

> To improve the capacity and effectiveness of patrol and investigative resources for apprehension of offenders.

Specific sub-objectives in this program area were as follows:

2.1 To increase level and quality of investigative resources available for apprehension activities.

2.2 To improve the procedures for preliminary investigation and case assignment.

2.3 To improve tactical deployment of special units assigned to apprehension operations.

Program Area III was titled Supervision and Management of Resources. The primary objective to be achieved in this category was:

> To strengthen management and supervision's capability in improving and maintaining a high level of police officer productivity.

Specific sub-objectives of this program area were as follows:

3.1 To create a functional unity among information analysis, crime prevention, and apprehension operations.

3.2 To systematically provide the information and training needed by management to make decisions in allocating personnel and deploying manpower.

3.3 To improve relationships with external agencies that affect police productivity.

It is important for the reader to understand that these goals and objectives related to the planned three-year Patrol Emphasis Program. Achievement of such results were to be initiated in the first year and to be completed in the subsequent years. Specifically, the first year of the PEP was to be devoted to setting up the project, hiring staff, and conducting the analytical activities necessary to define exactly what was to be accomplished in each of these three program areas.

From an evaluative perspective, these statements of goals and objectives of the Patrol Emphasis Program leave a lot to be desired. They are generally useful as guidelines for evaluation but they are not specific enough to permit precise measurement of accomplishment. For example, sub-objective 3.3 states that the PEP will strive "to improve relationships with external agencies that affect patrol productivity." Overtly, this seems a quite reasonable objective. However, what, specifically does it mean? The grant

application provides no particular guidance nor does it review how police productivity is affected by such agencies - whoever they may be. Another example is sub-objective 1.2 "minimize response time". Again, this is a laudable end product to be achieved. But, it would have been much easier to evaluate if it were precise. Specifically, does the statement contemplate reducing response time for all calls for service, for high priority calls for service, etc.? Obviously, rushing to all calls for service, (e.g., take a report for insurance purposes, check out an illegally parked car, etc.) is not what is intended by this objective statement. More likely, the intent was to reduce unacceptable delays in responding to those types of calls where a rapid response is important.

In short, as evaluators, we regard these goals and objectives to be more in terms of general areas in which the Patrol Emphasis Program planned to concentrate efforts rather than being precise end products. The grant application cuts to the heart of the matter with the following statement:

> Perhaps the underlying theme that ties the goals and objectives together and constitutes the basic hypothesis of the project, is that the utilization of police manpower can be brought to a high level with analysis providing necessary and quality information and by validating the decisions therefore made. And the institutionalization of these very processes can be achieved only when the police officers and managers themselves are convinced that it permits them to reach their highest levels of professional performance.

The problem with which we are confronted as evaluators, is that the first year grant objectives are not defined with any precision. Thus, we are left with assessing if the project is, or is not, generally moving toward the attainment of the stated three-year goals in each of the three "program areas" (i.e, patrol methodology; apprehension techniques and

effectiveness; and, supervision and management of resources). Clearly, it will not be possible to assess impact during the first year of the grant since the project will not attempt to propose specific operational changes until the second and third years of the grant. Further complicating the evaluation is the fact that there are: 1) a number of other grants in operation that also relate to the attainment of PEP objectives; and, 2) other analytical efforts are underway in the Department conducted by the Research and Development Division whose purposes are also to strengthen SJPD decision-making processes.

With regard to the former category, the SJPD is currently using Federal funds to develop and enhance its Computer Assisted Public Safety System (CAPSS) and the Records Index System - Phase II. Both information systems produce the types of data needed to conduct planned PEP analytical activities. In addition, the SJPD has: 1) an ongoing and quite successful grant to combat armed robberies; 2) recently completed a highly sophisticated burglary methodology grant; 3) a large-scale sex offense control grant, and 4) will soon undertake a crime prevention-oriented burglary grant.

The second complication is that the SJPD has a quite effective Research and Development Division that includes among its components a fairly sophisticated Crime Analysis Unit; a long-range Planning and Budgeting Unit; a Systems Development Unit; and a Methods and Procedures Analysis Unit. All of these units display a high degree of technical ability and also aim to enhance SJPD decision-making processes.

In brief, the PEP grant is but one element of an overall and extensive effort to modernize the SJPD and to rationalize its decision-making processes. Our evaluation will focus specifically on its contributions to this overall effort.

Proposed PEP Approach

The SJPD PEP grant application provided a very detailed discussion of tasks and activities to be undertaken. In general, this approach was to take each of the project objectives and sub-objectives and to follow a series of steps that included the following:

- Review and Analysis of the scope of concern relating to the objective,
- Development of Criteria to measure objective objective attainment,
- Identification of System Deficiencies relating to the objective,
- Identification of Data Requirements for analysis purposes,
- Development of WIS Components to provide the necessary data,
- Development of Alternatives to meet the objectives,
- Implementation of the Selected Alternative, and
- Evaluation of the Implementation of the Alternative.

With respect to the three "program areas" to be addressed by PEP, the grant application proposed the following:

Patrol Methodology and Rationale

- Adopting patrol techniques to anticipated events.
- Identification of high-risk targets (people & property) to provide risk factors and required patrol efforts.
- Specific deployment strategies and criteria to satisfy demands for service.

Apprehnsion Techniques and Effectiveness

- Crime pattern recognition to aid apprehension.
- Diverting apprehension-oriented manpower from the mechanics of relating found to stolen property.
- Developing methods to quickly identify stolen property.
- Alternative tactical assignment for SJPD "strike force" (e.g., merge unit) to increase apprehension.

Supervision and Management of Resources

- Discriminating among citizen calls for service for prioritization.
- Development of appropriate dispatch strategies to minimize non-patrol, non-apprehension functions.
- Field support functions that could be accomplished by non-sworn personnel.
- Peak variations in demand and how to allocate resources.
- Supervisory decisions related to deployment.

Referring back to the general methodology proposed, the first year of the PEP Project was to concentrate primarily on review and analysis, criteria development, and identification of system deficiencies. The actual development of alternatives, implementation of alternatives, and evaluation of the alternative implemented were to be undertaken during the second and third years of the project.

Project Organization and Staffing

Due to the "patrol" orientation of this project, SJPD management decided to appoint the Captain of Patrol (located in the Bureau of Field Operations) as overall Project Manager. However, the

PEP effort itself is physically located in the SJPD's Research and Development Division and administrative support is provided to PEP by R & D. The R & D Division is organizationally located in the Office of the Chief. The rationale behind this decision was as follows:

> Because the program is directed primarily toward the Patrol function, extremely close liaison is necessary between project activities and daily police activity. Further, that person will be responsible to provide daily project direction and guidance and act as the intradepartmental staff coordinator, establishing and maintaining program philosophy and design intent.

The Captain of Patrol, at the time of the grant application, commanded all patrol operations and reported directly to the Deputy Chief in charge of the SJPD Bureau of Field Operations (BFO). Due to an internal reorganization, another patrol captain assumed the responsibility as Program Manager early in 1977.*

An internal search was conducted by the Commander of the R & D Division and his staff to select an Assistant Project Manager who would be responsible for day-to-day direction of project activities. This position was budgeted for a police sergeant. The types of skills necessary for this position were described in the grant application as follows:

> This position is significant and critical since a thorough knowledge of police practices, tactics, and strategies is essential to program success. The individual must possess a high degree of supervisory/ administrative skill and be comfortable functioning within a clinical, exploratory, abstract principle atmosphere.

A total of six individuals applied for this position. After extensive screening and oral interviews, Sgt. Thomas Johnson was selected as Assistant Project Manager. Sgt. Johnson has over 10 years of police service in the SJPD and holds a B.A. Degree in

*This position is intended to provide the necessary point of coordination between PEP and BFO. However, for all practical purposes - the Assistant Project Manager has the primary responsibility for grant activity and performance.

Social Science. He has an exceptionally diverse background in police work and has been assigned to patrol, internal affairs, intelligence, burglary investigation, tactical felony cars; and the Metro Unit. He also served as a Patrol Sergeant and has completed numerous in-service and specialized police training programs. This was his first assignment as a Project Manager and he was assigned full-time to the project.

The remaining positions budgeted in the grant were as follows:

- Consultant Psychologist (1,200 hours - Personal Service Consultant)
- Statistical Analyst
- Programming Analyst
- Staff Analyst
- Principal Clerk
- Stenographer/Clerk II
- Two Typist/Clerk II
- 3,200 hours of Staff Aides (Part-time positions).

The Consultant Psychologist was a full-time member of the SJPD at the time of the grant application. However, the contract position was not approved by the City until November 1976.

The Consultant Psychologist has a quite unique background that clearly justified a sole-source contract to provide these services. The Consultant holds a Ph.D. in Industrial Psychology. Earlier positions included: Director of Psychological Services for a large industrial corporation, extensive research experience, Director of a Police Community Relations Program in a large western city and Researcher on Police Personnel Administration and Selection Standards with the International Association of Chiefs of Police, Inc. Upon leaving the IACP, the Consultant joined the SJPD as a Patrol Officer and spent almost two years "on the street". He also served in the Personnel and Staff

Inspections Unit of the Department. His responsibilities are primarily in the areas of productivity assessment, employee motivation, WIS development, survey techniques and management analysis.

The PEP Statistical Analyst selected for the project holds a M.A. Degree in Political Science with a strong minor in Statistics. He also holds a Master's Degree in City Planning (MCP) and has completed 90 additional hours toward the Ph.D. Degree. While this is his first experience in the police field, his previous employment was as an Economic Planner and Consultant. He joined the PEP staff in January, 1977.

The PEP Staff Analyst possesses an extensive background in police operations, management, research, and teaching. This individual served over 22 years with the Los Angeles Sheriff's Department where he rose to the rank of Lieutenant and for eight years was Administrative Assistant to a top executive of that 8,000 officer police agency. After retirement, he served as Police Specialist for the San Francisco Crime Commission; Police Specialist in Santa Clara County's LEAA-funded Pilot City Program; Police Administration Instructor in a Junior College; and Police Specialist with the Sonoma County Criminal Justice Self-Assessment Project. He has also served as Consultant to numerous police and private agencies. He joined the PEP staff in February, 1977.

The Principal Clerk holds an undergraduate degree in Education and was employed by the SJPD in the Personnel Division for two years prior to joining the PEP staff. She was employed as a teacher prior to that position. She joined the staff in November, 1976.

The Stenographer/Clerk II serves as the Project Secretary as well as being actively involved in PEP study projects. She was employed by the SJPD for five years in the Records Division prior to joining the PEP Project. She joined the staff in November 1976.

The Clerk/Typist II will complete requirements for the B.A. Degree in Sociology by June, 1978. This is her first job in a police organization. Her date of employment was in July, 1977.

The three staff aides on the project all have appropriate educational and experience qualifications commensurate with their part-time positions as Research and Data Collection Assistants.

The Programming Analyst III position was not filled during the first grant year. Funds were also budgeted for a Consultant Systems Engineer, but, again, a decision was made not to fill the position.

Project Finances

The total budget for the first year PEP effort was $326,980. The grant itself was for $294,252 and local match was $38,698. The proposed budget was broken down as follows:

Personnel Services	$131,182
Employee Benefits	$ 29,646
Travel	$ 3,596
Consulting Services	$112,244
Operating Expenses	$ 40,572
Equipment	$ 9,740
Indirect Costs (12.7% of Personal Services	$ 10,425
TOTAL	$326,980

Under the category of contractual services, the following items were included:

Consultant Psychologist	$20,244
Consultant Systems Engineer	$ 5,000
Center for Urban Analysis	$35,000
Special Computer Services	$35,000
Evaluation	$12,000

Not all of these funds were spent during the first year. We will discuss this situation later in this Chapter.

First Year Project Activities

While Chapter V will discuss specific PEP projects in detail, this section will review the chronology of such activities and simply note the general nature of activities undertaken by quarter.

First Quarter (September 1976)

During the first quarter (one month) of the project, the majority of effort was devoted to preliminary administrative activities necessary to implement the PEP project while awaiting City Council approval of the grant.

Second Quarter (October - December 1976)

Intensive effort was devoted to recruitment of project staff and initiation of specific analytic and information gathering activities. Specific activities undertaken included:

- Developing trends in patrol deployment and response data.
- Detective Allocation Plan.
- Liaison with all SJPD Bureaus to explain the PEP efforts.

CONTINUED

1 OF 4

- Planning for crime analysis by collection of data from other police agencies known to have such a capability.
- Interviews relating to WIS development.
- Provision of support to RIS II and CAPSS system to assist in system development.
- Visits to other agencies to review specific related activities.

Third Quarter January - March, 1977.

All key positions were filled during this quarter and specific projects were initiated. Specifically, the following activities were performed:

- Initial production and assessment of Beat Information Profiles (BIPS) and District Information Profiles (DIPS).
- Design and administration of a shift preference study.
- Analysis of deployment patterns to isolate time lags and initial development of re-deployment plan.
- Initiation of a fourth watch experimental program in one district to test the effect of additional resources on response times and backlogs.
- Analysis of traffic accident data for selective enforcement deployment.
- Midnight watch off-time study.
- Development of evaluation Request for Proposal (RFP).
- Seminar with Patrol Sergeants to identify problem areas and to solicit suggestions for organizational and operational improvement.

Fourth Quarter (April - June, 1977)

- Selection of evaluator and preparation and signing of contract.
- Completed evaluation of fourth watch experiment and presentation of results to Chief's staff.
- Development of alternative proportional manning plan.
- Assignment plan for swing watch.
- Completion of BFO training for latent fingerprints, report writing and preliminary investigation evaluation.
- Initiation of management analysis of SJPD Juvenile Bureau.
- Completion and submission of detailed application for ICAP funding to LEAA.
- Second phase production and evaluation of BIPS/DIPS.
- Provision of support to Reorganization Task Force.
- Development of schedule for fall watch. (The SJPD rotates shifts three times per year).

Fifth Quarter (July - September 1977)

- Completion and submission of analysis of Juvenile Bureau.
- Evaluation of Bureau of Investigation's Night General Detail.
- Development of Unit Availability Model.
- Analysis of sex offenses to identify specific characteristics related to rapes in San Jose.
- Initiation of Court Liaison Study.
- Development of Survey Plan and instrument for sample survey of police clientele.

Sixth Quarter (October-November, 1977)

- Development of attrition model for reorganization task force.
- Continuation of court liaison study
- Development of general objectives for crime analysis
- Initiation of citizen survey
- Satellite crime lab report.

In general, the descriptions above include most activities undertaken by the PEP grant during its first year. Not mentioned are the extensive amount of time devoted to briefing visiting police agencies on the PEP/ICAP program; specific file searches relating to active cases, and other lesser activities such as the preparation of news releases on quarterly FBI crime figures, and related assignments. Also, the grant provided considerable technical assistance and staff aide time to assist in developing SJPD automated systems for crime analysis and resource allocation purposes. Specifically, PEP provided assistance in file maintenance, development of SPSS capabilities, began implementation of the ASI-ST package on RIS II; development of a geo-file and coding BCS crime reports. Some of the activities listed by quarter, we have designated as a major project products and we will analyse such products, from a "lessons learned" standpoint in Chapter V.

Use of PEP Staff Time by Function

Project staff fill out weekly time cards noting the amount of time they spend on specific PEP functions. We have used nine-months of such data to develop Table III-3. This data was

originally filled out on a form that listed general functions performed. Later in the project, this form was made more specific to capture the amount of effort spent on precisely defined PEP studies. We have reallocated the data into representative categories shown in Table III-3 to obtain a general picture of the level of PEP effort used by function. As this table shows: PEP staff spent 26.2% (2,173 hours) of their time in the analysis of the patrol function; 8.7% (723 hours) on organizational analysis; 29.7 percent (2,453 hours) on system development activities; 3.4 percent on development of crime analysis capabilities; and 32.1 percent on grant administration and other activities.

We believe that this allocation of effort is to be expected during the first year of the grant. Subsequent grant years will likely reflect a reduction in the categories of grant administration and system development and a significant increase in the proportion of overall effort devoted to crime analysis, patrol methodology, and organization analysis.

Staff Development Activities

PEP grant management has done an outstanding job in developing a project "team". Internal communication is excellent and the staff has a real sense of mission. A number of formal staff development activities have been undertaken. Specifically, PEP staff attended the following training programs:

- Training Seminar on Evaluation (LEAA) Washington, D.C., Assistant Project Manager (two days).
- Development and Use of Geo-Based Files, Oakland, Cal. Statistical Analyst and R & D crime analyst (five days).
- Automated Manpower Scheduling, St. Louis, Mo. - Statistical Analyst, (7 days).

TABLE III-3

PEP STAFF ALLOCATION OF TIME BY FUNCTION

		January	February	March	April	May	June	July	August	September	TOTAL	
PATROL METHODOLOGY	OPERATIONS	15	45	99	123	114	45	53	60	12	565.0	
	DEPLOYMENT	60	117	62	72	99	110	245	41	48	853.0	
	RESOURCE ALLOCATION	144	77	111	80	9	27	21	195	2	490.0	
	MANAGEMENT	47	9	39	3	3	14	4	0	0	119.0	
	CITIZEN SURVEY	0	0	0	0	0	0	10	29	75	114.0	
	COMMUNICATIONS	6	4	4	8	8	0	0	0	2	32.0	Subtotal 2173.0
ORGANIZATION ANALYSIS	JUVENILE BUREAU	0	0	0	0	0	0	95	94	69	269.0	
	NIGHT DETECTIVES	0	0	0	0	0	0	96	0	0	96.0	
	COURT LIAISON	0	0	0	0	0	0	10	29	75	114.0	
	REORGANIZATION	1	0	4	56	8	0	5	127	49	244.0	Subtotal 723.0
SYSTEMS DEVELOPMENT	CAPPS	187	131	247	111	127	95	24	128	91	1,140.0	
	RIS II	6	2	2	0	12	29	33	38	71	193.0	
	GEOFILE	0	0	0	0	0	0	0	92	58	220.0	
	BCS CODING	0	0	0	0	0	0	0	88	153	241.0	
	WIS	82	199	66	43	106	163	0	0	0	59.0	Subtotal 2,453.0
CRIME ANALYSIS	CRIME ANALYSIS DEV.	45	11	2	0	5	3	64	44	60	234.0	
	SPECIFIC STUDIES	0	0	0	0	0	0	0	0	47	47.0	Subtotal 281.0
GRANT ADMIN. & OTHERS	PROGRAM DEVELOPMENT	69	24	24	28	40	49	4	12	14	264.0	
	EVALUATION	2	5	5	7	8	8	7	1	15	58.0	
	QUARTERLY REPORTS	0	0	20	0	0	9	0	0	8	37.0	
	2ND YEAR APP.	7	63	103	126	3	8	9	1	40	417.0	
	CLERICAL	95	56	117	132	153	164	170	78	54	1,019.0	
	HOSTING	0	16	32	0	0	39	11	98	39	235.0	Subtotal 2,663.0
	OTHER	0	36	0	96	29	22	176	120	154	633.0	
											TOTAL	8,293.0

- Use of Hypercube Model (two days), Statistical Analyst, R & D Crime Analyst.
- Criminal Justice Planning Institute, Modesto, California Principal Clerk (five days)
- Organization Development and Communications (San Jose) Project Secretary.

In addition, PEP staff visited a number of other police organizations to observe specific programs of interest including:

- Atlanta P.D. (Patrol Car Allocation Methods) - Assistant Project Manager
- Dallas P.D. (Crime Analysis) - Assistant Project Manager - PEP Psychologist
- Lexington-Fayette County Police Department - (Reorganization) Assistant Project Manager
- New Haven P.D. (Directed Patrol) Assistant Project Manager
- St. Petersburg P.D. (ICAP Programs) Assistant Chief of Police, Assistant Project Manager
- Harpers Ferry, Va. (ICAP concepts and grant management) Assistant Project Manager.

Considerable transfer of concepts also occurred as a result of visits to the San Jose PEP Project by representatives of the following agencies:

- Portland (Oregon)
- New Orleans (LA)
- Lexington (KY)
- Simi Valley (CA)
- Westinghouse TA Representatives
- Memphis (TE)
- Hartford (CONN)
- Norfolk (VA)

- Long Beach P.D. (CA)
- South S.F. (2) (CA)
- Springfield (MO)
- Santa Ana P.D. (CA)
- Stockton P.D. (CA)
- Touche Ross.
- Arlington TX
- Oxnard P.D.
- Portsmouth

All project staff members have also participated in "ride-along" efforts with patrol officers to get a first hand view of operational problems.

- Significant Decisions or Events Related to the PEP Project

This section will briefly note those events or decisions occurring during the first year that we believe had an important effect on the PEP grant. The first event of importance was the change in command of the SJPD. The grant was written during the tenure of one chief, initiated during the tenure of an Interim Chief, and carried out during the tenure of still a third chief. Obviously, each chief had distinct philosophies and management styles. While we are not suggesting any detrimental effects on the grant due to these management changes, we do want to point out that the grant may have had to adapt its priorities to those of the incumbent chief.

A decision of importance was also made by project management. The grant application proposed the use of the GADS System (an interactive computer graphics system). After due consideration, project management decided not to utilize GADS. A total of almost $97,000 was budgeted for GADS-related expenditures. Also, funds were budgeted for external office space to house the PEP grant and for an additional clerk-typist. Since it was decided to house the PEP grant in R & D, there was no reason to use these funds. Thus, the grant will return slightly over $100,000 in unexpended funds to LEAA during its first year of operation. Actual first year grant expenditures then will be on the order of $226,000. Due to internal reorganization, there was also a change in Project Directors in February 1977. Again, we have identified no specific deleterious effects of this change and simply point out that the grant staff had to adapt to this change in leadership. The net effect of this change, in our view, was to place additional management responsibilities on the Assistant Project Director. Finally, one additional problem faced by the grant was the serious illness of the Staff Analyst - a key member of the project team. While this problem has now been resolved, it did result in the loss of a significant amount of this invaluable staff member's time.

CHAPTER IV

EVALUATION OBJECTIVES AND METHODOLOGY

The primary objectives of this evaluation were set forth in San Jose's Request for Proposal as follows:

> To summarize, there are two areas of focus for the evaluation: 1) grant approach to problem-solving, grant organization and management, and, 2) evaluation of process and project implementation by PEP and evaluation approach and techniques used to test these.

The ultimate purpose of the evaluation, as stated in the RFP, is to provide top management of the SJPD with appropriate information relating to the PEP grant to enable decisions on the structure and continuation of the grant in the second and third action years, as well as decisions on implementation of grant approaches after grant funding is terminated. With this purpose in mind, the RFP was specific in stating that: "The client or consumer for evaluation results is the Chief of Police whose interest is providing the most effective police service to the Community".

At the outset, we think that it is important to stress that this is a process evaluation. The PEP grant's first year activities did not focus on impacting crime rates nor were they aimed specifically at making changes in police operations. Instead, our examination of the grant convinces us that PEP had followed the implicit objectives set forth below:

- Establish the Patrol Emphasis Program and perform the necessary internal and external administrative activities necessary to enable PEP to engage the planned program in an as effective and expeditious manner as possible.

- Assign and/or hire PEP project management and staff that possess outstanding qualifications and the specific types of technical skills necessary to accomplish stated PEP goals and objectives.

- Orient and develop such PEP management and staff to a high order of competence through both specific staff development activities and formal training.

- Establish strong cooperative relationships with all elements of the SJPD to enable the PEP staff to function effectively in conducting planned activities.

- Establish PEP staff credibility in the SJPD through a carefully planned and cautious strategy of responding to specific service requests and in undertaking projects that are tailored to specific staff strengths.

- Provide specific assistance to the R & D Crime Analysis and Systems Development Units in implementing key information systems that will provide data necessary to accomplish PEP objectives.

- Present such study results to top SJPD management in a form that enables them to obtain a better insight into the nature of SJPD resource allocation and deployment effectiveness.

- Influence the characteristics and process of management decision-making in the SJPD by providing analytical products that SJPD managers <u>perceive</u> to be of value and assistance in making major resource allocation, organizational, and operational decisions.

- Produce study results that are <u>credible</u> and reflect the highest technical quality and state-of-the-art in police management and operations.

- Develop a clear concept and plan for making the transition from the PEP grant category to the Integrated Criminal Apprehension Program (ICAP) grant category.

Achievement of these <u>process</u> aims will provide the foundation vital to achievement of ultimate program goals and objectives. Specific operational changes that are linked directly to PEP activities will begin to be implemented during the second grant year and will be fully implemented during the third year of the project. In short, the aim of the PEP grant during its initial year was to build a firm organizational base from which to operate and to <u>influence</u> the nature of the SJPD's decision-making process.

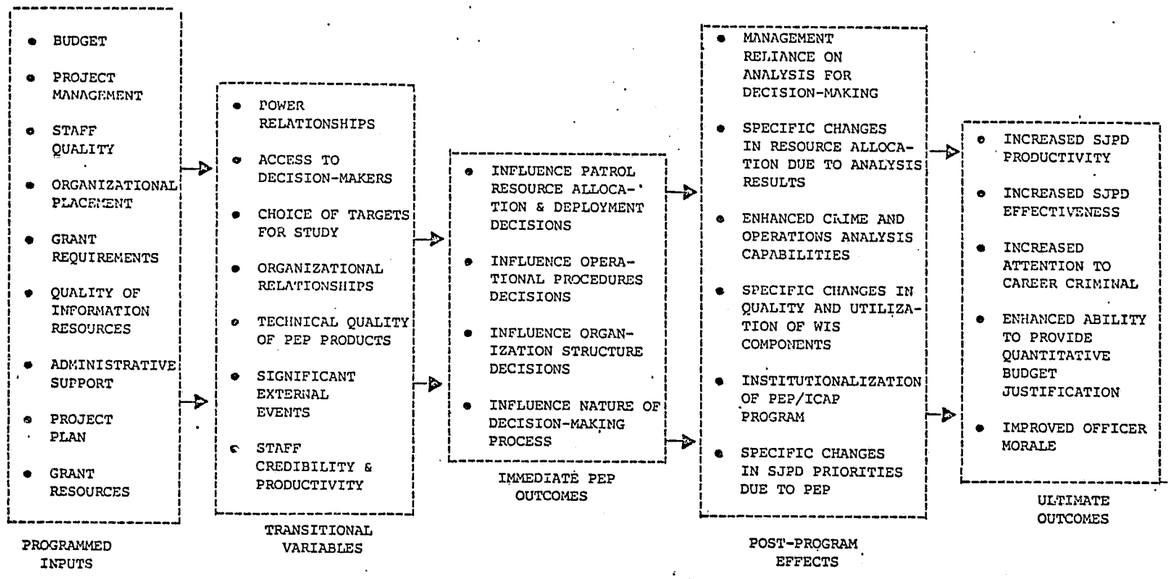
EFA, therefore, decided to utilize a case-study, process-oriented, evaluation design to determine the extent of PEP grant process and achievement during its first year of operation.

Figure IV-1 shows the rationale of PEP grant we developed for structuring the evaluation. The case study design was chosen because it was clear from the nature of this project that a classical control group "before and after" evaluation design was simply not applicable. As Rossi and Williams point out "demonstration projects differ from field experiments in that they are aimed as showing administrative and/or political feasibility"[1]. As such, this type of project - and PEP is clearly of this type since the SJPD did not have this capability prior to PEP - requires a more subjective analysis than would normally be required with a crime-specific or production-oriented project. EFA belives that this is particularly true with regard to the Patrol Emphasis grant. <u>The PEP staff has no formal authority or power to force SJPD managers to use the information they develop. They must convince decision-makers of the significance and validity of their findings and assist them to design and implement changes that enhance police productivity and effectiveness.</u> And, as is usual, decision-makers must consider

[1] Peter Rossi and Walter Williams: <u>Evaluating Social Programs: Theory, Practice and Politics,</u> Seminar Press, New York 1972, p. 9.

TABLE IV-1

OVERVIEW OF PERCEIVED PEP PROJECT RATIONALE AND PROCESS



a wide range of "other" factors (e.g., political acceptability, police association response, etc.) and integrate such considerations, as well as PEP products, into their final decisions and actions. Therefore, this evaluation will focus on the precision of PEP's analytical efforts and their ability to "sell" their results to the key command and management personnel of the San Jose Police Department.

The primary evaluation criteria used in this assessment were:

- Availability of resource allocation data to SJPD decision-makers prior to the PEP project versus Post-PEP.
- Quality and acceptability of PEP products and services.
- Evaluation of the PEP project and specific products by key command and executive personnel of the SJPD.
- Adequacy of PEP management planning and direction.
- Determination of the merits and drawbacks of PEP organizational placement in the SJPD.
- Utilization of PEP products in SJPD management decision-making.
- Change in the nature of SJPD decision-making processes that can be linked directly to PEP activities.

The case study approach followed in this evaluation was, as noted, oriented to the analysis of "process". As described by Suchman (1967), this process analysis encompasses four basic dimensions: 1) the attributes of the project itself; 2) the population exposed to the project; 3) the situational context in which the project takes place; and 4) the different types of effects produced by the project. Each dimension is

briefly discussed below:

- An analysis of the attributes of the project attempts to diagnose those features that make it more or less successful. That is, each component of the project (management, quality of staff, finances, etc.) must be identified and analyzed to determine which aspect of the project contributed to or detracted from the overall effect produced.

- An analysis of the population exposed to the project provides information about the recipients of the services and products of PEP. This analysis will focus on how these recipients assessed the utility of PEP outputs.

- An analysis of the situational context within which the PEP project was implemented and operated provides insight into those conditions and significant events that affected the project.

- An analysis diagnoses the intended effects, as well as the unintended effects, of the project. In addition, tangible products (e.g., reports, models, analysis) are reviewed to determine what lessons were learned from such efforts. Thus, this part of the analysis focusses on the broad picture of PEP results, durability, acceptability, internal credibility, and potential for continuation.

Specific evaluation activities conducted included the following:

- Orientation to the SJPD: It was vitally necessary that we understand the nature, organization, and the SJPD in order to determine the situational context in which PEP operates. This activity included collection and review of a wide variety of documentary material on the department (e.g., management studies, departmental annual reports, newsletters, R & D reports, census data, crime statistics, newspaper articles, etc.); ride-along with patrol units and informal discussion with officers; interviews with the Chief of Police and all major unit commanders; interviews with R & D personnel and interviews with City Government officials. Since we had conducted another evaluation of an SJPD grant program (the Robbery Prevention Project), we were somewhat familiar with the Department at the outset of this evaluation.

- Understanding the PEP/ICAP Grant Program. This involved review of LEAA grant guidelines, descriptions of the PEP, ICAP, Career Criminal Program descriptions, LEAA decision-memos, and ICAP newsletters; telephone interview with the LEAA national program manager, discussion with the national ICAP technical assistance contractor (Westinghouse Critical Issues Center), personal and telephone interviews with other PEP/ICAP programs (including San Francisco, San Diego, Oxnard, Jacksonville, Austin, Fort Worth, Colorado Springs, Portland, Simi Valley and Stockton) and informal discussion with ICAP visitors from/to San Jose including representatives from PEP/ICAP grants in Norfolk, Portsmouth and Springfield (Mo.).

- Understanding the San Jose PEP Program. This activity involved review of the SJPD PEP grant application, quarterly reports, budget documents, correspondence files, and project files; interviews with the R & D personnel who prepared the application, interviews with both the first and second Project Directors, extensive and continuing discussion with the PEP Assistant Project Manager, formal and informal interviews with project staff; and initial and continuing discussion with SJPD top management regarding the project.

- Case Study of PEP Products: Each major PEP project was carefully reviewed and the users and/or requestors of each such product were interviewed. Using a carefully designed survey instrument, we attempted to assess user reaction to the product as well as specific lessons that were learned from each such assignment. Of course, we also interviewed the PEP staff member that prepared the study, the PEP project management and top management officials of the SJPD.

The outcomes of all of these activities were analyzed and the results are presented in this report. It should be noted that we assume that this report will be disseminated to LEAA as the funding agency so we also present considerable descriptive material in this report on San Jose and the San Jose Police Department to facilitate their review. Much of this material is elemental and well known to SJPD and PEP staff. But it is necessary to present it to enable "outside" readers to understand the context in which the project was conducted.

CHAPTER V

CASE STUDIES AND CRITIQUE OF PEP PROJECTS

A. PROJECT ASSIGNMENTS

Since November 1976, the Patrol Emphasis Program has undertaken a number of assignments for analysis of a wide variety of operational problems presented by requestors from several different units in the Department. Some assignments have been self-initiated. The discussion that follows centers largely on those projects that involved a significant amount of time, i.e., greater than three weeks.

All numbered reports on projects completed prior to October 15 have been reviewed by the evaluators and discussed with the principal investigators and the Assistant Project Manager. In view of the potential impact that several reports may have had on several Department operations, we undertook to interview the officers in the various units who requested that PEP perform the studies. The responses to a series of questions are contained in the ensuing synopses. Each synopsis follows a uniform format adapted from the Project log and our interview guide. (See Appendix A for questionnaire).

PEP Project No. 1 - Detective Deployment/Manpower Scheduling

1. Requesting organizational unit: Bureau of Investigations (BI), Detective Division.

2. Project duration: One month.

3. Nature of assignment: A night schedule was developed for deployment of detectives on the basis of categories of incidents occurring during the night watch. The basis for the schedule request was precipitated by a decision to implement an augmented manning level without adequate planning as to specific needs. It was suspected that there were slack periods of time in the early morning hours for which a surplus of investigators occurred.

4. Summary of Report: A manpower allocation schedule was devised for 12 Bureau of Investigation officers on the basis of investigation needs for providing services during the swing and midnight watches. Six Part I felony crimes were analyzed with regard to frequency of service: rape and sex felonies, armed and strongarm robbery, aggravated assault, narcotics violations and burglary. An analysis revealed that approximately 92% of these types of crimes occurred between 1600 and 0400 hours. Consideration was given to incident occurrence by day of week, hour, patrol district and the four radio-channel assignment in developing the schedule. No attempt was made to designate specific investigators for this initial project.

5. Utilization of results: The schedule was submitted to BI, but manpower availability changed during the interim period that the study was performed. Consequently, the scheduling was undertaken internally by BI. (Reference PEP Project #10 - Night General Detail that discusses a considerable departure from the PEP - developed schedule).

6. Lessons learned: Although the information requested was provided, i.e., determining demand for services by felony crime category, frequently and times of occurrence, the scheduling of specialist detectives necessitated their handling of multiple crimes. Much initial resistance was encountered from the specialist detectives to handle general crime investigations until a concentrated training period was completed. It consequently appeared that a statistically based decision to schedule detectives was too rigid for the frames of reference held by the detectives.

PEP Project No. 2 - Traffic Accident Survey

1. Requesting organizational unit: Bureau of Field Operations (BFO), Special Operations Division.

2. Project duration: Four months.

3. Nature of assignment: Information was provided to assist in the deployment of motorcycle units based on traffic accident demands for service. A directive was issued from the Deputy Chief, BFO to relieve patrol from the burden of responding to traffic accidents. Assistance was requested from PEP to provide an analysis of accident occurrences, frequency and times by district.

4. Summary of report: An analysis of traffic accident responses was undertaken using CAPSS (Computer Assisted Public Safety System) data from November 14, 1976 to February 5, 1977. Demand was measured by counting the number of accidents that occurred in two-hour increments from 0600 to 0200 hours the following morning. Counts were taken for each of the seven districts. Accidents were grouped into three categories: hit and run, injury and non-injury accidents. Results were charted by half-hour increments in color for each district, weekday, weekend and weekly. Except for one district the highest accident incidence occurred between 1600 and 1800 hours. Three districts showed lower peaks during the morning commute hours.

5. Utilization of results: The findings were useful in redeploying units. Guesswork was taken out of the decision-making process to the degree that anticipated high accident incident rates didn't exist in some districts as thought.

6. Lessons learned: Deployment of traffic enforcement units cannot be solely based on a statistical recapitulation of accident incidents. Consideration must also be given to community complaints received on reported traffic problems.

PEP Project No. 3 - Beat Information Profile and District Information Profile (BIP/DIP)

1. Requesting organizational unit: PEP self-initiated.

2. Project duration: Three months.

3. Nature of Assignment: Summary and specific briefs on major felony crime incident suspect and vehicle information were developed by district and beat for two, two-week sample periods. The initiation of the task was prompted by a perception of need for more comprehensive information than that contained in the Watch Bulletin. Also the CAU profile was apparently not being widely used by patrol elements.

4. Summary of report: Two, two-week periods of incidents of burglary, robbery, grand theft, assault and related sex crimes, and traffic accidents were tabulated from CAPSS and other sources. District 7 was the pilot target area. Data compiled included case number, brief subject and vehicle descriptions, dates and times of incidents. Summary arrest information was compiled.

5. Utilization of results: A self-initiated survey and evaluation was conducted. Twenty four patrol officers and sergeants were surveyed. Responses revealed that burglary and major crime data were of more interest than traffic accident information. Mixed comments were received relative to the volume of information presented. Some respondents would have preferred more descriptive data; others wanted less volume. Timeliness of getting the BIP/DIP reports into the field was reported to be an important consideration.

Our independent interviews confirmed the fact that the delay in getting selected briefs to patrol greatly limited usefulness. Patrol officers are unable to handle the volume of material presented.

The R & D Crime Analysis Unit (CAU) has been submitting weekly briefs to all districts on burglary and other felonies by district for quite some time. The BIP/DIP appear to be a considerable expansion in scope of the CAU brief.

6. Lessons Learned: One BFO sergeant indicated that his preference would be for an area analysis that may reveal a cluster of criminal activity in a timely manner to permit appropriate patrol response. PEP, in view of findings, will delay further work, for at least one year, pending an appraisal of the RIS II (Record Index System) crime analysis output.

PEP Project No. 5 - Fourth Watch

1. Requesting organizational unit: Bureau of Field Operations, Patrol Division.

2. Project duration: Four months.

3. Nature of assignment: An overlay fourth watch was scheduled for a one-month experiment to determine the cost and effectiveness in improving patrol response on the basis of demand for service. The motivating factors behind the request for such an evaluation centered on the complexity of manually scheduling patrol manpower under the 10/4 plan and to manually determine appropriate allocation of manpower resources when and where needed. The third, and underlying rationale was the desire to acquaint the P.E.P. staff to actual patrol functions and to expose their capabilities to the command and operational levels. A proponent view for the need of a fourth watch was the perception of a schedule structure that could free the backlogged patrol units for self-initiated, community-oriented crime prevention and suppression interrelations.

4. Summary of report: For a period of four weeks, a fourth watch was deployed in three beats in one district. The experimental district was selected on the basis of prior developed information on calls for service derived from CAPSS. The overlay watch complement consisted of six patrol officers and one patrol sergeant temporarily reassigned for the purpose of the experiment. Controls were established for comparative analyses in other district beats. The final report is extensively documented. The basic conclusion was that a fourth watch provides little improvement in delivery of patrol services at a relatively high cost. (No cost data are presented; however, a qualitative assessment is made on the basis of incremental manpower and equipment that would be needed to fully implement the procedure.) The only noted improvement in response times occurred for the lower priority 3 call assignments.

5. Utilization of results: The negative finding that the fourth watch was too costly an operation to fulfill needs resulted in a decision not to implement the procedure. There was a strong reaction from the proponent of the proposed fourth watch schedule, that cost factors unduly influenced the negative finding of usefulness.

6. Lessons learned: The experiment and findings were termed "priceless" from the perspective of demonstrating the valuable contribution that can be made by PEP. It was stated that PEP had proven its ability to assist in the design of deployment strategies using resources not heretofore available, nor fully appreciated. The presentation of factual information, derived from the CAPSS computer assisted data base system, was instructive as well as convincing. Although the proponent was disappointed in the top management decision outcome, the value of such evaluations was recognized as a useful input for the periodic need to restructure patrol deployment and scheduling.

PEP Project No. 6 - Bureau of Field Operations Training Program

1. Requesting organizational unit: Bureau of Field Operations, Patrol Division.

2. Project duration: Two and one-half months.

3. Nature of assignment: Observations were made of a special training program instituted by BFO and an evaluation made of the training sessions covering report writing, fingerprint lifting, and preliminary crime scene investigation. PEP was brought into the training program in an observer/evaluator capacity as an after-the-fact decision. It was believed useful to have an independent overview of how well the training program was conducted.

4. Summary of report: The report discusses the background of special training programs instituted to remedy deficiencies in required basic skills. The need for special training courses had been established as a result of prior survey of need. Fingerprint lifting deficiency was impacting negatively on the computerized single print I.D. system. Basic police academy report writing instruction was judged poor. Preliminary crime scene investigation instruction in the academy was rated average.

The BFO report writing instruction sessions were rated as adequate by 97% of the attendees. The preliminary crime scene instruction content was judged adequate by 94% of the attendees. Impact of the three-subject instruction program was randomly assessed immediately following the completion of the training cycle.

The overall quality of reports prepared by officers who had received the course instruction was judged to be "much better" than those prepared during the training cycle. However, 64% of the reports contained errors, largely with regard to accuracy or evidence reporting.

Following instruction on latent print lifting, a significant improvement was observed in the number and quality of useable prints recovered from crime scene investigations. A 500% increase in numbers of prints recovered occurred, and useable prints increased from a 71% to an 80% level.

The impact on preliminary crime scene investigation instruction was primarily noted by the increase in latent print recovery. Overall evidence collection declined somewhat. It appeared that patrol officers have resisted this latter function, compared to a more positive response in latent fingerprint lifting crime investigation. The usability of the photographs was not determined.

5. Utilization of results: Following the completion of the training cycle, the Deputy Chief, BFO directed that first line supervisors should review and sign off on incident reports to ensure that the quality of the reports is improved. It was noted by BFO that such follow-up steps faltered. A transition in BFO command may have contributed to a lack of follow through to implement a recommended report quality standardization procedure.

6. Lessons learned: PEP should have been brought into the training program at a much earlier time during the planning phase. Exposure of the assigned PEP analyst to this training exercise was looked upon as a procedure for introduction to police operations and to become acquainted. Although the report was "more than adequate" for presenting findings, continued exposure of the PEP analyst to Department operations would add to capability.

PEP Project No. 7 - Assignment to the Swing Watch

1. Requesting organizational unit: BFO, Patrol Division

2. Project duration: Three weeks.

3. Nature of assignment: A methodology was developed to schedule watches, the initial being the swing watch. Complexity of frequent shift changes, changing population and calls for service necessitated a more methodical, statistically based analysis to adequately schedule beats.

4. Summary of report: Proportional manning of six districts was based on priority 1 through 4 calls for service tabulated for a 16-week period. District 7, a training district, was excluded from the assignment due to the need for maintaining a uniform experience for a fixed number of assigned patrol officers. Strict proportional assignment was waived in circumstances involving geographic distribution needs. The Department 10/4 plan, involving two-team assignments with a resultant overlap of one day, was resolved for the purposes of analysis by fixing the team structure.

5. Utilization of results: Recommendations for cutting midnight beat manning levels were acted on. The swing watch team size recommendations were followed "right down the line".

6. Lessons learned: Data provided a basis for manpower trade-off negotiations among the watch commanders.

PEP Project No. 8 - Shift Preference Survey

1. Requesting organizational unit: BFO, Patrol Division.

2. Project duration: Two months.

3. Nature of assignment: A survey was conducted to determine shift preferences of uniformed patrol personnel and an analysis conducted of the factors influencing assignment selection. The past practices of polling the uniformed force for assignment preferences every four months is looked upon by management as a disruptive and destabilizing procedure. Management, however, had little insight as to factors influencing the selection process. The fact that closer officer/community relations are a prime consideration in structuring patrol allocations prompted a formal inquiry to ascertain the motivations behind selection of assignments and whether frequancy of change was a strong consideration.

4. Summary of report: A total of 358 uniformed patrol personnel responded to the two-page survey form--335 officers and 23 sergeants. The respondents were asked to rank preferences that may influence assignments. The following preference factors were included in the survey and analyzed: days off, shift, district, supervision/command, one-or two-man units, seasonal and frequency of watch changes. Longevity of rank and time on force were also querried.

Days off and specific shifts were found to be the two most important factors in selecting shift assignments. Less frequent shift changes, to six months, did not appear to be a problem. Shift starting times, varying about two hours from the present times do not appear to be a problem if greater staggered deployment is desired. With an increase in longevity on the force, days and weekends off became increasingly more important. Preferences for shift, district, supervision and command factors decrease with longevity. Few differences in preferences were revealed relative

to rank. A significantly greater percentage of officer rank personnel responded to the questionnaire, giving rise to the speculation that officer rank personnel felt more accountable to sergeants than sergeants do toward lieutenants.

5. Utilization of results: Actual impact is unknown and probably untested.

6. Lessons learned: Believe that report gave a needed insight to management for their "negotiations" in assignment of personnel. Seniority, however, cannot be ignored. Certain factors, such as preferences or objections to certain supervisors, appeared to be non-issues.

PEP Project No. 9 - Analysis of Juvenile Division

1. Requesting organizational unit: Juvenile Division, Bureau of Investigations.

2. Project duration: Three months.

3. Nature of assignment: Operations and procedures of the Juvenile Division were assessed in consideration of functional service requirements. Change of command motivated a need to secure an objective independent appraisal of operations and functional responsibilities with a view toward establishing goals to meet changing service requirements.

4. Summary of report: The report indicated that the original assignment was much too broad to be addressed within the scope of the PEP program. Consequently, the inquiry was considerably narrowed. The staff analysts further noted that the nature of the management structure, the goals and objectives could best be addressed in the context of the Department Reorganization Task Force responsibilities. Many critical observations were noted with recommendations made that will require top level management decisions. Major policy considerations include establishing current functional responsibilities and an organizational structure that should be created to ensure that duties are discharged effectively.

5. Utilization of results: The report findings supported command impressions regarding the urgency for reordering Division priorities that would be responsive to current service needs. Certain administrative procedural recommendations can and are being implemented. It was acknowledged that the initial scope was broader than PEP's ability to undertake so sweeping an analysis that effects inter-divisional operational policy. The report did serve as an important catalyst to institute change and cause top management to undertake an assessment of the critical policy considerations explored.

6. Lessons learned: The fact that PEP was able to respond to the request for assistance, emphasized the importance of having an independent body of staff analysts available and capable of providing objective analyses and recommendations.

PEP Project No. 10 - Evaluation of the Night General Detail

1. Requesting organization unit: Bureau of Investigations, Detective Division.

2. Project duration: Two months.

3. Nature of assignments: An assessment of the usefulness of the detective night general detail was undertaken. The detail was made operational without the benefit of advance planning that led to many problems involving assignment of specialist detectives. (Reference PEP Project #1 - Detective Deployment/Manpower Scheduling). An independent opinion was believed important to assess the value of the detail.

4. Summary of report: The detective night general detail was organized in the latter part of January 1977. The detail consisted of 12 sergeants and 1 lieutenant. The detectives were selectively drawn from the Bureau of Investigations to service the following felony crime categories: juvenile, general crimes, burglary, robbery, auto theft, homicide and technical specialty. The report indicated that the lack of quantitative documentation precluded an appropriate assessment of work load and effectiveness.

Selective interviews were conducted with assigned detail personnel, the majority having been conducted during the night watch to permit observation of the activities. A survey was also undertaken of all BFO sergeants to solicit their opinion on the functioning of the detail.

The findings generally indicated the need for night availability of investigators. However, recommendations were made to greatly restrict self-initiated field activities by the night detail. Duty Officer activities and BI support for handling night traffic in the Police Administration building were specified

as needed. Because of the lack of "hard data" to measure productivity, a longer term recommendation was made to analyze case assignment policies, procedures and effectiveness.

5. Utilization of results: Certain of the less controversial findings and recommendations were implemented. Generally, the findings did not surprise Division management, particularly with regard to the lack of planning for training prior to making the detail operational.

6. Lessons learned: While the report on the surface appeared to satisfy some concerns by Division management, the inability to address substantive issues reflected deeper problems in dealing with the detective force and the investigative function itself.

PEP Project No. 15 - Schedule for Fall Watch

1. Requesting organizational unit: BFO, Patrol Division.

2. Project duration: Three weeks.

3. Nature of assignment: A methodology was developed for scheduling each of the three watches (days, swings and mids) every four months. The request was motivated by a BFO desire to obtain valid facts on manpower allocation needs so as to permit comparison with the shift preference polling and scheduling conducted every four months.

4. Summary of report: The accomplishment of the task assignment was based on a refinement of the methodology devised from a previous analysis that measured service demand based on calls for service (CAPSS data base). Proportional manpower assignment was accomplished on the basis of the number of units responding to calls for service. This approach was justified in that the severity, and hence the priority of unit response (singular, multiple) would indicate the need for service.

The report documented the mathematical equations used and tabulated the suggested manning levels for the seven districts and 76 beats for the three watches, two-team (10/4 plan) deployment pattern. The rationale and constraints governing the assignment schedules are stated.

5. Utilization of results: The schedules developed provided a more solid basis than previously possible for working out manpower reallocation according to demands. The fact that repeat requests have been made for scheduling analyses speaks well for the P.E.P. and R & D staff support. Comments have been very complimentary.

6. Lessons learned: Facts revealed from the analyses conducted contradicted prior "gut" beliefs of needs. This in itself has caused some problems in reassignments.

PEP Project No. 16 - Midnight Watch Time Off

1. Requesting organizational unit: BFO, Patrol Division.

2. Project duration: Three weeks.

3. Nature of assignment: On the basis of the demand for service, a determination was made of those beats that could be cut on the midnight watch to permit manpower reallocation should this become necessary. BFO management suspected that overmanning existed at certain periods during the midnight watch. Assistance was thus requested for PEP to develop a factual assessment.

4. Summary of report: The analysis was conducted on calls for service occurring for a sample six-hour period, 0200 - 0800 hours. This decision was predicated on the assumption that undermanning a patrol district during this period without adequate backup could have a potentially negative impact on service and safety. The analytic procedure used to develop the suggested beat cuts is briefly described. Tables are included of a weekly average number of units responding to calls in the 0200 - 0800 time period. Suggested beat cuts for the two 10/4 plan teams by district and beat are tabulated for each day of the week.

5. Utilization of results: Recommendations were partially followed as compromises were necessary.

6. Lessons learned: Report provided a data base from which compromise reallocation decisions could be made.

PEP Project No. 17 - Unit Availability Model

1. Requesting organizational unit: BFO, Patrol Division.

2. Project duration: One month.

3. Nature of assignment: A model was developed, based on the number of patrol units responding to calls for service, that yielded an estimate of units that could be available for alternative assignment at any given point in time. Request was motivated by a need to provide a police officer for school classroom lecture assignment. The need was to identify available slack time to free officers for this function and not disrupt patrol beat service.

4. Summary of report: The methodology, based on data captured from CAPSS, is described in detail. A step-by-step discussion is made of assumptions and approximations used in the model construct. Included in the report is a set of graphs developed for the day watch for one week. Through use of the graphs and an accompanying table, districts and days of the week can be identified where removal of one or more units would have a minimum impact on delivery of patrol services. The report lists three possible uses of the model for planning and/or manpower unit reallocation to other activities.

5. Utilization of results: The model fully satisfied need. Appropriate free times were identified and school assignments made without any problems reported.

6. Lessons learned: A tool has been made available to counter groundless arguments from beat sergeants, lieutenants and captains that more men are always needed. It has been demonstrated that free time could be found. Later events showed that no problems arose as to manpower shortage occurring in those beats from which an officer was pulled out for the classroom assignment.

B. CRIME ANALYSIS AND WIS (WORKING INFORMATION SYSTEM)

One of the major thrusts undertaken by P.E.P. has been the strong support given to the Department Crime Analysis Unit (CAU). The CAU, administratively centerd in the Research and Development Division, has been actively involved with R & I) to upgrade the crime records reporting system, RIS (Records Index System). R & D also had strongly influenced the design of the CAPSS (Computer Assist Public Safety System), that has automated the complaint and dispatch procedures. Both RIS and CAPSS have been augumented by applying the SSPSS (Statistical Package for the Social Sciences) software programs to aid in developing data output that have been useful in the developing of proportional manning scheduling analyses, and summary report of crimes and accidents by district and beat. Programming modules termed, AS-IST are being written for eventual data manipulation upon demand. These modules will permit access to stored data contained in RIS I and II tapes.

The ease with which PEP has integrated its resources, funding for clerical support, and professional staff conjointly with the R & D and CAU ongoing programs, speaks well for the long range crime analysis objectives established for P.E.P. and the conversion to the follow-on ICAP. The investment of resources, while having had an immediate return for those projects completed in the first year and described in A above, will impact more heavily in the second and third year as basic data being input into to RIS II and CAPSS are retrieved and processed to support directed crime analysis tasks.

The crime analysis approach taken is depicted as impacting on three major functions being directed at criminal apprehension and crime supression/prevention. Concurrent capabilities are being developed and applied to (1) resource deployment; (2) crime pattern identification; and (3) suspect/offense correlation. Proposed projects encompassing these three functions remain to be formalized into a scheduled workplan for second and third year ICAP activities.

Both the RIS I and II and CAPSS are part of a concept for total accessing of available information systems to support PEP/ICAP objectives. Termed WIS (Working Information System), the project proposed objective is to develop the ability to extract relevant information by a routine methodological procedure to support patrol and investigative functions. Given predetermined information of potential value derived from the WIS, PEP/ICAP in conjunction with BFO/BI conjecturely would propose candidate interventions. (Some 42 such possible candidate applications were outlined in both the first year PEP and second year ICAP grant applications. These are shown in Figure V-1 and as they may impact on the three major PEP/ICAP program objectives). Analytic and field experimental exercises could be undertaken and impact measured for effectiveness. The Fourth Watch task assignment is an example of a field experiment undertaken at minimal cost that demonstrated fairly conclusively that marginal benefits in patrol response would accrue but only at a high cost. From this exercise, PEP has evolved a technique that forms a basic building block in developing beat manning schedules and resource deployment to meet changing crime patterns and demands for service, be it from calls or self-initiated responses.

C. MISCELLANEOUS PROJECT ACTIVITIES

Part of the PEP effort in the first year has been geared to the acquiring of competent staff and training for the less experienced staff. The learning process has been rapid by means of exposure to those project assignments described. Statistical skills have added a much-needed augmentation to the on-going CAU programs also as noted. There have been several task assignments undertaken that have not taken a large amount of staff time, but have served to expose PEP staff capabilities to various department organizational units and their special activities. Others were logged after the October 18 interview cutoff date.

Figure V-1

APPLICATION OF ALTERNATIVE CANDIDATE SYSTEMS

Candidate Applications / Programs & Objectives	I PATROL METHODOLOGY: IMPROVE FIELD DEPLOYMENT - STRATEGIES & TACTICS (A)	I: INCREASE P.O. EFFECTIVENESS IN PATROL OPERATIONS (B)	I: MINIMIZE RESPONSE TIME (C)	II APPREHENSION: INCREASE INVESTIGATIVE APPREHENSION RESOURCES (A)	II: IMPROVE PRELIMINARY INVESTIGATION AND CASE ASSIGNMENT (B)	II: IMPROVE TACTICAL UNIT ASSIGNMENT FOR APPREHENSION (C)	III MANAGEMENT: RELATE ANALYSIS, CRIME PREVENTION AND APPREHENSION (A)	III: INFORM MANAGEMENT TO FACILITATE DECISION MAKING (B)	III: INTERAGENCY COORDINATION (C)
1. High Risk Patrol	X		X			X			
2. High Service Demand	X	X	X						
3. Random Patrol	X		X						
4. Prepatterned Patrol	X		X						
5. Functional Separation	X	X	X	X					
6. Variable Deployment	X		X						
7. Field Mgmt. Options	X	X							
8. Info. Packets/Profile		X	X	X		X			
9. Hand Pack Radios		X	X			X			
10. Referrals - Community		X							
11. Crime Prevention		X							
12. Intradepartment Cor.		X	X	X	X	X	X		
13. Training Patrol Proc.		X		X	X				
14. Supervisory Training		X			X				
15. Motivational Counsel		X	X						
16. Non-sworn Personnel		X	X	X					X
17. Reorder Priority of CFS		X	X						
18. Decentralization		X	X						
19. O.D. Officer Invest.		X	X	X	X				
20. Crime Pattern Recogn.				X					
21. Strike Forces	X			X					
22. Complaint Procedures				X	X				
23. Team Policing Concepts	X			X	X				
24. Evidence Technicians		X			X				
25. Case Assignment/Shift					X				
26. Case Assignment/M.O.					X				
27. Lateral Assignment					X	X			
28. Case-point Screening					X				
29. Undercover						X			
30. Surveillance						X			
31. Saturation	X					X			
32. Response Priority	X					X			
33. Crime Ring Case Assgn.						X			
34. Management Task Force							X		
35. User/Mgmt. Task Force							X		
36. Organizational Changes							X		
37. Service Reduction		X	X	X					X
38. WIS Utilization								X	
a. levels & details								X	
b. time/frequency								X	
c. community media								X	
d. grouping of dec-making staff								X	
39. Crime Prevention Alter.									X
40. Cost/Recov. & Reduce Dem.									X
41. Res. All. Productivity/Cst.									X
42. Interagency Coordination									X
DEVELOP WIS									
Components									
CAPS	X	X	X	X	X	X	X	X	X
CAPER	X	X				X	X		
Records Index	X	X					X		
Model Systems	X						X	X	X
Manpower Schedules	X						X	X	X
Property File				X		X	X		X
Fingerprint Scanner				X		X	X		
CJIC				X			X		X
Case Control System (RIS)				X	X	X	X	X	
PIN, CLETS				X			X		
Field Interview System				X			X		

- PEP Project #4, "Sergeants Seminar" was convened for a one-day session to ascertain concerns and to explore suggestions relative to patrol operational issues. While the outcome was less than insightful, the exposure was believed useful.

- PEP Project #13, "Evaluation of Supervisors Training Course" involved observing two, one-week training program sessions. The brief report noted that the program met objectives as determined from a review of the student critiques.

- PEP Project #14, "Evaluation of Reorganization Task Force Seminars" involved observing two, two-day conferences convened to foster participating management in the ongoing study of Department organization and functions. The brief report noted that the sessions appeared useful.

The two following projects are currently in progress:

- PEP Project #12, "Court Liaison Study" involves the development of a centralized court appearance notification system to improve scheduling and eliminate inefficiencies. This is a major effort involving extensive staff commitment. The first phase, in progress, is devoted to problem analysis.

- PEP Project #18, "Citizen Survey Questionnaire" is being planned to sample citizen attitudes toward police services relative to calls made for service and reactions on receiving citations for moving violations. The evaluators reviewed a draft of the survey questionnaire and furnished suggestions. The survey began in November and will be complete by the end of the year. A sample of 1,000 is planned.

The following projects either were not extensive or completed after the analysis cutoff date:

- PEP Project #19, "Reported Offenses Profile - Sex Crimes".

- PEP Project #20, "Alternatives to the Fourth Watch", was originally undertaken in conjunction with Project #5 and has served as a model for development of subsequent scheduling and proportional manning analyses.

- PEP Project #23, "Systems Material Request from International Management Association."

- PEP Project #24, "Los Angeles Sheriff's Office Satellite Crime Lab".

- PEP Project #26, "Research for Oakland Police Department".

- PEP Project #27, "Personnel Attrition".

- PEP Project #25, "Crime Analysis Objectives".

CHAPTER VI
PROGRAM ASSESSMENT AND ATTAINMENT OF OBJECTIVES

A. PROGRAM MANAGEMENT APPROACH DECISIONS

• Action-Oriented Grant Application

From a program evaluation perspective, the objectives and scope of the Patrol Emphasis Program as developed in the original grant application clearly reveal an active program intervention intent over a three-year period to meet the stated goal: "To increase the productivity of police manpower and strengthen management and supervision's decision-making processes that allocate such manpower in order to effectively and directly affect the potential victim, offender and opportunity for crime." Considerable thought no doubt was given to structuring the three program-area approach, each with subsidiary goals and objectives. These have been discussed in Chapter III in context with the almost immediate change in concept at the initiation of the PEP grant operation signalled from LEAA in Washington that would occur in the second grant year.

The criminal justice priorities established in Washington were reordered to emphasize the apprehension and conviction of career criminals. Careful reading of the new guidelines established for the Integrated Criminal Apprehension Program (ICAP), taking effect in December for the second grant year, reveals , however, that patrol operations are still considered critical to the ICAP objectives. But distinctly called for is emphasis directed toward crime analysis to enhance patrol operations and investigative procedures leading to increased apprehension of repeat offenders and career criminals.

• Program Emphasis Influenced by Impending Shift to ICAP

PEP grant management, confronted with being responsive to the first PEP year goals and objectives, but anticipating a second-year shift to ICAP priorities, charted what has appeared to be a cautious but stable approach during this program development and transitional first year.

Extensive discussions held with project management revealed an understanding of the need to acquire a competent and balanced multidisciplinary project staff that would be responsive to the broad project requirements. Secondly, the Assistant Project Manager, with wide experience in the Department, recognized the importance of staff exposure to and acceptance by the personnel at various operational levels. Since imposed change is generally viewed with apprehension by those potentially affected, the project approach taken in view of this universal reaction has been that of primarily responding to requests made for assistance from various units. Self-initiated task assignments have been minimal and non-controversial.

• PEP/Crime Analysis Unit Interrelationship

A major decision was made to undertake long term support for further development of the Department crime analysis capability. A crime analysis functional capability is a program requirement of both PEP and ICAP. Because the PEP/CAU involvement is so closely interrelated, it is not possible, nor is it particularly important at this stage to, assess which component of effort can be ascribed to PEP or to CAU. It is evident, however, that the CAU/R & D effort having been instituted some time ago, is receiving an added impetus from the PEP support to build a data base and develop programming that will enable the RIS II output to be available at a much earlier period.

The PEP/CAU interaction leaves an open question regarding PEP's management involvement as to the crime analysis product output having utility and impact on planned second and third year ICAP activities. A statement was made early in the evaluation phase that a crime analysis plan is not being formally developed. This is interpreted as a policy decision not to produce routine periodic volumes of statistical data and crime incident summary reports. But rather, a system is being developed in the form of a data base management information system, that would be responsive on demand for special purpose operational needs.

- Three Tier Crime Analysis Approach

PEP/CAU crime analysts have conceptually structured a three-tier building block of crime analysis objectives that, in effect, specify crime and operational data analytic output applications: (1) resource deployment; (2) pattern identification; and (3) suspect/offense correlation.

The resource deployment category has been the earliest and probably most successfully applied joint PEP/CAU analysis of CAPSS/CSF (calls for service) data for BFO scheduling needs. The manning models have been developed and refined over a period of months. Further applications are proposed. When questioned as to BFO's ability to "institutionalize" this capability, one watch commander did not believe BFO personnel have the necessary skills to apply the computerized modeling techniques to develop alternative schedules and manpower allocations. In view of this response, it would appear that a management decision to vest the prime responsibility for this service within CAU beyond PEP/ICAP grant support would be a logical step. What PEP has provided that CAU had not been able to do previously, is to apply a computer-assisted data base to an operational problem -- a classical operations analysis/research technique.

The pattern recognition tier building block relies primarily on the RIS I & II systems and CAPER (will be replaced by RIS II) to provide cross tabulations on crime specific incidents by geographic sector (district and beat). Weekly and monthly profiles of neighborhood burglary, robbery and selected other felony incidents have been provided by CAU for a period of time. PEP attempted to elaborate on this reporting process through a test development of BIP/DIP publications. The reaction from the field was that the data compilation was much too voluminous and untimely. Further work on BIP/DIP has been indefinitely suspended by PEP. Special crime pattern analyses are proposed that would highlight threshold levels of crime specific victimization incidents and correlate possible similarities.

The third tier building block, suspect/offense correlation is a longer range, and probably the most ambitious undertaking. This category of crime analysis falls into the MO (modus operandi) area and is the most controversial and least understood investigation tool in today's scene.

RIS II is building a data base of crime incident and offender characteristics by coding "bubble sheets" of check box type data extracted from crime incident reports. These data forms will be processed by OCR (optical character reader) and stored on tape. The "bubble sheet" entries are added to the crime incident tapes that already have recorded information on the crime event by case number, victims, witnesses, offenders and suspects. Supplemental updated report information is added via the bubble sheet annotations. From these stored files, the desired objective is to be able to make special computer runs that search on given descriptors to enable matches on vehicles, suspects and possible MO. Some projects have been undertaken and others proposed by PEP/CAU.

Much effort by many police departments has been expended on this type of computer-based procedure with disappointing results. The problem is discussed in an ensuing section of the report.

B. ATTAINMENT OF OBJECTIVES

In perspective, the first year project management decisions have been marked by the desire to have the PEP grant staff become fully acquainted with Department operations, key management, personnel and resource facilities. Their analytic skills were cautiously demonstrated on a request for assistance basis. Project output and utilization were discussed in Chapter V and are assessed below in context with program objectives set forth to LEAA.

Because the Department has had a level of sophistication having been developed in some measure through the R & D efforts, and subsequently supported by PEP, an influx of visitors to PEP from outside agencies was encouraged that appears to have been excessively distracting.

- Program Focus Perceived Differently

PEP management administrative time was wisely spent in developing Department-wide support. But concerns have been expressed from the Office of the Chief and elsewhere that the PEP efforts have been fractionated, lacking in a coherent direction and focus. Twice submitted to LEAA have been elaborate PEP/ICAP grant applications detailing some 42 candidate applications as possible interventions, plus 11 WIS subsystems that have been proposed for consideration to aid in achieving specific program goals. Files have been set up in anticipation of documentation to be developed for each numbered candidate application (See Table V-1).

Further concerns has been expressed from separate quarters that: 1) more direct PEP impact on operations was expected during the first grant year; and, 2) not much formal or overt effort has been made in the form of a work plan to undertake a systematic evaluation of candidate intervention applications in the three major PEP/ICAP program areas described in the initial grant application.

- Program Methodology, Apprehension and Management

From the evaluator's perspective, the necessary art of grantsmanship is recognized and understood. Nevertheless, we have some reservations regarding an untoward appearance of a grant paper excercise, touting great expectations and accomplishments without verification by measurable impact results. A case can be made, however, that PEP activities undertaken in the first year have been responsive to the grant objectives, and that the proposed program as submitted has been planned for execution over a three-year period.

Reference is made to Figure VI-1 showing a number of selected PEP project assignments that have been undertaken in the first year that fall into the designated program areas. (The checked-off program areas have largely been so indicated in ICAP grant application dated May 5, 1977). Our review of the published PEP reports and discussions held (Chapter V) with the recipients of the reports generally shows that needs were satisfied. We are somewhat moved, however, to observe that one project area stands out as having achieved a relatively high degree of acceptance and utility. This is the work having been undertaken jointly by PEP/CAU for BFO and manpower allocation.

PROGRAMS & OBJECTIVES / PROJECT ASSIGNMENT	PATROL METHODOLOGY			APPREHENSION			MANAGEMENT		
	Deployment A	Effectiv. B	Response Time C	Inv. Sup. A	Pre. Inv. Case Assgn B	Tal. Unit Assignment C	Crime Analysis A	Decision Making B	Interagency C
1. Detective Deployment	X								
2. Accident Survey	X							X	
3. Beat/District Profile		X						X	
4. Sergeants Seminar		X							
5. Fourth Watch	X		X						
6. BFO Training Evaluation		X						X	
7. Swing Watch Assignment	X								
8. Shift Preference Survey		X						X	
9. Juvenile Bureau Analysis									
10. Detective Night Detail								X	
12. Court Liaison Analysis*				X				X	
13. Supervisors Training Evaluation								X	X
14. Reorganization Seminars		X							
15. Fall Watch Schedule	X							X	
16. Midnight Watch Free Time	X							X	
17. Unit Availability Model	X							X	
18. Citizen Survey *								X	
Unnumbered activity								X	
○ RIS II Support							X		

*In progress as of 11/1/77

FIGURE VI-1: PEP PROJECTS RESPONSE TO PROGRAM OBJECTIVES

- Program Study Emphasis

Inspection of Figure VI-1 reveals that the Patrol Methodology Program Area, and the Management Decision-Making Program Area, received the greatest amount of overall program emphasis in terms of the number of projects undertaken. Program Area II- Apprehension, had only one project directed to this area, with but inconsequential effect.

By contrast, Figure V-1, Application of Alternative Candidate Systems, reveals heavy emphasis proposed on patrol and apprehension program areas. The proposed WIS component integration shows heavy emphasis on crime analysis and enhancement of investigative capabilities.

Although PEP Project #10, Detective Night General Detail, the sole project directed to Program Area II, was basically frustrated in the inability to acquire hard data to permit the desired analysis, a strong recommendation was made for a broad analysis of BI operations. The recommendations centered on case management, productivity assessment, and the administration and training role in conjunction with BFO. During our project evaluation interviews in BI, we could discern that the PEP recommendations have merit.

PEP Project #9, Juvenile Bureau Analysis, was faced with even a much broader and more difficult task compared to the Night General Detail evaluation. The circumstances leading to the Juvenile Bureau study and the findings revealed an administrative problem of some magnitude that clearly was beyond the ability for PEP to resolve. Nonetheless, crucial issues were exposed that have served to stimulate management action.

- Program Output Not Amenable to Impact Assessment

From an evaluation perspective, the latter two projects typify the type of PEP study that is not amenable to quantitative measurement of impact. Even though the scheduling and proportional manning models developed affect BFO operations, their impact also would be extremely difficult to measure quantitatively. For example, rarely were the schedule and manning recommendations implemented as submitted. The models, however, served an extremely useful function in providing a basis for manpower tradeoff negotiations between the watch commanders. Thus, contrary to our initial expectations of being able to develop measures of impact for PEP projects undertaken to meet program goals and objectives, we recognized that "impact" could only be subjectively evaluated on the basis of user acceptance of output (Chapter V). Also, having reached this decision, the development of baseline data became a moot objective. Discussions were held with the Assistant Project Manager on this problem and it was agreed that for the first year, impact evaluation would be based primarily on subjective criteria.

As the reader has no doubt noted, this first year evaluation necessarily has been heavily process analysis oriented.

C. PROGRAM PLANNING

- Planning Influenced by Uncertainties

The PEP grant became effective in September, 1976 and considerable administrative planning time became necessary to acquire staff and secure appropriate facilities and equipment. The delays encountered necessitated a three-month grant period extension to December 1, 1977. Although the PEP grant application addressed the LEAA goals and objectives by detailing an understanding of the PEP program, and outlined a comprehensive listing of alternative candidate interventions that might be undertaken, project management elected to take a longer range

developmental and experimental planning approach. As noted previously, the impending grant shift to ICAP program goals for the second year, cast a measure of indecision over the appropriate project direction in anticipation of LEAA's program requirement changes.

Another perturbation affecting project planning, and of more immediate concern, was the long talked about Department reorganization and potential impact.

Given these two major uncertainties, the project management election was to cautiously build a rapport with the line operating divisions to provide assistance on a request basis. No formal planning instrument became evident to the evaluators with regard to pursuing this procedure which has taken considerable staff time. Concurrent with providing these analyses, an election was made to build a data base from which a planned crime analysis orientation would emerge from PEP-turned-ICAP. The fact that a CAU effort was already functioning in R & D, greatly facilitated PEP's move to support and strengthen the Department's crime analysis capability.

- Project and Department Interrelated Objectives

It has repeatedly been stated by project management, that crime analysis is one of the three major planned project thrusts. The other two major planned activities encompass the enhancement of the preliminary investigation function by patrol, and career criminal multiple offense linkage to ensure appropriate sentencing of convicted repeat offenders. In view of these articulated project plans, we would be remiss if we did not offer constructive comments that may aid in the project planning process.

Our first observation is that the Department top management reorganization taking effect as of November 6, 1977, will affect PEP/ICAP to the degree that its staff skills will be essential to support the needs of the newly designated Director of Operations (Assistant Chief). The subordination of BFO and BI within this command structure portends a greater degree of mutual interaction than has probably occurred in the past. The success of the Robbery Prevention Project in large measure can be attributed to the cooperation between BFO and BI elements.

Our recent experience and involvement in national level program planning, research and symposia concerned with managing criminal investigations emphatically underscores the trend to strengthening the patrol role in investigations, particularly as apprehension of the hard core criminal repeater is a prime law enforcement objective. In consonance with this view, during our initial interview with Chief McNamara, he stressed that PEP should develop a work plan directed toward patrol operations.

o Upper Management Guidance Essential

While there appears to be a consensus among the middle and upper Department management levels that PEP has a demonstrated analytical capability and a promising potential, there is a general vagueness relative to actual impact effected. What we suspect has been happening, or rather not occurring is upper management involvement to assist PEP project management in defining a firm focus leading to discernible results. As the first project year is coming to an end, and the second grant year is about to begin, coinciding with new ICAP goals and objectives, and a restructured Department management organization, we strongly recommend that SJPD management consider means to assure that ICAP staff receive the benefit of their guidance and counsel on major issues.

This top management guidance will be particularly crucial during the next quarter to prevent conflicting demands and decisions made that could dissipate resources.

The project will have turned back to the Federal Government over $80,000 and possibly as much as $100,000 at the end of the project year as being unspent. While the project decision probably was correct not to fund certain activities because of doubtful results, given the beneift of top management input, it may have been possible to redirect those funds to other appropriate tasks. Major funding allocation decisions, particularly of this magnitude, should have the benefit of management policy and decision-maker counsel.

o Workplan and Schedule Appear Necessary

The "art" of apprehending criminal offenders has been practiced by law enforcement bodies ever since society demanded protection from such predators. But with the burgeoning growth of urban and suburban populations, and the severe economic stress over the past decade or so giving rise to an enormous increase in crimes, treating crime control as an intuitive art no longer seems acceptable. Many aspects of our defense, business, industrial and social sectors have benefited from scientific and analytic processes developed in the post World War II years. Rational decisions on allocation of resources can be made on assembled facts, resulting from the use of proven analytic tools, rather than reliance on intuitive judgments stemming from emotions or "feel".

PEP has been attempting to bring this new analytic technology into the decision-making process. But it can only survive by having the full understanding and support by middle and upper Department managers. Understanding is underscored because it is incumbent on the PEP project management and staff to lay out an operational design whereby they would propose to accomplish certain expected results by undertaking specific tasks, recommend

changing certain procedures or propose experimentation. For the benefit of upper management levels, PEP should do its "homework" by detailing proposed undertakings, budget and schedule them for the ensuing year.* Assistance should be secured from top management so that a decision for rejection or go ahead on any or all of the proposed undertakings is based on a full comprehension of what is involved. A go ahead constitutes a command decision commitment. Also, a decision and plan should be made on how to deal with the proposed candidate applications contained in the grant application.

- Internal Assessment of Three Long-Term Goals

The ICAP guidelines specify and the PEP management and staff are committed to a long range goal of evolving a functional crime analysis capability leading to a reduction of the career criminal population. ICAP (no longer PEP) planning should assess at the earliest possible time whether the approaches they are undertaking or propose to undertake will produce desired results to achieve objectives.

Projects funded by LEAA have produced some significant findings that ICAP and Department management would find particularly illuminating -- informative in the sense of revealing some limitations of heavy reliance on overly sophisticated computer-based information systems and mathematical analyses. For example, in the Foreword to a National Evaluation Program report, "Crime Analysis in Support of Patrol" the Director of the National Institute of Law Enforcement and Criminal Justice (NILECJ) observed as follows:

> The message of the study is clear; better understanding and coordination between the analysts and the departments that use the analyses is essential. The police officials polled in this survey acknowledged the value of crime analysis. At the same time, they were not convinced that the more sophisticated mathematical analysis techniques -- such as response force modeling and crime event predictions -- are superior to less sophisticated formulas. In fact, the study found that the more formal the analysis program, the more remote it becomes to practitioners and the less likely it is that the information it produces will be used.

*Subsequent to submission of this report in draft form, we were pleased to learn that ICAP staff initiated efforts to develop such a work plan.

Our overview of the excessively wordy report insofar as it is relevant to ICAP, is that the Director's observation of crime analysis remoteness from the user will cause its being cast aside, is a highly relevant caution. PEP project management has made all the correct efforts to forestall this problem in its first year undertakings. But the second year should involve a close examination of WIS and particularly RIS input - output as to relevancy to crime analysis result expectations. In this regard, reference is made to another NILECJ-funded study report "Felony Investigation Decision Model: An Analyis of Investigative Elements of Information". (One of the PEP co-principal evaluators was the principal investigator for the project undertaken in the Oakland Police Department). This report addresses the development of felony cases screening models and assesses the value of investigative information leading to suspect I.D. The report in particular raises critical questions relative to M.O. usefulness in crime analysis.

An earlier, companion report to the Decision Model Study, "Enhancement of the Investigative Function" addressed the question of effort devoted to linking prior crimes to an apprehended felon if all that occurs is the paper clearing of cases. PEP has articulated this third endeavor as being the longest range goal in the crime analysis program triad discussed previously. It is surmised that achieving this objective will be costly, time consuming and of little consequence unless a programmatic approach is laid out to involve investigators, prosecutors and the judiciary. Charging multiple offenses and

establishing proof of guilt in prosecutorial and judicial proceedings can consume an enormous amount of resources. The RAND Corporation in their somewhat controversial study also funded by NILEC, "The Criminal Investigation Process" concluded the following:

- In relatively few departments do investigators consistently and thoroughly document the key evidentiary facts that reasonably assure that the prosecutor can obtain a conviction on the most serious applicable charges.
- Police failure to document a case investigation thoroughly may have contributed to a higher case dismissal rate and a weakening of the prosecutor's plea bargaining position.

PEP Project #6, "BFO Training Evaluation" exposed BFO/BI recognition of serious deficiencies in patrol investigation practices. PEP Project #10, "Detective Night General Detail" strongly recommended a management evaluation of the role of investigators in BI.

In summary then, PEP has completed a generally successful experimental and transitional first year without whatever benefit a more structured planning process may have produced. In view of all the considerations we have presented, we strongly recommend that a more structured planning procedure is required with more upper management involvement in the planning and decision-making process.

CHAPTER VII
SECOND YEAR APPROACH

At the time that this first year evaluation report was being completed, PEP program plans for the ensuing year had not been formalized. Inasmuch as the program focus will be directed to achieving ICAP objectives over the next two years, an evaluation design should be responsive to the ICAP application grant proposed program outline submitted to LEAA in May, 1977. There are three uncertainties at this writing, however, that inhibit the ability to lay out a specific evaluation design.

The first, given that the first year program was pursued on a developmental mode and largely responsive to requests for assistance, the past relatively unstructured approach provides little guidance as to the form that the second year activities will be planned and executed. Both the first and second year grant applications, however, speak to the systematic evaluation of candidate application alternatives: "an extensive list of candidate remedial applications will be searched for the most appropriate. If none are found, others will be developed. Once an alternative is selected, training and coordination methods will be developed and instituted. Immediate and close evaluation will coincide with implementation. Documented evaluation of the programs will be processed through a "review loop" and decisions made whether to retain the program with appropriate revisions, abandon it, or re-subject the issue to the review and analysis process."

The second uncertainty concerns the ICAP staff involvement for assisting in the inevitable operational changes that will occur as a result of the Department reorganization taking effect on November 6, 1977.

The third uncertainty involves LEAA final approval of the second year grant, that to our knowledge has not occurred as of November 15, 1977. The ICAP Program is scheduled to become operational on December 1, 1977.

It is our professional judgement that the second year evaluation design can best be undertaken at the time a structured workplan has been evolved by the ICAP program management. In retrospect, as the proposed first year evaluators, we had anticipated more of an intervention-oriented approach to have been undertaken. As a consequence of the actual direction of activities that had taken place and discussed throughout this report, a quantitative-based assessment of impact and productivity as originally proposed was found inappropriate.

Despite these constraints, the insights we have obtained regarding project staff competence and their understanding of needs, and the excellent and cooperative relationships we have established at all operational levels in the Department, suggest the following approach for the second year:

- Shortly after LEAA approves the second year grant, the ICAP management and key staff should have prepared for Department management a brief regarding proposed project activities. *

- The Assistant Chief in charge of operations bureau should provide a brief of his needs for which ICAP could provide assistance within the specified grant guidelines.

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*Subsequent to submission of this report in draft form, we were pleased to learn that grant staff initiated work on development of a detailed plan to guide second-year operations.

- While organizational placement of the grant in BFO was appropriate to first year PEP goals, it is clearly not appropriate for ICAP whose mission cuts across the total police organization. It is not our place to make a specific organizational placement recommendation. However, we suggest that management consideration be given to: 1) placing the ICAP grant directly under the newly created position of Director of SJPD Operations; 2) forming a small (two or three member) inter-Bureau Management Advisory Panel to assist ICAP in achieving its goals; or, 3) placing the grant directly in the Office of the Chief of Police. Irrespective of the option chosen our key point here is that the option should be one that invests the ICAP staff with appropriate delegated <u>authority</u>, subject to management review, to carry out its responsibilities under the grant.

- At this stage, it is suggested that a workshop be convened that would systematically consider those interventions that appear desirable and feasible to undertake. The second year evaluators should be involved in this process to the extent that their experience can contribute to a project task intervention design and provision made for internal evaluation.

- Attention is called to Appendix D - Evaluation Plan - of the second year ICAP grant application. ICAP and SJPD management should carefully examine this document with regard to the enormous burden to be levied in the Department for data collection and evaluation that is explicitly called for. On pages 2 and 3, the Evaluation Plan calls for specific evaluations to have been undertaken during the first program year. We have no quarrel with the four areas specified for evaluation, as they correspond to the proposed first year grant program approach. What appears necessary is a reconciliation with <u>actual</u> program elements to be undertaken during the ensuing two years, so that planned task interventions can be evaluated internally as they become operational.

- In accordance with the recommendations given in the paragraph above, an important function that should be undertaken jointly by the second year evaluators and the ICAP staff is to examine each of the evaluation criteria tabulated on pages 4 through 7 of the Evaluation Plan for relevance to the workplan developed.

- We suggest that each key member of the staff be assigned responsibility for one or more of the ICAP objectives during the second year of the project. These individuals should be responsible for preparing a plan to accomplish the objective and for documenting results achieved.

- Finally, we regard it as imperative that an analysis or study be undertaken by ICAP staff, early in the second year, that sets forth and describes exactly how the ICAP plans to attack the "career criminal" problem. We regard the general ambiguity of this concept as a barrier to more effective utilization of ICAP grant resources and feel that early resolution of this issue will serve to sharpen the precision of grant-related decision making.

APPENDIX A

PEP PROJECT INTERVIEW GUIDE

PEP PROJECT INTERVIEW GUIDE

1. Nature of Assignment

   What specifically led to the request that PEP undertake this task assignment?

2. Report Utilization

   A. How did you feel about the findings?

   B. Did the report satisfy the requirements?

   C. Were the findings useful in aiding a decision to do something, or not to take action?

   D. Were the recommendations or findings implemented in whole or part?

   E. If not implemented, what were the reasons?

3. Lessons Learned from Assignment and Report

   A. Was the report instructive? In what manner?

   B. As a result of experience in requesting this task of PEP, do you think you or your Bureau or unit would again request PEP for additional analysis?

   C. If not, why not?

4. Report Quality

   A. How would you rate the overall quality of the report?

   B. How would you rate its clarity in presentation of facts?

APPENDIX B

DEPARTMENT PERSONNEL INTERVIEWED

The following personnel were interviewd during the evaluation period. Some were questioned on projects they had requested. Line management was questioned on overall policy and substantive issues. Project staff were questioned on methodological approaches taken.

- Chief Joseph D. McNamara
- Assistant Chief Jay Propst
- Deputy Chief Edward McKay
- Deputy Chief Robert Allen
- Captain Stan Horton
- Captain Lyle Hunt
- Captain Larry Stuefloten
- Captain Gordon G. Ballard
- Lt. Robert Bradshaw
- Lt. R. Moier
- Lt. Charles Roy
- Lt. Ivan Comeli
- Lt. Ray Isle
- Lt. Gary Leonard
- Sgt. Tom Johnson
- Sgt. William Gergurich
- Sgt. R. Brooks
- Sgt. J. Hober
- Det/Sgt. L. Darr
- Sgt. Bert Kelsey
- Sgt. William Erfurth
- Mr. James Gibson
- Dr. Terry Eisenberg
- Mr. Craig Broadus
- Ms. Yvonne Adams
- Mrs. Elba Lu
- Mrs. JoAnn Moore

<u>External Interviews</u> (Spelling is Phonetic)

- Mr. G. Yamomota, Stockton ICAP (telephone)
- Mr. George Sullivan, San Diego (telephone)
- Mr. E. Ze lewski, LEAA Office of Evaluation (telephone)
- Mr. Robert Heck, LEAA PEP/ICAP Coordinator (telephone)
- Mr. Ray Galvin, San Francisco ICAP (personal)
- Lt. Caty, Oxnard ICAP (telephone)
- Sgt. E. Freeman, Portland PEP/ICAP (telephone)
- Mr. R. Louth, Colorado Springs ICAP (telephone)
- Lt. Iami, Simi Valley ICAP (telephone)
- Sgt. James Green, Fort Worth ICAP (telephone)
- Mr. Thomas Spann, Jacksonville ICAP (telephone)
- Ms. Ann Gomez, Austin ICAP Planner (telephone)

APPENDIX "B"

(PATROL ALLOCATION PLAN)

PATROL ALLOCATION PLAN

Patrol Emphasis Program
San Jose Police Department

Jim Gibson

April 18, 1978

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Patrol Allocation Plan

Introduction:

The San Jose Police Department has recently reorganized and adopted a plan which places the three bureaus having the functional responsibilities for records, investigation, and patrol in one division under the Assistant Chief of Police in charge of operations. During the fall of 1977, the Assistant Chief of Police requested that the staff of the Patrol Emphasis Program study the existing allocation of resources in the Bureau of Field Operations (patrol) and develop an alternative plan which would mitigate as many of the undesirable features of the existing plan as was possible. The PEP staff proceeded to develop a plan jointly with the Crime Analysis and Systems Technology Sections of the Research and Development Unit of the department. In addition, the PEP and R&D staff worked closely with the Command staff of the Bureau of Field Operations (BFO) as well as with subcommittees of the departmental-wide Reorganization Committee. These groups contributed suggestions and, in the case of BFO's command staff, stipulated constraints which were incorporated into the final allocation plan. The final plan involved redistricting the city, changing the working hours of the patrol officers, and manning individual beats according to the demand for service. This plan was implemented on March 5, 1978. What follows is a description of the constraints, procedures, and methodologies encountered or used during the developmental phases of the plan and of the procedures and start-up tasks followed or completed during the implementation phase.

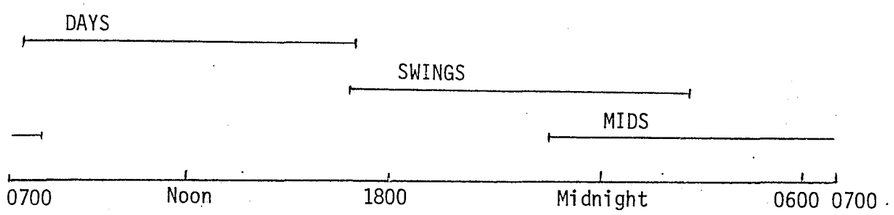
It is important at this time to underscore the co-operative nature of the effort. The PEP staff and the R&D staff co-ordinated their efforts throughout the project and especially during the time the plan was being developed. The PEP staff assumed much of the responsibility for implementation but worked closely with BFO, the county-wide communications agency, and the public works department of the City of San Jose which is responsible for the operation of the City Garage.

Development of the allocation plan for BFO described in this report produced some technology which the staff believes may be applicable in other departments. This technology is explained in considerable detail both in this paper and in a note appended to it.

The Existing Situation Prior to the Adoption of the New Plan:

In 1971, the patrol division of the department adopted the 4-10 plan; patrol officers and their supervisors began to work four consecutive ten hour days. Policing was done in teams of from four to thirteen officers working under a supervising sergeant; teams were responsible for delivering patrol services to each of seven districts covering the entire city. The department values highly this concept of team policing, and it and the 4-10 plan were constraints which would be placed on any allocation plan which the department could be expected to adopt.

Two other attributes of the then existing schedule should also be mentioned. The first and more important was the working hours of each of the three patrol shifts. With three ten hour shifts in a twenty-four hour day, the patrol division (BFO) could schedule six hours during which more than one shift would be on duty. Consider Figure 1. Five of the six overlap hours occurred during the late evening and early morning hours from 2200 in the evening to 0300 the next morning. This left one hour of overlap to distribute elsewhere namely at the changing of the shifts at 0730 to 0800 and at 1700 to 1730. These working hours in conjunction with the level of staffing on each shift resulted in some undesirable effects which will be documented in some detail in a later section of this report.



Working Hours of Patrol Division Prior
Figure 1

The second attribute of the then existing schedule which merits attention is somewhat confusing. Recall that the city was divided into seven patrol districts and that the patrol division was on the 4-10 plan. This meant that it would take two teams each shift to police each district seven days a week and fourteen teams on each shift to police the entire city of seven districts for a full week. The two teams working a given district would overlap one day a week; this is because each team worked four consecutive days (for a total of eight working days) in a seven day week. Since there were seven districts in the City, there were seven overlap days a week on each shift. This resulted in their being one district each day on each shift where two teams were assigned to work. One team was the primary team and the other was the secondary team or, to use the common descriptor, "the team in the hole." This team was used as a back up resource for replacement officers to fill vacancies in other teams resulting from illness or vacations. This scheduling was done on an "as needed" basis at the time each shift was deployed. One of the

areas the PEP staff was asked to address was how to more effectively use the resources made available by the overlap configuration.

In addition to the schedule of working hours, the then existing district and beat configurations used by the patrol division impacted significantly the delivery of patrol services and the allocation of patrol resources. The seven district configuration being used at that time was originally adopted in 1974. Seven districts had from five to eight beats each, and the beats themselves were further divided into "beat building blocks" which followed census tract boundaries so that various demographic variables could ultimately be taken into account during the development of any plan allocating patrol services. The central core of the city was divided into three districts which used different radio channels. There was a general feeling that the existing seven district configuration deserved a thorough re-examination in order to determine whether or not it could be changed to improve the delivery of patrol services.

Undesirable Attributes and Effects of the Existing Plan:

The schedule of working hours and the seven district configuration described in the previous section had attributes which were either themselves undesirable or produced undesirable effects when operationalized. A brief summary of these follows:

1) The central core of the City was broken into three districts and an equal number of radio channels. It was felt that this inhibited the ability of the department to meet the special needs of this area of the community.

2) The districts were unequal in size creating significant deployment problems.

3) The workloads in the districts differed markedly. This was due to differences in district size as well as to other differences; e.g., some districts had significant commercial and industrial areas while others were primarily residential.

4) The patrol division of the department utilized four radio channels at that time; the two busiest districts were on the same channel, creating a communications overload. Due to equipment limitations, it was not possible to group the then existing districts into alternative combinations in order to alleviate the communications overload on selected radio channels.

5) Under the then existing schedule of working hours (Days 0730-1730; Swings 1700-0300; and Mids 2200-0800), it was not possible to man the watches according to the demand for service (the definition of which will be discussed thoroughly in a subsequent section.) without severely impacting the number of officers assigned to the

midnight shift. In other words, given the available resources (approximately 300-340 officers), it proved impossible to distribute them among the three shifts in a manner proportional to the workload without reducing the number of officers assigned to the midnight shift to levels below those acceptable for officer safety and to sustain a minimum level of service 24 hours a day. (This had been determined to be 80 officers.) Given the distribution of incoming calls for service during the 24-hour day, the requirement that the midnight watch be manned with at least 80 officers (excluding supervisors) resulted in an uneven workload among the shifts. The officers on the swing shift were responding to roughly two to three times more calls for service than were those officers on the midnight shift. In other words, the requirements of officer safety produced disproportionally manned shifts which resulted in an uneven distribution of the work given the then existing schedule of working hours.

6) The schedule of working hours also produced other undesirable effects. Recall that there was a five hour overlap between the swing and midnight shifts and only a one half hour overlap between the midnight and day shifts and between the day and swing shifts. Looking at the graphs in Figures 2 and 3, it can be seen that demand begins to increase sharply during the late afternoon and early evening hours and continues to rise until somewhere between 2300 and midnight. This occurs both during the weekdays and the weekend days. The swing watch was therefore deployed at a time of a relatively high and increasing demand with the benefit of only one half hour overlap. Recall from above that the swing shift was a relatively overworked shift. What

Figure 2

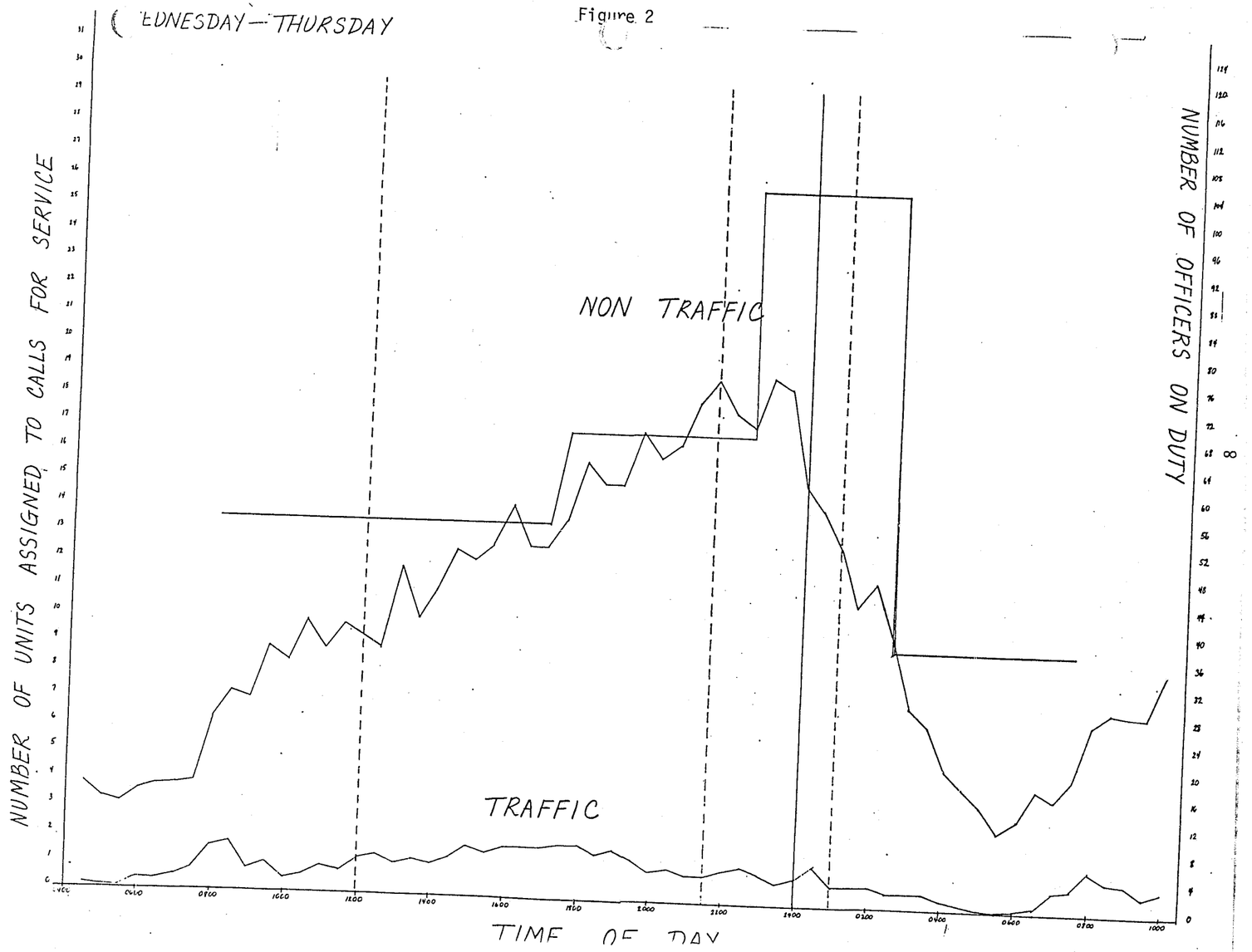
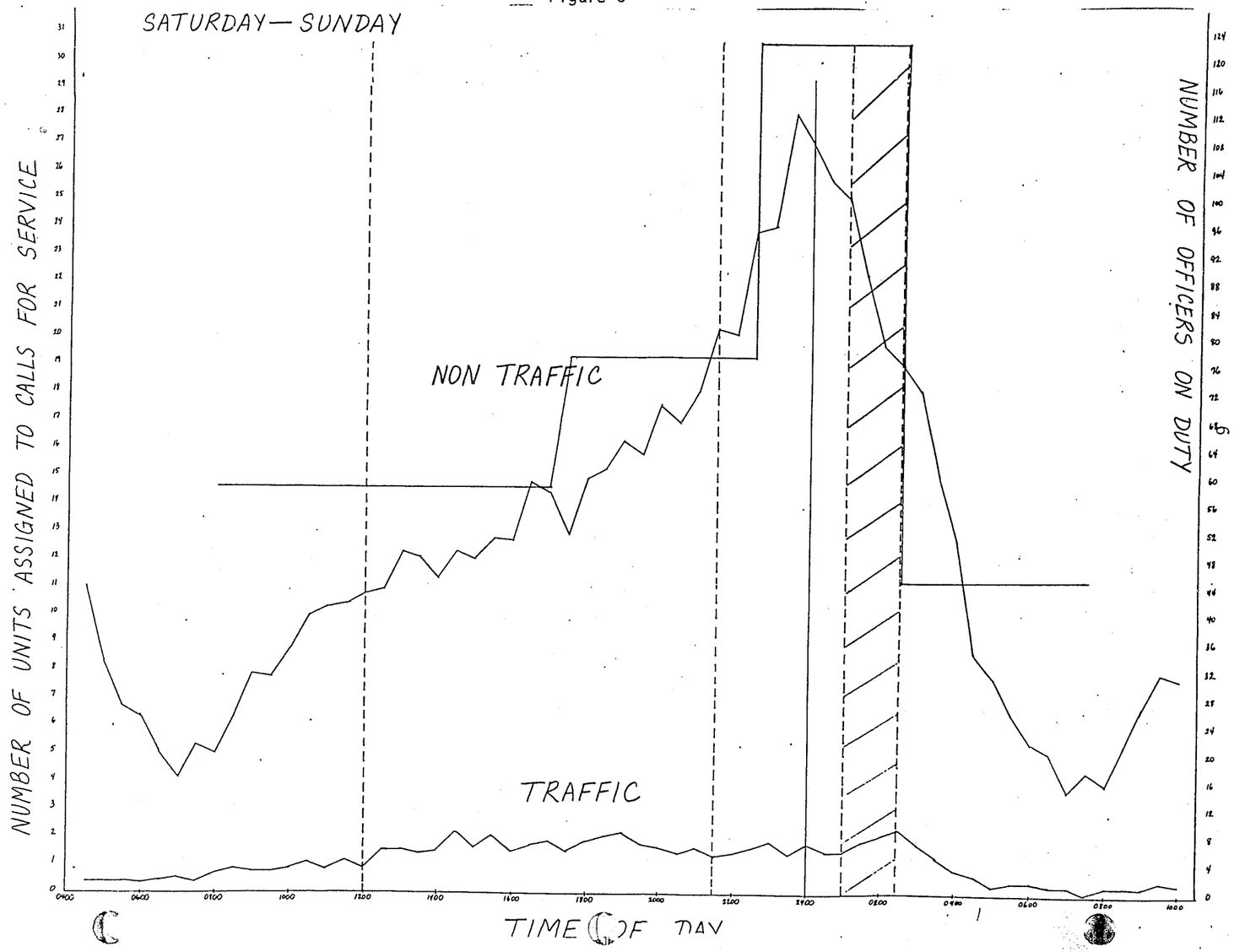

TUESDAY—THURSDAY
NUMBER OF UNITS ASSIGNED TO CALLS FOR SERVICE
NUMBER OF OFFICERS ON DUTY
NON TRAFFIC
TRAFFIC
TIME OF DAY

Figure 3


SATURDAY—SUNDAY
NON TRAFFIC
TRAFFIC
NUMBER OF UNITS ASSIGNED TO CALLS FOR SERVICE
NUMBER OF OFFICERS ON DUTY
TIME OF DAY
0400
0800
0100
1000
1200
1400
1600
1800
2000
2200
2400
0200
0400
0600
0800
1000

was occurring became clear: The swing shift, relatively undermanned, was "hitting the streets" at a busy time; swing officers were unable to "catch up" and so their supervisors did not allow them to go "Code 7" for dinner until the midnight shift was available to respond to calls for service after 2200. At that time, much of the swing shift took "Code 7's" leaving the midnight shift to service what was still a high demand. This impacted the midnight shift severely during the first hours of that shift. In other words, the problem beginning at 1700 ultimately impacted the department's ability to deliver services during the midnight hours.

7) The above problem was further compounded by two other factors. First, two shifts (the day and swing) were being deployed during the traffic rush hour. (The day shift also returned to the garage during rush hour traffic.) And second, the department is centralized; all units are deployed from one location to serve a community of approximately 150 square miles. During the afternoon when the day shift was returning to the garage and the swing watch was being deployed, these two factors worked to delay officers from reaching their beats. This resulted in a backlog of calls which, when added to the incoming calls, created a log jam of demand. The scenerio worked something like this: In order to avoid delay due to traffic, the day shift in outlying beats would begin to return to the garage as early as 1630 to 1700. The swing shift would report to briefing at 1700 and begin to leave the garage at 1730; in some instances, swing officers would not arrive at their beats until 1800. When traffic was heavy, the roll to and from outlying beats could take as much as 45 minutes. Beats were sometimes unmanned

for a considerable period of time. (So severe was the problem that the Bureau of Field Operations was forced to institute an "early swing" watch of two or three units a district which reported for duty one hour earlier at 1630. Nevertheless, the problem remained and calls began to back up during the late afternoon.)

Note in Figure 4 that the two lines of the graph diverge during the late afternoon hours. At any point in time, the upper line gives the total number of calls which must be serviced during the next half hour. The lower line graphs only those calls for service which are incoming during the half hour. When the two lines diverge, calls are being backlogged, i.e., they are being held in the que waiting for dispatch. Deployment during times of traffic congestion combined with the fact that the department is centralized at one location to produce a severe backlog most afternoons. This backlog was added to the already heavy demand facing the swing shift and ultimately was transferred to the midnight watch at 2200.

8) Finally, there was some desire expressed by the Bureau command staff to use the overlap day or the "team in the hole" more effectively.

TRICT 7 SERVICE DEMA BY HALF HOUR Figure 4

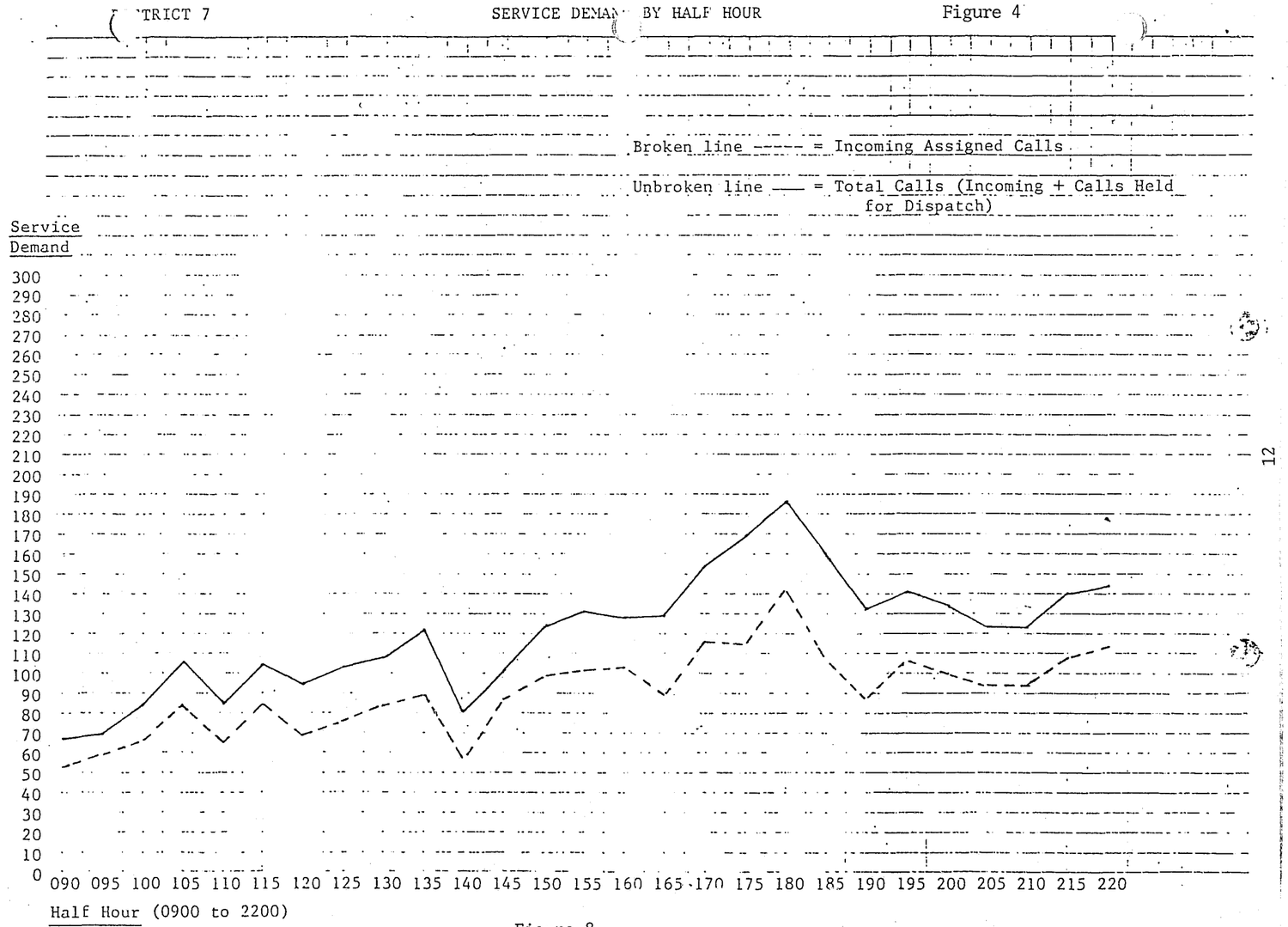


Figure 8.

The Data Base:

In order to better understand how demand was measured, some familiarity with the data base the Bureau of Field Operations has at its disposal is necessary. The department has been operating a CAD (Computer Assisted Dispatch) System since November, 1976. The department's version of a CAD is CAPSS for Computer Assisted Public Safety System (shortened to CAPS). CAPS meets a number of needs which can loosely be grouped into two categories. The first category includes all operational needs, i.e., those needs related to dispatching police services quickly and efficiently when and where they are required. The second category of needs includes all those needs which might be called management needs. Management requires a variety of statistical data which either used alone or in conjunction with other data quantify patrol operations and therefore help to document the activities and requirements of the organization. The department has followed the philosophy wherever operational and management needs conflict, operational needs take precedence. Nevertheless, the department has developed the capabilities of the CAPS system to provide a significant amount of management information. What follows is a description of what management information is collected and in what form.

All radio communications are recorded on a magnetic tape, every twenty-eight days the city's data processing center uses this master tape to construct a second tape of some 15,000 to 18,000 radio events. Each event results in a record. A printout of that record can be found in Figure 5. A brief discussion of the printout should clarify

what data are captured and can then be used to supply management information. The following data are captured:

1) The beat where the event occurred.

   Note: The first digit of the beat is the district number.

2) BBB or Beat Building Block - a subunit of the beat.

3) The priority of the event - priorities one through four are dispatched calls for service; priority five is an officer-initiated event.

4 and 5) The type of event; this may or may not be a criminal event; with some modifications, these codes are the same as the section and subsection designators in the Penal, Vehicle and Welfare and Institutions Codes of the State of California. All events as they were characterized by officers in the field are recorded under the heading of Type. The same events as they were dispatched appear under the heading Disp Type.

6) The disposition of the event; for example, A - Arrest, R - Report Written; U - Unfounded, and N - No Report Required, Dispatch Record Only.

7) Event Number; may be broken into 3 parts. First two digits - Year; next three digits - Julian Date; last four digits - sequential event number beginning with zero each day.

8) Time the event was reported.

9 and 10) Number of 2-man units assigned and number of other than 2-man (usually one man) units assigned.

11) If beat car was assigned as the primary unit, its unit designator appears in this column.

12) This is dispatch information; each dispatcher has an ID number; the district to which the unit was dispatched also appears.

13 through 17) Consumed Times

13 - Dispatch Time - from time call was received until dispatch

14 - Travel Time - from time call was dispatched until first unit arrived at scene.

15 - Response Time - Sum of 13 and 14

16 - Incident Time - from time first unit arrived at scene to time last unit left scene

17 - Total Unit Time - total time spent by all units servicing the event.

18 through 22) The unit numbers of up to five units which were involved in the event (Not printed in Figure 5).

23 through 27) Individual Unit Time - time each of up to five units spent at the scene. (Also not printed in Figure 5)

These data are stored in SPSS (Statistical Package for the Social Sciences) systems files. The data can be manipulated in a variety of ways. For example, the Julian Date in column 7 can be used to isolate particular combinations of days, weeks, or months. Used in conjunction with column eight (the reporting time) the Julian Date can be used to identify either points in time or segments of time. The unit number also contains valuable information useful to the analyst. From the

FIGURE 5

REPORT ID: SL201 *** CITY OF SAN JOSE *** POLICE DEPARTMENT *** RUN DATE: 03/ /78 AS/OF DATE: 03/04/78 PAGE 11

REPORT TITLE:

BEAT RESPONSE TIME ANALYSIS
FROM 02/05/78 TO 03/04/78

	* * * * * * * EVENT * * * * * * *							UNITS INVOLVED			CONSUMED TIMES EXPRESSED IN MINUTES:SECONDS				
	BEAT (1)	BBB (2)	PRI (3)	TYPE (4)	DISP TYPE (5)	DISP (6)	NUMBER (7)	TIME (8)	2-MAN (9)	OTHER (10)	BEAT CAR ASSIGNED (11)	DISPATCHER AND AREA (12)	DISPATCH (13)	TRAVEL (14)	RESPONSE (15)	INCIDENT (16)	TOTAL UNITS (17)
	11	049	2	415	415	G	780370769	1926		1		D1/0209	4:05	12:15	16:20	4:58	4:58
	11	049	2	415F	415F	N	780380685	1943	1	1		D1/0207	1:37	10:28	12:05	42:56	56:58
	11	049	2	261A	261A	E	780400026	2116		4	6111	D1/0174	12:02	6:09	18:11	237:53	415:12
	11	049	2	UNKCIR	UNKCIR	N	780450156	0637		3		D1/0198	1:48	8:37	10:25	63:31	120:03
	11	049	2	1033S	1033S	N	780430585	1704	1			D1/0240	2:05	13:54	15:59	4:45	4:45
	11	049	2	1033S	1033S	N	780530652	1721		1		D1/0154	2:26	16:16	18:42	40:28	40:28
	11	049	2	459	459	R	780540377	1253		2		D1/0203	2:30	6:25	8:55	92:13	134:41
16	11	049	2	459	459	N	780550717	1834		3		D1/0240	1:39	4:25	6:04	7:24	7:24
	11	049	2	1033	1033	N	780560447	1214		2	5111	D1/0241	3:01	8:29	11:30	13:21	19:32
	11	049	2	415V	415V	N	780570993	2311		2	6111	D1/0182	1:25	:42	2:07	14:20	26:16
	11	049	3	459	459	R	780380196	0814		1	5111	D1/0187	32:55	11:18	44:13	182:56	182:56
	11	049	3	459	459	R	780450165	0712		1		D1/0225	2:47	43:16	46:03	74:46	74:46
	11	049	3	1016	1016	R	780490601	1457		1		D1/0239	9:58	5:57	15:55	14:11	14:11
	TOTAL 13												78:18	148:11	226:29	793:42	1102:03
	AVERAGE												6:01	11:23	17:25	61:03	84:45

18, 19, 20, 21, 22 — (Not Printed) The unit numbers of up to five units which were involved in the event

23, 24, 25, 26, 27 — (Not Printed) Consumed time per unit for first five units responding

unit number the analyst can tell to which shift and beat the unit was assigned, whether or not it was a specialized unit (traffic, walkers, canine, or MERGE units), whether or not it was a supervisor and the rank of the supervisor, whether or not it was a one or two man unit, and if it had no beat assignment to what district it was assigned.

A final remark seems in order. The PEP Grant had the advantage of access to a sophisticated data base which itself was the product of several years of development by the R & D staff of the department. However, this should not obscure the fact that much of the information which this department collects automatically through the use of a CAD system can also be collected manually by any department having a fully staffed communications center by either collecting information on the entire population of events or by drawing a sample. Reliable information is not necessarily the product of an expensive computerized system. It is important, however, that radio transmission be accomplished with maximum efficiency and that communications procedures be adopted that condense information into a few highly efficient codes capable of capturing a variety of information elements.

Measurement of the Demand for Service:

Some definition of the demand for patrol resources had to be conceptualized and operationalized in order to evaluate the relative merits of alternative allocation plans. In other words, it became necessary to conceptualize as precisely as possible just what it was the patrol division was expected to do. Then it was necessary to operationalize (quantity) that measure of demand.

The problem is not a simple one. Patrol services were conceived of as falling into two groups. The first group of activities included all those activities which were self-initiated by the officer; this included both car stops and other self-initiated field stops. The second group of activities included all those activities which were in response to a request or call for service. For two reasons, it was felt that self-initiated activity could not be used as a reliable indicator of <u>future</u> activity. <u>First</u>, self-initiated activity is by definition the result of individual officer initiative. Some officers initiate substantial volumes of activity; others do not. Officers also have different enforcement styles; no matter how much supervision or management direction they may have, they emphasize different aspects of their job. Because personnel change, the volume and type of self-initiated activity which will occur at particular times and places is likely to be unstable. Second, first line supervisors have different <u>management</u> styles; they too emphasize different elements of their jobs. For example, one supervisor may stress community relations while another may stress traffic control. This compounds the problem. If personnel change (either officers of first-line supervisors) then both enforcement

and management styles will change as will the volume and type of self-initiated activity. For these reasons, it was felt that self-initiated activity could not be included as an element of the measure of the demand for service. Only activity generated by a call for service was considered to be a valid indicator of future service demand.

Using the data from the CAPS system, it was possible to construct three measures of the demand for patrol services. They are 1) the number of calls for service; 2) the number of units assigned to respond to calls for service; and 3) the consumed time (expressed in minutes) required to service calls for service.

The choice of which to use revolved around which measure best reflected the severity of individual calls for service. It was recognized that all calls for service do not make the same demands on patrol resources; some require a multiple response, i.e., more than one responding unit. However, even calls that require the same number of responding units differ as to the demands they place on the patrol function. Some calls can be disposed of in a few minutes; others require hours. Because the number of calls for service does not weight requests for service by their severity, it was decided not to use calls for service as the basic measure of the demand for patrol services. This left either the number of assigned units or the amount of consumed time to be chosen as the better measure.

The choice as to which of these measures was the more appropriate was not at all obvious at the outset and is still felt to be contingent on the problem the measure is being used to solve. In the present case, the analysis team was concerned with not understaffing those shifts

working the late evening and early morning hours when more severe calls were likely to be dispatched. A preliminary investigation indicated that there are more multiple unit responses during the nighttime hours than during the daytime but that these calls did not necessarily require more time to service. In fact, comparing calls received during the nighttime hours to similar calls received during the daytime produced some surprising results. It took the officers working the daylight hours longer to service comparable calls than it did officers working during the nighttime hours. For example, residential and commercial burglaries which often require the responding officer to take a report without taking other action consumed more time per event during the daylight hours than during the nighttime hours. This is because during the nighttime, officers are busier than they are during the daylight hours; they must dispose of each event in as an efficient manner as possible in order to be available for further assignments. On the other hand, officers working the daylight hours are more likely to have a public relations component to their work. Use of consumed time as an overall measure of the demand for patrol activities would unduly penalize officers working during the nighttime hours. In other words, the validity of the consumed time measure in this analysis would be questionable. Therefore, the number of units responding to calls for service was chosen as the best measure of the demand for patrol services because it reflects the severity of the call (and therefore the need for patrol services) without incorporating into the measure some of the disadvantages of the consumed time measure.

The analysts devoted a considerable amount of time to choosing the most appropriate measure of the demand for patrol services. It was felt that the problems of measuring police services have generally been overlooked or at least avoided either because they were conceptually difficult or because the data were not available. A number of technologies distributed resources over space or time have been developed but relatively little attention has been paid to the problem of measuring police services. The staff felt that this was one of the key problems encountered during the development of the allocation plan. It perhaps was also the most difficult.

CONTINUED

2 OF 4

The Developmental Phase of the Plan

The Participants:

The task of evaluating the existing allocation plan and developing alternatives if they were deemed necessary was given to the project manager of the PEP Grant. The grant's staff had done some preliminary work in the area; however, like many projects in the operational research area, this project represented a joint effort between PEP and the department's Research and Development Unit. Two subunits of the Research and Development Unit were involved during the entire developmental phase of the project. They are the Crime Analysis Unit and the Systems Development and Maintenance Unit. Together with the PEP staff selected members of these R & D units formed an informal committee which met when needed (sometimes as often as three or four times a week.) Participants attended whenever possible given their other duties. There were both sworn and non sworn participants. This proved to be a significant advantage. The sworn participants brought their experiences in patrol to the meetings; this provided the insight into patrol operations that was essential to the decision-making process. On the other hand, the non sworn personnel brought an analytical and, to some degree, a clinical perspective to the process. The balance between the two groups proved to be especially beneficial with both groups of participants (sworn and non sworn) making points which members of the other group were not likely to have considered.

The participants were:

1) The PEP Project Manager (sworn)
2) The Director of Research and Development (sworn)

3) The Supervisor for Systems in R & D (sworn)
4) The Co-ordinator for the CAD System - R & D (sworn)
5 & 6) Two Statistical Analysts - one from PEP, one from R & D (both non sworn)
7) Staff Analyst from PEP (non sworn)
8) Staff Psychologist from PEP (non sworn)

After a preliminary plan had been developed, the plan was taken to the Office of the Assistant Chief in charge of Operations. He approved the preliminary plan and instructed that it be reviewed by two groups:

1) members of the department's reorganization committee
2) the command staff of the Bureau of Field Operations

These groups made recommendations many of which were incorporated into the final plan which was ultimately adopted by the department.

Table 1

RANKS 8 DISTRICT ALTERNATIVES

Measure	C	D	E	F	G
# Assignments - Non Traffic - excluding downtown	1	2	4	3	5
Consumed Hours - Non Traffic - excluding downtown	1	2	4	3	5
# Assignments - Traffic	2	4	3	5	1
Consumed Hours - Traffic	3	4	1	5	2
Population	1	2	4	5	3
Patrol Preventable Crimes (Robbery, Burglary, Auto Theft, Bike Theft, Car Clout, Malicious Mischief)	1	2	3	5	4
Square Miles	2	1	5	3	4

The Developmental Phase - Redistricting the City:

The informal group described in the preceeding section met periodically to choose among four alternative redistricting plans. (Recall that the data needed to redraw the beat boundaries were not yet available and that with few exceptions the beats themselves generated nearly equal workloads, therefore, no attempt was made to redraw the beat boundaries.) Preliminary staff work had identified five plans from among many that 1) consolidated the central core of the city into one district and 2) included districts all of which had reasonably acceptable access routes for boundaries. In addition, all five plans had eight districts. This is because all of the eight district plans under consideration could take advantage of the communications resources better than any of the seven district alternatives which had been studied. These five plans were ranked along seven variables to see which plan among other things most nearly equalized the workload among the districts. The downtown district was excluded from this phase of the analysis because one of the constraints given to the staff had been that of a consolidated district to serve the entire central core, and while the boundaries of this district were not fixed, there was no way to redistrict the city without creating a downtown district which would have a significantly heavier workload than any other district. That plan which most nearly equalized 1) the workload (as measured by five different variables), 2) the population, and 3) the geographic area was ranked first as the most preferred plan. Of the variables used to rank the plans, the number of Assignments

(units responding to calls for service) made to non-traffic events was considered to be, by far, the most important variable measuring workload. The remaining variables appear in Table 1 in no particular order although most of the participants in the decision-making process agreed that they were of equal or near equal importance. That alternative which was ranked highly on the most variables was presumed to be the alternative which would result in the most effective use of resources as well as produce the most equitable distribution of the workload. On the basis of this analysis, two alternatives, C and D, were chosen for further analysis.

The Developmental Phase - Choosing New Working Hours for Patrol:

A similar process to the one followed during the redistricting exercise was followed during an evaluation of the patrol division's working hours. During this part of the developmental phase, a number of alternative schedules were examined. As it was during the redistricting exercise described in the previous section, the major criterion for judging which schedule was the "best" had to do with equity. The staff committee agreed that a schedule of starting times should be established which, when staffed at levels that were in proportion to the workload experienced by each shift, 1) would tend to equalize the workload of individual officers working different shifts and 2) would result in staffing levels on each shift that were as nearly equal as was practical. (The cause of efficiency would best be served by equal staffing on each shift because resources would be less likely to lie idle during shifts when few officers were on duty.)

Staffing each shift at levels that are roughly proportional to the workload is complicated when shifts overlap, i.e., when officers working two or more shifts are on duty at the same time. Methodologies for dealing with this problem and technologies which might be transferable to other departments are discussed in considerable detail in subsequent sections. Suffice it to say here, that the problem of staffing shifts at levels proportional to some measure of workload can be solved by the use of a rather simple set of equations. The technique requires a knowledge of algebra and pencil and paper; no automation or computer modeling is necessary. Solution of the equations results in

staffing levels which are proportional to the workload for any schedule of starting times and shift length. In addition, they can be used to evaluate which schedule, when staffed at levels proportional to the workload, will use resources most efficiently by staffing all watches at roughly equal levels. In other words, solution of the equations always results in proportional staffing and can be used to evaluate the relative efficiency of any proportionally staffed schedule.

Of course, there are trade-offs. Not all schedules of starting times are equally acceptable even if they are staffed proportionally. For example, most of the proportionally staffed schedules of working hours discussed by the committee would have included a midnight shift that was understaffed, i.e., for reasons of officer safety, most schedules manned in proportion to the workload were not acceptable without modification. The demand for service occuring while the midnight shift was on duty did not justify levels of staffing which were considered necessary for officer safety on many of the schedules that were considered. There were other trade-offs. For example, several proportionally staffed schedules with near to equal staffing levels on each of the three shifts were unacceptable because the starting times were unreasonable as was the case when the committee considered starting the midnight shift before 2000.

A preliminary study of the then existing schedule of working hours indicated that if that schedule were to be staffed at levels proportional to the workload, the midnight shift should be manned by only 50 officers instead of the 80 officers which were deemed necessary for officer

Table 2

Four Alternative Schedules

Alternative #	Watch *	Starting and Off-Duty Times	Actual Work Hours (Beat Hours)
1	$D_{\frac{1}{2}}$	0700-1700	0730-1630
	$M_{\frac{1}{2}}$	2130-0730	2200-0700
	S_{1}	1600-0200	1630-0130
2	$D_{\frac{1}{2}}$	0700-1700	0730-1630
	$M_{\frac{1}{2}}$	2130-0730	2200-0700
	$S_{1\frac{1}{2}}$	1530-0130	1600-0100
3	D_{1}	0630-1630	0700-1600
	M_{1}	2100-0700	2130-0630
	$S_{1\frac{1}{2}}$	1530-0130	1600-0100
4	D_{1}	0630-1630	0700-1600
	$M_{\frac{1}{2}}$	2130-0730	2200-0700
	$S_{1\frac{1}{2}}$	1530-0130	1600-0100

* Subscrip denotes the time (in ½ hour increments) that the existing schedule is altered by starting the existing watches earlier in the day.

Table 3

Possible Schedules Resulting From

Moving The Three Watches Earlier

In The Day

Time Each Watch Moved Earlier

(In ½ Hours)

Reason for Rejection	Days (D)	Swings (S)	Mids (M)
1	½	½	½
1 2	½	½	1
1 2	½	½	1½
Acceptable	½	1	½
2	½	1	1
2	½	1	1½
Acceptable	½	1½	½
2	½	1½	1
2	½	1½	1½
3	1	½	½
3	1	½	1
2 3	1	½	1½
1	1	1	½
1	1	1	1
1 2	1	1	1½
Acceptable	1	1½	½
Acceptable	1	1½	1
2	1	1½	1½
3	1½	½	½
3	1½	½	1
3	1½	½	1½
3	1½	1	½
3	1½	1	1
3	1½	1	1½
1	1½	1½	½
1	1½	1½	1
1	1½	1½	1½

safety. This implied that in order to raise the level of staffing on the midnight shift and still be staffed proportionally, the midnight shift would have to move its working hours forward to a time earlier in the evening when the demand was higher. This necessitated moving all of the shifts forward in order to avoid "holes" in the schedule i.e., periods of time when no one was assigned to work in the patrol division.

While moving the midnight shift to an earlier time, results in its servicing a period of higher demand, thereby justifying higher staffing levels, moving the day shift earlier results in its servicing a lower period of demand which would not justify as high a level of staffing. It was determined that moving the swing shift to an earlier starting time would not markedly alter the staffing levels on that shift if the shifts were proportionally staffed. Since the command staff preferred that the swing shift be on the streets until at least 0100, it was felt that its starting time could not be moved more than 1½ hours earlier i.e., no earlier than 1530 so that swing officers would not need to leave their beats before 0100. This resulted in 27 possible schedules which would meet the following conditions:

1) No schedule preserving the existing ½ hour overlap between the day and swing shifts would be acceptable. This would occur if the starting times of both the swing and day shifts were moved earlier by the same length of time. (S=D)

2) No schedule was acceptable which moved the starting time of the midnight shift (earlier) more than it moved the starting time of the day shift (earlier); this would have eliminated all overlap between the midnight and day shifts (M>D).

3) Likewise, no schedule which moved the starting time of the day shift (earlier) more than it moved the starting time of the swing shift (earlier) was acceptable; this would have eliminated all overlap between the day and swing shift. (D>S)

Only four of the twenty-seven schedules considered met these conditions. They are given in Table 2. (The other twenty-three possibilities and the reason for their rejections are listed in Table 3. Note that in Table 2 that in addition to the starting and off duty times, the actual work hours (minus the first and last half hours of the shift) are listed. All subsequent analysis was performed using demand data on the actual work hours i.e., the actual time the officers could be expected to be in the street.)

Table 4 gives the staffing levels under the assumption of proportional staffing for each of the alternatives presented in Table 2. Note that under alternatives two, three, and four that the staffing levels of the midnight shift are raised to levels that are sufficient to meet the requirements of officer safety (approximately 80 officers); in other words, simply by changing the working hours of each shift by no more than 1½ hours the twin goals of proportional staffing and adequate staffing for officer safety can be met.

Each of the four alternative schedules of working hours was evaluated using the criteria outlined in Table 5; the results of that evaluation are discussed in Table 6. A summary of the rankings appears in Table 7; from this summary it can be seen that alternatives two and three incorporated more advantages than alternatives one and four. For this reason, alternatives one and four were eliminated as potential schedules or working hours.

Table 4

MANNING LEVELS

(Under the assumption of Proportional Manning - i.e., manning by watch proportional to the workload on each watch)

	Under Existing Schedule	Under Alternative #1	Under Alternative #2	Under Alternative #3	Under Alternative #4
Day Watch	107	100	99	94	94
Swing Watch	155	148	129	142	147
Midnight Watch	58	72	92	84	79
Total Manpower	320	320	320	320	320
Range	97	76	37	58	68

Table 5

CRITERIA FOR CHOOSING WATCH TIMES

A. Proportional Manning, no matter what schedule of hours is used:

1. Would result in a more equal distribution of the workload among the three watches. This would tend to equalize the workload for individual officers on different watches.

2. Would place officers in the beats when they were most needed, thereby buttressing the argument that the department is using existing resources efficiently.

B. Insofar as it can be accomplished within the frame work of proportional manning, the watch schedule should facilitate equal manning on the watches. This produces the best use of resources in that it reduces the possibility that resources will sit idle. For example, fewer patrol cars will sit idle during the "light" watch.

C. All alternatives should have a minimum impact on the manning levels of the midnight watch where although demand is relatively low, a minimum level of staffing is necessary to insure officer safety.

D. Insofar as possible, the watch schedule should minimize the number of "holes" in the schedule in the "10 plan." A hole can be defined as a period of time when one watch is returning to PAB while a second watch is traveling to its assigned beats. When this occurs, it increases the probability that there is no effective coverage in the beats. If "holes" cannot be avoided completely, then they should occur only during periods of low demand for patrol services.

E and F: Afternoon and evening overlap: While "holes" in the schedule should be avoided, overlap time (the time two watches are "on duty" at the same time) should be used to the best advantage i.e., it should occur at times when the demand is high. There are two periods of potential overlap that occur when demand is relatively high. They are the overlap between days and swings and the overlap between swings and mids. Lengthening one often involves shortening the other.

G. If possible, the watch schedule should minimize the time it takes for patrol units to travel to and from the beats. This implies that the first and last half hour each watch is on duty (the time patrol units are traveling to and from beats) should not occur during peak traffic periods.

Table 6

The Alternatives Evaluated

A.

1. The existing schedule and all alternatives can be evaluated proportionally if they are staffed at the recommended levels.

B.

1. All alternative schedules provided are manned proportionally, resulting in more equal manning than the existing schedule.

2. Alternative 2 results most nearly to equal manning on all shifts followed in order by Alternatives 3, 4, and 1.

C.

1. Under the existing schedule, the midnight watch normally has about 80 assigned officers; if it were manned proportionally to the workload it would have only 58.

2. All schedules improve upon the 58 mentioned in C-1; alternatives 3 and 4 have little impact on existing manning levels while alternative 1 reduces the level of manning on midnights and alternative 2 raises the level of manning on midnights.

D.

1. The existing schedule has two "holes" - one at 0730 to 0800 and another at 1700 to 1730.

2. Alternatives 1, 2, and 3 result in one hole, while alternative 4 results in no holes. Alternative 3 is preferable to alternatives 1 and 2 because the "hole" occurs earlier at 0630 to 0700 rather than at 0700-0730 when the demand is higher.

E.

1. Under the existing schedule, there is an overlap from 1700 to 1730 between the Day and Swing Watches.

2. All the alternatives improve on the existing schedule in that they move the afternoon overlap earlier to a time when demand is lower. Alternative 2 is the most desirable in that it results in a full hour of overlap during the afternoon. It is the only alternative which results in both the day and swing watches being in the field at the same time. Alternatives 3 and 4 tie in that the preserve a one half hour overlap but unlike alternative 1 which moves the existing half hour overlap only ½ hour earlier, alternatives 3 and 4 move the overlap one full hour earlier to a less busy time of day.

F.

1. The existing schedule has a five hour overlap (from 2200 to 0300) between the swing and midnight watches. Both watches are in the field together for four hours (2230 to 0230).

2. All alternatives shorten the overlap between the swing and midnight watches. Alternatives 1 and 3 have a 3½ hour overlap of actual work time (in the field time) while alternatives 2 and 4 have an overlap of 3 hours; therefore alternatives 1 and 3 are preferable. Alternative 1 is preferable to alternative 3 in that overlap occurs later in the evening. This is especially important on weekends when demand is higher during the early morning hours.

G. Heavy traffic hours are:

a) 0700-0730 - moderately heavy (1 pt.)
b) 0730-0800 - very heavy (2 pts.)
c) 1630-1700 - moderately heavy (1 pt.)
d) 1700-1730 - very heavy (2 pts.)

1. Under the existing schedule, the day watch travels to and from PAB during very heavy traffic (total 4 points). Mids return to PAB and swings deploy to the beats during very heavy traffic (4 points) for a total of 8 traffic points.

2. Alternatives 1 and 2 have a total of 3 traffic points; the day watch travels to and from the beats during periods of moderate traffic (2 points) while the midnight watch returns to PAB during a period of moderate traffic (1 point). Alternative 3 has no traffic points. Alternative 4 has 1 traffic point earned when the midnight watch returns to PAB during a period of moderate traffic.

Table 7

Summary of Rankings on Criteria Measures *

Measure	Alternative #1	#2	#3	#4
A. Proportional Manning	1T	1T	1T	1T
B. Equal Manning	4	1	2	3
C. Impact on Mids	4	1	2	3
D. Holes (Two Watches Enroute)	3T	3T	2	1
E. Afternoon Overlap	4	1	2T	2T
F. Evening Overlap	1	3T	2	3T
G. Travel To/From Beat	3T	3T	1	2

* T - tied rank

The Developmental Phase: Redistricting and Working Hours Together; The Final Choice:

Recall the two alternatives that were selected during the redistricting exercise (C and D). These two alternatives were paired with alternative schedules 3 and 4. This resulted in there being four allocation plans (C-2; C-3; D-2; and D-3.) which required further study. The committee's principle concern was not to create any district in which the demand for service would be extraordinarily high during the working hours of any <u>one</u> of the three shifts. The previous analysis had satisfied the staff that, with the exception of the downtown district, districts created under both alternatives C and D had roughly the same demand for service. It was still possible however; that for any particular schedule of working hours one or more districts would experience an extraordinarily heavy demand for service during the time one of the three patrol shifts was on duty. To address this concern, the demand for service in each district was entered on a bar chart to see if there were some districts with unacceptably high demands during the time a particular shift was on duty. The chart was constructed showing the number of units required to respond to calls for service in each district by day of the week by shift. An entry on the chart indicated that there was a district having the demand indicated on the horizontal axis of the chart on a given day of the week during the time a particular shift was on duty. For example, in Figure 6 an <u>X</u> entered above the six would indicate that in some district one day a week while the day shift was on duty, the number of units required to respond to calls for service was six.

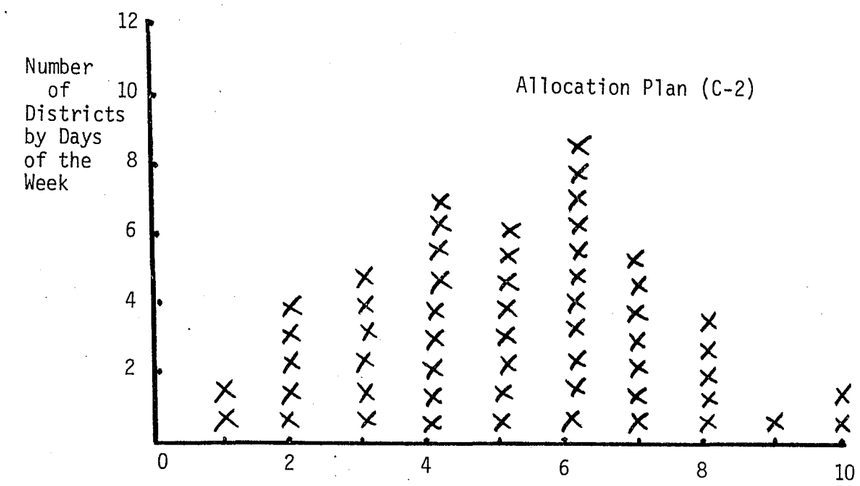
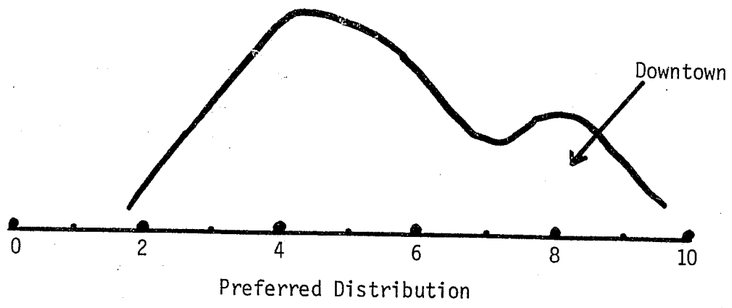


Figure 6

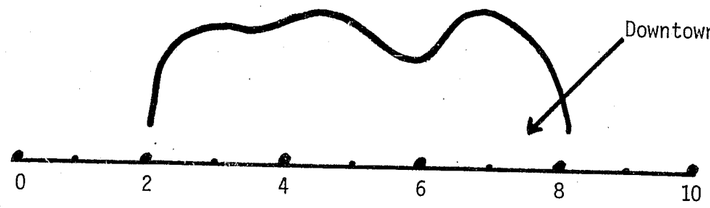
Similar charts were constructed for each shift under all four allocation plans (C-2; C-3; D-2; and D-3). Each chart had 56 entries (8 districts x 7 days a week). The staff was inclined to favor that alternative where the demands for service by district and day of the week were most nearly equal on comparable work shifts under each alternative. (The staff expected that the downtown district would skew the distribution because of its high demand.) Three possible distributions are sketched in Figure 7. In the preferred distribution with the exception of those entries from the downtown district, all of the entries are bunched together indicating that no matter what the district or day of the week the demands for service are similar. In

Figure 7

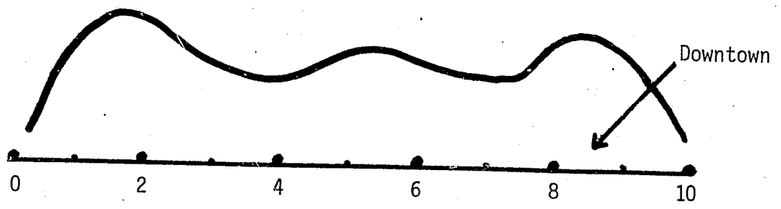
Possible Distributions of Demand
By Shift and Allocation Plan



Preferred Distribution



Acceptable Distribution

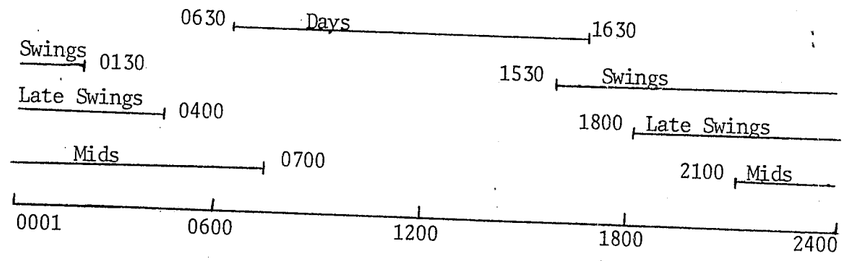


Unacceptable Distribution

the acceptable distribution, the bunching is not quite as tight, but the distribution is acceptable because there are no extreme cases where on some days, particular districts exhibit either extraordinarily heavy or light demand for service. In the example where the distribution is unacceptable not only is there no bunching, but there are extreme cases of exceptionally light or heavy demand. Of the four allocation plans not yet eliminated (C-2 and 3; D-2 and 3) the distributions by shift under alternative C-3), when compared to similar distributions for the same shifts under other alternatives, exhibited the tightest distributions and had no extreme cases of demand (either high or low). Under all alternatives the midnight shift produced distributions with the greatest dispersion (least bunching); this was due to the effects of the late night weekend demand which had its greatest impact on the midnight shift. The demand on the day shift was least variable by day of the week while the variance in demand on the swing shift fell somewhere between the variance in demand experienced by the day and midnight shifts. It was precisely concern over the variable demand on the midnight shift which lead to a modification in alternative D-3 which will be discussed in the following section.

The Final Plan:

Alternative C-3 involved redistricting the city into eight districts using five radio channels and changing the working hours of the day shift to 0630-1630, the swing shift to 1530-0130, and the midnight shift to 2100-0700. The Bureau of Field Operations command staff approved of the basic plan but remained concerned about the heavy late evening - early morning demand on Friday and Saturday evenings. For this reason, the plan was modified to include a late swing shift on Thursday, Friday, and Saturday evenings. Part of the swing watch reported for duty at 1800 on those days. (A third day of late swings, in addition to Fridays and Saturdays, was needed so that no officer would have to change his starting hours more than once during his four day workweek. Thursday evening was chosen as the third day because its demand was heavier than the demand on Sunday evening.) A new set of equations was developed to solve for proportional staffing under the four shift schedule illustrated in Figure 8. A complete description of the equations and how they were used appears in subsequent sections.



Thursday, Friday, and Saturday
Schedule of Working Hours
Under the Final Allocation Plan

Figure 8

The Use of the Overlap Team:

One of the tasks assigned to the PEP staff was to explore alternative ways of scheduling the overlap day. Traditionally, on the overlap day (that day of the week when both teams working in a particular district are scheduled to work) one team, "the team in the hole,"served as a manpower reserve for the rest of the city. Consideration was given to using the overlap day for training purposes; however, because overall manpower levels were low, the command staff decided to continue using the overlap day as a city wide manpower resource. The PEP staff was asked to develop a plan that would use this resource most effectively.

Briefly, the staff recommended that on each shift the district with the largest teams be scheduled as the overlap district on the day of the week when the city-wide demand was the heaviest. The district with the next to the largest teams would be scheduled as the overlap district on the day of the week when the city-wide demand was next to the heaviest and so on. This rank ordering of team size and city-wide demand was consistent with the philosophy of using the "team in the hole" as a city-wide manpower reserve, and the ordering was shift specific i.e., done separately for each of the three shifts. (Actually, Friday turned out to be the heaviest day on the swing shift while Saturday was the heaviest day on the midnight shift with Monday being the heaviest day on the day shift.)

This technique for scheduling overlap days was incorporated into the final plan. Since the new district configuration had eight districts, there was one day a week each shift when two districts

would have overlap teams. Following the rationale described earlier, this meant that there should be two overlap teams scheduled on the day of the week when the city-wide demand was the heaviest. On the day shift Monday was scheduled to have two districts with overlap teams. On the swing shift the command staff of BFO decided to forego an overlap team on Tuesday in order to have two overlap teams on both Friday and Saturday nights, by far the two heaviest nights of the week. In order to compensate partially for their being no overlap team on Tuesday on the swing shift, two districts were scheduled to have overlapping teams on Tuesdays on the midnight shift.

Staffing the Patrol Function According to Demand:
A Technique for Proportional Staffing

Introduction:

One of the more pressing problems facing managers of police departments throughout the nation is the need to allocate limited patrol resources in as an efficient manner as possible. In times of even tighter police budgets and during a time when there are vocal cries for governmental efficiency, it is important to be able to demonstrate to city management some rationale for the use of existing resources. Managers must demonstrate that they are using existing resources efficiently and that they are considering the demand for police services as a key element in their staffing decisions. It is likely that this will have to be done before city management or councils will recommend and appropriate the expenditure of further funds for police services.

In addition to reasons of efficiency, there is another reason for staffing the patrol function with an eye toward demand. Scheduling has to be done with some regard for equity i.e., some attention need be paid to equalizing the workload among individual officers. Historically, many departments (the S.J.P.D. included) have been concerned with officer safety, especially between the hours of 1000 and 0300 or 0400 the next morning. This concern is a valid one, but it has lead to some staffing decisions with some unforeseen and generally undesirable consequences. Individual officers working the evening hours can have two or three times the workload of officers working the daylight hours. In San Jose, the period of high demand

begins about 1630 and usually peaks at from 2230 to midnight; the period of low demand begins about 0100 and bottoms out at about 0600. These generalizations hold true even for the weekends. The concern for officer safety during the early morning hours has historically led to a high level of staffing on the midnight watch when demand is relatively low. This drew manpower away from the swing watch when demand is high. Those officers working the swing shift were severely impacted responding, in some areas of the community, to as many as three times the number of calls as the midnight watch.

For two reasons then - reasons of efficiency and equity - some attention must be paid to the demand for patrol services when staffing decisions are being made. What follows is a description of the methodology the San Jose Police Department follows when staffing its patrol function. It goes without saying; however, that some appreciation of demand is but one of the concerns that should be addressed when staffing levels are set; others may be officer safety, the internal workings of the organization (e.g., sometimes certain levels of staffing are required to assure the smooth flow of paper and other intra-organizational communications), and of course outside constraints placed on police management when city management dictates certain levels of staffing. In spite of these constraints, staffing to meet the demand is probably the most useful starting point for most allocation plans. The ideal distribution of resources over time and space based on some measure of demand can serve as a necessary guide when the police manager is assessing the importance and costs

of other constraints on and demands for certain staffing levels.

The remainder of this section is divided into two parts. The first describes how the department allocates its manpower resources to each of three ten hour shifts. It also speculates on how the methodology might be adapted for use by departments utilizing four eight-hour shifts. The second part of the paper discusses how the methodology developed in the first part can be applied to police districts by day of the week in order to produce a schedule that is manned proportionally by day of the week and area of the city. Finally, it is important to note (again) that the technology about to be described is a pencil and paper technology; it requires no automation and does not require the user to undergo extensive training.

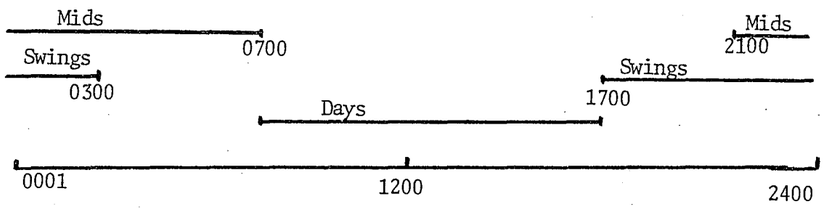
Distribution Resources Among Three Ten Hour Shifts:

One of the most persistent questions facing police managers when they set staffing levels is, "How many people do I assign to each shift?" Assuming that the manager has some meausre of demand, (The S.J.P.D. uses the number of units assigned to respond to calls for service.) then it should be possible to supply a satisfactory answer to the question. The answer is a simple one if there are only three eight-hour shifts in the 24-hour working day. For example, suppose there were three eight hour shifts starting at 0700, 1500, and 2300 and that there were 100 officers to be assigned to the entire patrol function. Suppose also that 30% of the demand occurs during the day shift (0700), that 45% occurs during the swing shift (1500), and that 25% occurs during the midnight shift (2300). Assuming the manager was using demand information to schedule his people and that there were no outside constraints, he would schedule 30 officers to work the day shift to service 30% of the demand, 45 officers to work the swing shift to service 45% of the demand, and 25 officers to work the midnight shift to service 25% of the demand. The solution here is straightforward; however, it becomes less obvious when there are overlapping shifts i.e., when officers from two or more shifts work at the same time.

Many departments using a variety of schedules have overlapping shifts. Among these are any schedule where more than three eight hour shifts in a 24 hour day or any three shift schedule where the length of a shift exceeds 8 hours. (This occurs, as it does in the case of San Jose, when individual officers work four ten hour shifts

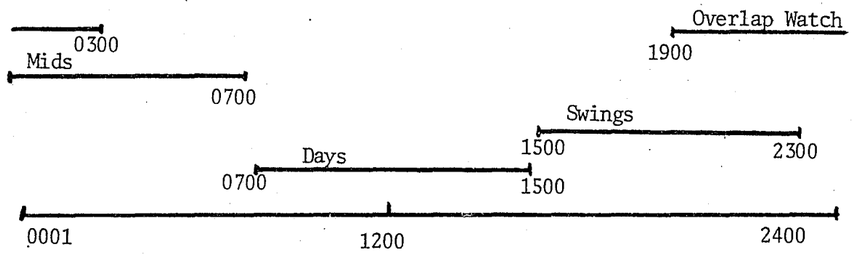
Figure 8

THE TEN HOUR PLAN WITH THREE SHIFTS



0700-1700 Days Work Alone
1700-2100 Swings Work Alone
2100-0300 Mids and Swings Work Together
0300-0700 Mids Work Alone

THE EIGHT HOUR PLAN WITH FOUR SHIFTS



0700-1500 Days Work Alone
1500-1900 Swings Work Alone
1900-2300 Swings and Overlap Work Together
2300-0300 Mids and Overlap Work Together
0300-0700 Mids Work Alone

in the forty hour work week resulting in three ten hour work shifts in a 24 hour day.) The problem one faces with overlapping shifts is that they are interdependent during the overlap period; the officers on one shift have a direct impact on the officers on other shift(s). For example, we would expect, all things being equal, that if two shifts overlap during a given time period and the first shift has twice as many officers as the second shift, that the officers on the first shift would do twice as much work as the officers on the second shift. If they do not, they would not be doing the work in proportion to their numbers. Furthermore, we would want to staff all shifts roughly in proportion to the workload on each shift. This is made more difficult by overlapping shifts.

The most common overlapping schedule is where one or more shift(s) works for a time without the benefit of an overlap shift and then for a time with the benefit of an overlap shift. The most common of these are illustrated in Figure 8 below. The important thing to note here is that the 24-hour demand can be broken down into its component parts and that a given number of patrol officers can be allocated to any number of shifts in a 24 hour period using a set of simultaneous equations. The solution results in staffing each shift proportional to the workload.

Appendix A attached to this narrative discusses in detail the equations that can be used to solve for proportional staffing. Which solution to use depends on the number of independent periods of demand into which the 24-hour day can be divided and upon the number of shifts working patrol. The equations in Example 1 can be used to obtain the

solution to the scheduling problem produced by the ten hour plan depicted in Figure 1, while the equations in the footnote below can be manipulated to solve to obtain the solution to the problem posed by the eight hour plan.* (The solution is paper and pencil.)

---

* N_1 = Number of officers on duty

N_2 = Number of officers on swings

N_3 = Number of officers on midnights

N_4 = Number of officers on the overlap shift

$N = N_1 + N_2 + N_3 + N_4$ = Total number of officers on patrol

A = Demand on days

B = Demand when swings are on alone

C = Demand when swings and overlap are on together

D = Demand when mids and overlap are on together

E = Demand when mids are on alone

$T = A + B + C + D + E$ = Total 24 hour demand

(1) $N_1 = \left(\frac{A}{T}\right) N$

(2) $N_2 = \left(\frac{B}{T} + \frac{\frac{N_2}{N_2+N_4}}{1} \cdot \frac{C}{T}\right) N$

(3) $N_3 = \left(\frac{E}{T} + \frac{\frac{N_3}{N_3+N_4}}{1} \cdot \frac{D}{T}\right) N$

(4) $N_4 = \left(\frac{\frac{N_4}{N_2+N_4}}{1} \cdot \frac{C}{T} + \frac{\frac{N_4}{N_3+N_4}}{1} \cdot \frac{D}{T}\right) N$

This is because there are four distinct periods of demand and three shifts in the first instance and five distinct periods of demand and four shifts in the second instance. Obviously the number of distinct periods of demand will change as the schedule changes. For example: six, seven, or even eight distinct periods of demand could result from plans with three to five staggered start shifts. Although equations for only three cases are solved in the appendix, the rationale developed there can be used to set up the equations for almost any schedule. High school algebra is all that is required to these equations.

Although the methodology for proportional manning is discussed in detail in the appendix, some discussion of the equations' components seems in order. Consider the components of the equations on page three of the appendix. Note that these equations can be used to solve for proportional manning when there are four independent components to the demand and three overlapping shifts in patrol; using the example of three ten hour shifts with an overlap between the swing and midnight shifts, these equations can be solved to obtain the number of officers to be assigned to each of the three ten hour shift (N_1 = Days; N_2 = Swings; N_3 = Mids).

Equations (1), (2), and (3) on page 3 of the appendix can be rewritten as they appear in Figure 9 below. Using Figure 10, we can explain the terms of equations (1) and (2) in Figure 9. (The explanation for (3) is the same as for (2)).

Figure 9

(1) $N_1 = \left(\frac{A}{T}\right) N$

(2) $N_2 = \left(\frac{B}{T} + \frac{\frac{N_2}{N_2 + N_3}}{1} \quad \frac{C}{T}\right) N$

(3) $N_3 = \left(\frac{D}{T} + \frac{\frac{N_3}{N_2 + N_3}}{1} \cdot \frac{C}{T}\right) N$

Figure 10

(1) Number of officers to be assigned to the day shift = Demand when Day Shift Works / Total Demand for 24 hour day X Number of officers to be assigned to the Patrol Function

(2) Number of officers to be assigned to the swing shift =

$$\left(\frac{\text{Demand when swing shift works alone}}{\text{Total Demand for 24 hour day}} + \frac{\frac{\text{Number of officers to be assigned to the swing shift}}{\text{Number of officers to be assigned to both the swing and midnight shifts}}}{1} \cdot \frac{\text{Demand when the swing and midnight shifts are on together}}{\text{Total Demand for 24 hour day}} \right) \text{Number of officers to be assigned to t' Patı Function}$$

Note that in equation (1) the number of officers to be assigned to the day shift (N_1) is a function of that part of the total day's 24-hour demand (T) which occurs during the time day shift is on duty (A) and the number of officers assigned to the patrol function (N). Recall that under the 10 hour plan described earlier the day shift did not overlap with any other shift; this is why manning on the day shift is a function of only one element of demand (A).

Now review equation (2); there the number of officers to be assigned to the swing watch (N_2) is a function of two elements of daily demand -- B (when swings work alone) and C (when swings work with mids). Because B represents the demand when swings work alone, it can be treated like A in equation (1) i.e., as a simple percentage of the daily demand - A/T or B/T. Notice, however, that the percentage of the daily demand represented by C/T (This is when swings works with mids.) must be modified by the expression $\frac{N_2}{N_2 + N_3}$. This is because we do not expect the swing shift to handle all of the work during the time it overlaps with the midnight shift (C); they will handle some proportion of that work but not all of it. In fact, the expression $\frac{N_2}{N_2 + N_3}$ gives the proportion of the work we would expect the swing shift to handle during the overlap period. We can see that this proportion is expressed by the ratio of the number of swing officers to the number of swing officers plus the number of midnight officers. In other words, we want the swing shift to handle that proportion of the workload during the overlap period (C) that their number justifies.

This implies that if, for example, 70% of the officers during the overlap period are swing officers then they should handle 70% of the workload.

Note, however, that we do not know how many officers are on any of the watches i.e., we do not know N_1, N_2, or N_3. That is exactly what we are trying to find out. The solutions to these equations expressed in terms of the demand for service during each time period and the number of officers assigned to the patrol function can be found in the appendix. (See example 1.)

The Problem of Making Patrol Assignments to Geographic Areas By Work Shift By Day of the Week

We have seen that the rationale described in the previous section can be adapted to a variety of starting times and schedules. It remains for this section to describe how it can be used together with daily demand data on police areas (beats, district, and/or precincts) to produce an overall allocation plan for patrol resources. Obviously, it would be unsatisfactory to use any method to make allocation decisions which did not take into account variations in demand by the day of the week. Equally unsatisfactory would be any method which ignored geographic differences in demand. Ideally, a manager would like to know what proportion of his resources to allocate to a designated time and place. He would like an answer to this or a similar question, "What per cent of my total resources should I allocate to District 1 on Thursdays while the day shift is on duty?"

Consider the following example. Big City provides police service (only) three days a week (Thursday, Friday, and Saturday). The patrol division works three ten-hour shifts which begin at 0700 (Days); 1700 (Swings), and 2100 (Mids). There are three patrol districts and the demand for patrol services requires the responses of 1000 patrol units per week. The demand is broken down by day of the week, time of the day, and district in Table 8.

TABLE 8

No. of Units Required to Respond to Calls For Service

by District

Time/Day	Thurs	Fri	Sat	
Days Work Alone 0700-1700	20	40	30	
Swings Work Alone 1700-2100	20	30	40	DISTRICT 1
Swings & Mids Work Together 2100-0300	20	40	45	
Mids Work Alone 0300-0700	15	20	30	
	75	130	145	350

Table 8 (continued)

Time/Day	Thurs	Fri	Sat	
Days Work Alone 0700-1700	15	25	40	
Swings Work Alone 1700-2100	15	25	35	DISTRICT 2
Swings & Mids Work Together 2100-0300	15	35	50	
Mids Work Alone 0300-0700	5	15	25	
	50	100	150	300

Time/Day	Thurs	Fri	Sat	
Days Work Alone 0700-1700	25	40	35	
Swings Work Alone 1700-2100	30	35	40	DISTRICT 3
Swings & Mids Work Together 2100-0300	20	40	30	
Mids Work Alone 0300-0700	5	25	25	
	80	140	130	350

Note the work day extends from 0700 to 0700 the next day; e.g., Thursday goes from 0700 Thursday to 0700 Friday.

In this example on Thursdays in District 1, the demand can be broken down as follows:

A = 20; units responding when days work alone (0700-1700)

B = 20; units responding when swings work alone (1700-2100)

C = 20; units responding when swings and mids work together (2100-0300)

D = 15; units responding when mids work alone

T = 75; units needed to meet demand on Thursday

Assuming that only one officer were to be assigned to work in District 1 on Thursdays and that his efforts would have to be divided among each of the three shifts in proportion to the workload, then the equations can be solved to determine what proportion of his efforts should be expended on each shift. The equations are solved below:

$$N_1 = \frac{20}{75} \cdot 1 = .2667$$

$$N_2 = 20 \cdot 1 \left(1 - \frac{20}{75}\right) \frac{1}{20 + 15}$$

$$20 \ (.7333) \quad .0286 = .4194$$

Note: Since $N_1 + N_2 + N_3 = N$

And: $N = 1$ (one officer)

$N_3 = 1 - N_1 - N_2$

$1 - .2667 - .4194 = .3139$

(Note: There may be slight errors due to rounding.)

Obviously, it is impossible to assign one officer to police a part of the city for a full 24 hours. However, from the above we can say the 26.67% of the manpower resources assigned to District 1 on Thursdays should be assigned to staff the day shift; while 41.94% of the manpower should be assigned to the swing shift and 31.39%, the remaining manpower, should go to staff the midnight shift.

This begs the next question, "How much of the patrol division's total resources (manpower) should go to staff District 1 on Thursdays?" In the preceeding paragraph, we arbitrarily chose to assign one officer in order to obtain simple percentages; we know that this is just an assumption of convenience.

If 75 of the 1000 total units needed by the patrol division are needed in District 1 on Thursdays then $\frac{75}{1000}$ or 7.5% of the division's total manpower should go to service District 1 on Thursdays. There are 50 officers in the patrol division (N); therefore, there are 150 mandays available for assignment in the patrol division. (This is because each officer works 3 days a week, and 50 x 3 = 150.) We would expect that 7.5% of the 150 mandays or 11.25 mandays (officers) would be assigned to patrol District 1 on Thursdays. We know that 26.67% of the 11.25 officers should go to the day watch (from the equations above). Therefore, three officers should theoretically work the day watch Thursdays in District 1.

$$150 \times .075 \times .2667 = 3.000$$

Recall that this is also what we concluded using the "simple" method described earlier; also recall that we were unable to solve the problem for the swing and midnight shifts using the simple method because they are overlapping shifts. Now because we know that 41.94%

of the 11.25 officers should go to swings, we can now say the demand justifies 5.445 officers on swing shift.

$$150 \times .075 \times .4194 = 4.7183$$

We know that 5.495 officers should theoretically be assigned to the swing shift. Using the same method, we can see that 3.5314 officers should be assigned to the midnight shift.

Looking at the problem from yet another perspective, the answer to the question, "What proportion on the patrol resources should be assigned to a given district on a given day on each of the three shift?" is an obvious one, and sometimes the obvious answer is the correct answer. For example, 20 or the 1000 units necessary to provide patrol services are needed in District 1 during the day shift on Thursdays. This $\frac{20}{1000}$ or 2% of the total. If a department had 50 officers to assign to patrol, each working 3 days a week for a total of 150 man-days of resources, two per cent of that total (150 x .02) three day-shift officers should be assigned to patrol District 1 on Thursdays. The difficulty arises when overlapping shifts are introduced as a part of the schedule. The obvious solution cannot be used for any shift which overlaps with another. For example, how many officers should be assigned to the swing shift in District 1 on Thursdays? Theoretically, at least 2.25 officers should be assigned to service the demand that occurs when the swing shift works alone. (Fifteen units is 1.5% of the total 1000 units needed for patrol. 1.5% of the 150 mandays available to patrol is 2.25). But how many of the officers needed to work the overlap period with mids should be swing officers? Three? Five? There is no obvious answer. The

equations developed in the previous section provide the solution.

It is not really necessary to know exactly how many officers are available for assignment in the patrol division in order to use the procedures described in the preceeding paragraphs. In fact, managers often do not know exactly how many officers they will have either because of last minute illnesses or resignations or because the division receives additional manpower allocations. Recall in our example that 7.5% of the division's manpower resources should work Thursdays in District 1 and that 26.67% of the 7.5% should work the day shift. This is .0200025 of the total manpower resources allocated to the patrol division (.075 x .2667 = .0200025). This is the proportion of the division's manpower resources that should be assigned to work the day shift in District 1 on Thursdays, no matter what the size of the patrol division. We call these proportions resource factors, and they can be found for District 1 in Table 9.

TABLE 9

Manpower Resource Factors

SHIFT/DAY	THURS	FRI	SAT
DAYS	.0200025	.0400000	.0300000
SWINGS	.0314550	.0540000	.0657150
MIDS	.0235425	.0360000	.0492750

The resource factors in Table 9 are based on the data in Table 8; these factors give the percentages of the department's manpower resources which are needed to service the demand in District 1 of Big City by shift and day of the week. After adjustments are made to account for rounding errors (Not made here) all of the factors for all three districts will add up to 1.0. The factors in Table 9 add up to approximately .35. (Recall that 35% of the city's demand occurs in District 1.) As we shall see, these factors can be especially useful to any agency using some concept of team policing in the operations of the patrol function.

Team Policing and the Use of Resource Factors:

Like many agencies of the San Jose Police Department uses the team policing concept. A patrol team each shift is assigned to police a given area of the community. The manpower resource factors can be used to determine the staffing on each team. For example, suppose the day shift team in District 1 of the fictional Big City worked all three days (Th, F, S) each week. The size of the team can be set simply by adding the appropriate manpower resource factors and multiplying this sum by the number of officers to be assigned to the patrol function, in this example: 50 officers. (.0200025 + .0400000 + .0300000 = .0900025 times 50 = 4.500125 officers) Note: Because we are no longer concerned with manning by day, we can multiply the manpower resource factors by the available manpower totals not man-days.

This method would result in staffing the team working the day shift in District 1 with four to five officers. This means that on Thursday, there would be four or five officers in District 1 instead of the ideal three officers. On the other hand, if we assign four or five officers to the dayshift team in District one, we run the risk of understaffing the day shift on Friday. This is because .040, the manpower resource factor for Friday, multiplied by 150 Mandays would suggest that at least 6.00 officers be assigned to the day shift in District 1 on Friday. This brings up an important point not often appreciated by police managers. That is, team policing will inevitably conflict with the ability to staff the patrol function in a manner that is proportional to the workload as long as perfect team

integrity is maintained. In other words, so long as team policing is conceived of as a group of officers who always work at the same time usually under the same supervision in the same geographic area, it will not be possible to achieve proportional staffing by day of the week. In the example we have just developed, no matter whether four or five officers are assigned to day shift in District 1, there will be more manpower than is justified by the workload on Thursdays and less manpower than justified by the workload on Fridays.

Using the resource factors in Table 9, we would staff the district at the levels indicated below.

DAYS .0200025 + .0400000 + .0300000 = .0900025 x 50
= 4.500125 or 5 officers

SWINGS .0314550 + .0540000 + .0657150 = .151170
x 50 = 7.5585 or 8 officers

MIDS .0235425 + .0360000 + .0492750 = .1088175
x 50 = 5.440875 or 5 officers

Suppose for the moment that the city council appropriated money for one additional police officer and mandated that the additional officer work in District 1. Then the above factors for District 1 would be multiplied by 51 in order to obtain the ideal team sizes with 51 officers in the manpower pool.

Days: .0900025 x 51 = 4.5901275

Swings: .156345 x 51 = 7.70967

Mids: .1036425 x 51 = 5.5496925

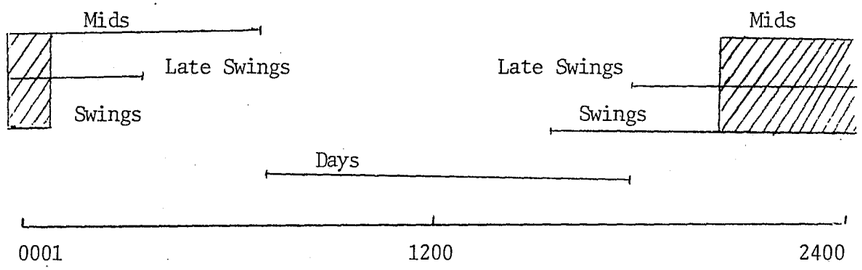
When there were only 50 officers in the patrol division the staffing in District 1 was Days - 5; Swings - 8; and Mids - 5. The ideal

team sizes for a total patrol strength of 51 officers are: .4098725 officers less than the actual field strength of 5 on the day shift; .026405 officers less than the actual field strength of 8 officers on the swing shift; and .2857675 officers greater than the actual field strength of 5 officers on the midnight shift. The midnight shift is under its ideal strength while the other two shifts are over strength; therefore the additional officer should be assigned to the midnight shift. Of course, if the council had not mandated that the additional officer go in District 1, then we would have performed the same operation in all three districts in Big City, choosing that team that was most understaffed no matter to what district it was assigned.

Summary:

What follows are some additional comments about the methodologies described in the previous pages.

1) Equations for three different situations appear in the appendix; two are solved for schedules where two shifts overlap and demand can be broken down into either four or five segments in the 24 hour day. In addition, one is solved for a schedule where three overlapping shifts work at the same time and the demand can be broken down into six segments. See below.



2) By solving the equations by day of the week, we are able to staff different schedules on different days. For example, in San Jose we have a late swing unit on the three busiest nights of the week when the demand is greater and when it occurs at a slightly later time in the evening. On Sunday through Wednesday, we have only three shifts while on Thursday, Friday, and Saturday we have a late swing shift. The equations in example 1 of the appendix are used to solve the scheduling problems on the four week days when there are three shifts while the equations in example 3 are used to solve

the weekend scheduling problems.

3) The equations can be used to assign staff to each shift without using demand data broken down by day of the week; this will result in proportional staffing by week, but it may also result in under- or over-staffing particular shifts on some days of the week.

4) The equations can be used to determine the starting times for each shift. If the most efficient use is to be made of the material resources, then the shifts should be as equal in size as possible. This is necessary so that material resources e.g., cars or motorcycles do not lie idle. By solving the equations for different time periods, that schedule of starting hours and shift length resulting in the most efficient use of material resources can be determined. This, of course, would be the schedule where the staffing on each shift was most nearly equal.

5) Not all of the patrol division's resources have to be scheduled using the methods described here. For example, in San Jose, some units are administratively assigned. The council has requested that the major parks be assigned an officer during the daylight hours and that there be walking units in certain commercial areas. These units perform specialized functions and, therefore, for purposes of proportional staffing were not included in the manpower pool.

6) It was noted earlier that the manpower resource factors could be used to determine where to assign additional manpower resources. They can also be used to determine which teams can most afford to lose staff when that is necessary. For example, after completing an initial manpower allocation plan for the city based

on the concept of staffing by demand, the command staff concluded that for reasons of officer safety, too few officers had been allocated to the midnight shift. Using the manpower resource factors for the day and swing teams, we were able to draw from teams where a loss of manpower would hurt the least. Likewise, during the course of day to day administration, area lieutenants can use the factors to draw from teams which can most afford to give up manpower in the event of absences on other teams resulting from illness or vacations.

7) The resource factors can still be used when two teams overlap on one day in the same district. Consider two teams each shift working four days a week overlap one day a week. For example, two teams working the day shift four days a week overlap on Monday in District 1. At the time the team sizes were being determined, the manpower resource factor for that day (Monday) for that shift (Days) simply needs to be divided by two since only one team works the district on the overlap day. This, in turn, is added to the other factors used to determine the appropriate team size.

Two words of caution:

1) The method we have described here does not work well for departments with rotating shifts. In fact, it is not possible to have proportional manning on three shifts more than one third of the time with perfect team integrity and rotating shifts unless of course the demand is equal on all shifts. This is because the large swing teams will eventually rotate into the midnight shift when demand is light, and team integrity requires that the team not be broken up.

2) If there are unusual peaks or valleys in demand, then use of the equations may perform a disservice. For example, if in a part of the community, there is a predictable but brief peak in demand (say for two hours) that is double or triple the demand the remainder of the shift, the equations will produce a solution which will result in the potentially serious understaffing of that team working that area of the city during those peak periods. We think this will be the exception rather than the rule, but users should be aware of this problem. It is highly likely that no universal method of allocating manpower could be used to deal with these unusual circumstances.

APPENDIX A

PROPORTIONAL MANNING FOR OVERLAPPING SHIFTS

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Crime Analysis Unit
San Jose Police Department

March 20, 1978

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PROBLEM BACKGROUND

It was proposed to develop a methodology that would permit determining the desired number of patrol officers by shift based on historical workload[1] demands. With non-overlapping shifts, the solution would simply be to determine the percentage of the total workload demand during a particular shift and to apply that percentage to the available manpower; e.g., if a shift experiences 40% of the workload demand, it is reasonable to supply that shift with 40% of the available manpower.

The problem arises when shifts are overlapping; i.e., officers from two or more separate shifts are on duty at the same time. This occurs with the 4-10 plan (4 workdays of 10 hours each) and with many staggered-start-time plans. With overlaps, it is still intuitively desirable to determine the number of officers by shift based on demand but the procedure to be followed is not quite as obvious as with non-overlapping shifts.

PROPOSED APPROACH

The problem one faces when dealing with overlapping shifts is that the shifts become interdependent; i.e., the number of officers assigned to one shift have a direct impact on the other shift(s) during their overlap period. All other things being equal, it is reasonable to expect that if shift A has twice as many officers as shift B, then during the overlap period twice as much work can be anticipated from shift A as from shift B.

[1] Workload was defined as the number of units assigned to calls for service. This definition was used instead of calls for service in order to weigh more heavily those calls requiring multi-unit responses. However, the same rationale and procedures could apply to any other measure of workload.

The proposed solution to obtaining proportional manning is to express the interdependence of the overlapping shifts within the definition of each shift's workload; a set of simultaneous equations are thus created which can be solved for each shift. The examples make the method clear and give solutions for three different situations.

EXAMPLES

In the following examples, N represents the number of available patrol officers to be prorated among the various shifts. T is the total workload or service demand which can be broken down into individual time segments for the various combinations of either shifts alone or with overlaps. The service demands for the individual time segments are called A, B, C, etc. It is desired to solve for the required complement of patrol officers in terms of N, T, A, B, C, etc.

For clarity, the notation will be defined for each example in terms of actual working hours in military time. For a ten-hour day, it was considered realistic to remove the initial half-hour and last half-hour in order to allow for travel and briefing. Thus each shift is assumed to work nine hours per day.

EXAMPLE 1

Three shifts. First one alone, last two overlapping.

First shift: 0800 - 1700

Second shift: 1700 - 0200

Third shift: 2300 - 0800

Let

N = number of available patrol officers

N_1 = number of patrol officers assigned to the first shift

N_2 = number of patrol officers assigned to the second shift

N_3 = number of patrol officers assigned to the third shift

Hence

$$N = N_1 + N_2 + N_3$$

Also let

T = total workload demand

A = workload demand from 0800-1700 (served by the first shift alone)

B = workload demand from 1700-2300 (served by the second shift alone)

C = workload demand from 2300-0200 (served by the second and third shifts)

D = workload demand from 0200-0800 (served by the third shift alone)

Hence

$$T = A + B + C + D$$

The workload demand of each shift can now be expressed as

(1) $N_1 = \frac{A}{T} N$

(2) $N_2 = (B + \frac{N_2}{N_2 + N_3}) C \frac{N}{T}$

(3) $N_3 = (D + \frac{N_3}{N_2 + N_3}) C \frac{N}{T}$

It can be verified that $N = N_1 + N_2 + N_3$.

What the equations express is as follows:

(1) The number of patrol officers assigned to the first shift (N_1) is equal to the proportion of the total workload that occurs during the first shift ($\frac{A}{T}$) multiplied by the total number of available officers (N). Hence $N_1 = \frac{A}{T} N$.

(2) The number of patrol officers assigned to the second shift (N_2) is equal to the sum of two parts ((a) and (b)) multiplied by the total number of available officers (N).

(a) expresses the proportion of the total workload demand that occurs during the time the second shift is alone ($\frac{B}{T}$).

(b) expresses the proportion of the total workload demand that can be placed on the second shift during the time the second and third shifts are together; i.e., $\frac{C}{T}$ is the proportion of the demand occurring from 2300-0200 but only part of that demand ($\frac{N_2}{N_2 + N_3}$) is served by the second shift. Thus, the second shift's "share" of the workload between 2300-0200 is $\frac{N_2}{N_2 + N_3} \frac{C}{T}$.

Hence $N_2 = (\frac{B}{T} + \frac{N_2}{N_2 + N_3} \frac{C}{T}) N$

$= (B + \frac{N_2}{N_2 + N_3} C) \frac{N}{T}$

(3) The number of patrol officers assigned to the third shift (N_3) is equal to the sum of two parts ((a) and (b)) multiplied by the total number of available officers (N).

(a) expresses the proportion of the total workload demand that occurs during the time the third shift is alone ($\frac{D}{T}$).

(b) expresses the proportion of the total workload demand that can be placed on the third shift during the time the second and third shifts are together; i.e., $\frac{C}{T}$ is the proportion of the demand occurring from 2300-0200 but

only part of that demand ($\frac{N_3}{N_2 + N_3}$) can be served by the third shift. Thus, the third shift's "share" of the workload between 2300-0200 is $\frac{N_3}{N_2 + N_3} \frac{C}{T}$.

Hence $N_3 = (\frac{D}{T} + \frac{N_3}{N_2 + N_3} \frac{C}{T}) N$

$= (D + \frac{N_3}{N_2 + N_3} C) \frac{N}{T}$

It is now desired to solve (1), (2) and (3) in terms of N, A, B, C, and D. Noting that

$$N_2 + N_3 = N - N_1$$

and substituting in (2) and (3) and simplifying give the final solutions:

(1) $N_1 = \frac{A}{T} N$

(2) $N_2 = BN (1 - \frac{A}{T}) \frac{1}{B + D}$

(3) $N_3 = DN (1 - \frac{A}{T}) \frac{1}{B + D}$

EXAMPLE 2

Three shifts. Middle shift overlaps with other two at either end.

First shift: 0800 - 1700

Second shift: 1600 - 0100

Third shift: 2300 - 0800

Let

N = number of available patrol officers

N_1 = number of patrol officers assigned to the first shift

N_2 = number of patrol officers assigned to the second shift

N_3 = number of patrol officers assigned to the third shift

Hence

$$N = N_1 + N_2 + N_3$$

Also let

T = total workload demand

A = workload demand from 0800-1600 (served by first shift alone)

B = workload demand from 1600-1700 (served by first and second shifts)

C = workload demand from 1700-2300 (served by second shift alone)

D = workload demand from 2300-0100 (served by second and third shifts)

E = workload demand from 0100-0800 (served by third shift alone)

Hence

$$T = A + B + C + D + E$$

The workload demand of each shift can be expressed as

(1) $N_1 = (A + \frac{N_1}{N_1 + N_2} B) \frac{N}{T}$

(2) $N_2 = (\frac{N_2}{N_1 + N_2} B + C + \frac{N_2}{N_2 + N_3} D) \frac{N}{T}$

(3) $N_3 = (\frac{N_3}{N_2 + N_3} D + E) \frac{N}{T}$

Adding (1) and (2) and solving for N_2 in terms of N_1 gives

(2) $N_2 = \frac{N(A + B + C) - TN_1}{T - \frac{ND}{N - N_1}}$

Substituting in (1) allows solving for N_1 as a quadratic equation.

The final solutions are:

$$(1)\quad N_1 = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

where $a = -(A + C + D)$

$$b = N\left(2A + C + \frac{DB - AE}{T}\right)$$

$$c = -\frac{AN^2(A + B + C)}{T}$$

$$(2)\quad N_2 = \frac{N(A + B + C) - TN_1}{T - \frac{ND}{N - N_1}}$$

$$(3)\quad N_3 = N - N_1 - N_2$$

EXAMPLE 3

Four shifts. First shift alone. Second and third shifts overlap; third and fourth shifts overlap; second, third and fourth shifts overlap.

First shift: 0700 - 1600

Second shift: 1600 - 0100

Third shift: 1900 - 0400

Fourth shift: 2100 - 0700

Let

N = number of available patrol officers

N_1 = number of available patrol officers assigned to first shift

N_2 = number of available patrol officers assigned to second shift

N_3 = number of available patrol officers assigned to third shift

N_4 = number of available patrol officers assigned to fourth shift

Hence

$$N = N_1 + N_2 + N_3 + N_4$$

Also let

T = total workload demand

A = workload demand from 0700-1600 (served by first shift alone)

B = workload demand from 1600-1900 (served by second shift alone)

C = workload demand from 1900-2100 (served by second and third shifts)

D = workload demand from 2100-0100 (served by second, third and fourth shifts)

E = workload demand from 0100-0400 (served by third and fourth shifts)

F = workload demand from 0400-0700 (served by fourth shift alone)

Hence

$$T = A + B + C + D + E + F$$

The workload demand of each shift can now be expressed as

$$(1)\quad N_1 = \frac{A}{T} N$$

$$(2)\quad N_2 = \left(B + \frac{N_2}{N_2 + N_3} C + \frac{N_2}{N_2 + N_3 + N_4} D\right) \frac{N}{T}$$

$$(3)\quad N_3 = \left(\frac{N_3}{N_2 + N_3} C + \frac{N_3}{N_2 + N_3 + N_4} D + \frac{N_3}{N_3 + N_4} E\right) \frac{N}{T}$$

$$(4)\quad N_4 = \left(\frac{N_4}{N_2 + N_3 + N_4} D + \frac{N_4}{N_3 + N_4} E + F\right) \frac{N}{T}$$

Substituting

$N_1 + N_2 + N_3 = N - N_4$ in (2)

and

$N_2 + N_3 = N - N_1 - N_2$ in (3),

adding (2) and (3), and solving for N_3 in terms of N_1 and N_2 yield:

$$(3)\quad N_2 = \left(B + C + \frac{DN_2}{N - N_1} - \frac{TN_2}{N}\right) / \left(\frac{T}{N} - \frac{D}{N - N_1} - \frac{E}{N - N_1 - N_2}\right)$$

Substituting in (2) and solving for N_2 as a quadratic equations give the final solutions:

$$(1)\quad N_1 = \frac{A}{T} N$$

$$(2)\quad N_2 = \frac{-b \pm \sqrt{b^2 - 4ac}}{2_a}$$

where $a = \frac{ED}{N - N_1} - \frac{ET}{N}$

$$b = \frac{TB(N - N_1)}{N} + B\,(C + E - D) + CE$$

$$c = -B\,(B + C)\,(N - N_1)$$

$$(3)\quad N_3 = \left(B + C + \frac{DN_2}{N - N_1} - \frac{TN_2}{N}\right) / \left(\frac{T}{N} - \frac{D}{N - N_1} - \frac{E}{N - N_1 - N_2}\right)$$

$$(4)\quad N_4 = N - N_1 - N_2 - N_3$$

LIMITATIONS/CONSTRAINTS

The above procedures provide idealized manning levels for the various shifts. Operational considerations such as officer safety, absenteeism, number of vehicles, other deployment policies (e.g., team integrity), other non-called-for-service demands (e.g., court and training), etc. must be taken into to provide realistic manning levels. Subsequent reports will specify how the formulae were applied in San Jose.

APPENDIX "C"

(BEAT BOOK)

TABLE OF CONTENTS

BEAT AND RADIO CHANNELS

Channel 1 covers Districts 1 and 3
Channel 2 covers Districts 2 and 5
Channel 3 covers District 8
Channel 4 covers Districts 4 and 6
Channel 9 covers District 7

BEAT SUPERVISION

District 1 Supervises Beats 11, 12, 13, 16, 18, 19
District 2 Supervises Beats 21, 22, 23, 24, 25
District 3 Supervises Beats 33, 34, 35, 36, 38
District 4 Supervises Beats 41, 42, 43, 44, 45
District 5 Supervises Beats 51, 52, 53, 54, 55, 56
District 6 Supervises Beats 62, 64, 65, 66, 67
District 7 Supervises Beats 71, 72, 73, 74, 75, 76,
District 8 Supervises Beats 81, 82, 83, 84, 85

Radio Identification Numbers for Bureau of Field Operations --5000 Collective call to all Bureau of Field Operations Units, 5001-5099-Administrative Units (Chiefs, Captains, Lieutenants). Sergeants use their Division # plus their District #, plus 00. Thus 6300 is 2nd Division Sergeant District #3.

The first digit of the four number sequence indicates the following:

5 = 1st Division Bureau of Field Operations (Days)
6 = 2nd Division Bureau of Field Operations (Swing)
7 = 3rd Division Bureau of Field Operations (Midnights)
8 = Special Operations Division
9 = Traffic Enforcement

The second digit of the four number sequence indicates the following:

1 = One Man Unit
2 = Two Man Unit
3 = Wagon
4 = Parks
5 = Walking Beat
6 = Supplemental Unit
7 = Unassigned
8 = Parking Control
9 = K-9 Units

The third digit of the fourth digit sequence indicates the district. The fourth digit of the four digit sequence indicates the beat within the district.

Traffic Units:

9101-9199 - Accident Investigator, the last two digits will signify an officer (alphabetical or badge list order).

96-- - Day Watch Motorcycles and beat assignment.
97-- - Swing Watch Motorcycles and beat assignment.
--91 --95 - Will signify Radar Units, first two numbers will indicate Traffic Watch.
98-- - Parking Meter Control Units. Last two digits will signify name of employee.

CALL BOXES

Call Box Number	Location	Utilized by Beat #
24	Alum Rock Park - main parking area - Tree Dance area - upper Sycamore Grove	11,16
28	Almaden Expwy. & Foxworthy	41
30	Almaden Expwy. & Crown Blvd.	44,45,64
42	Alviso - Post Office	56
14	N. Bascom & Hedding	21,54
38	Bollinger & Hwy. 9 (E Hwy. 85)	23,25
39	5285 Doyle - in front of PTT garage	23
31	Lincoln & Willow	53,71,82
32	Malone & Lincoln	72
03	Market & St. James - parking garage N	72
04	Market & St. James - parking garage S	72
01	Market & St. James - N.E.	72
13	Mayellen & W. San Carlos	54,55
37	McCoy east of Grandby	23,24,25
21	McKee & Capitol	19
21	McKee & Jackson - Overfelt Park	19
33	Meridian & Curtner - NE	41,42
29	Monterey Rd. north of Cottle	64,65,66,67
27	Monterey Rd. south of Tully	62,81,82,83,84,85
11	Park & Prevost	72
08	Post & Lightstone	72
12	Race & The Alameda	52,53,54
17	E. Santa Clara & Bayshore	12,13,18,74,75
06	W. Santa Clara & Market - NE	72
36	Saratoga & Blackford	21,23,24
22	Story & Adrian	33
34	Union north of Barrett	42,43,44
25	S. White & Quimby	34,35,36,38
23	N. White (N of Alum Rock)	11,18,19
31	Willow & Camino Ramon - Bramhall Park	53,71,82
35	S. Winchester & Payne	22
41	N. 1st & Brokaw	51,56
16	N. 1st & Rosemary	51
10	S. 1st & San Carlos	71,72
07	1st & Santa Clara	72
05	N. 1st & W. St. John	52,72
18	S. 1st & Willow	71,72,81,82,83
02	2nd & St. James - SW	72
09	S. 3rd & San Fernando	72,76
19	S 12th & Keyes	81,83
15	N. 13th & Taylor	73

DWELLING NUMBERS

All businesses and residences are numbered in the following manner: Even numbers are used on the south and east sides of the streets -- Odd numbers are used on the north and west sides of the streets. City numbers consist of from one to four numbers; however, in some areas which have recently annexed there may be some 5-digit numbers. If there is any doubt about the jurisdiction, take the report and settle jurisdiction at a later time.

BOUNDARY LINES

The City and County have marked boundary lines in the streets in some locations. These boundary lines are indicated by an Orange colored bar 6 inches wide and 3 feet long painted in the street. The County side of the bar consists of a 6-inch half circle.

OFFICE BUILDINGS

Almaden Business Center	6455 Almaden Expressway	B-45
Bank of America Building	1st & Santa Clara	B-72
Bowers Building	2845 Moorpark Avenue	B-21
Burrell Building	246 So. 1st Street	B-72
Community Bank Building	111 W. St. John	B-72
Continental Building	2787 Moorpark Avenue	B-21
Davis G. A. Inc.	4960 Hamilton Avenue	B-24
Fairview Building	2858 Stevens Creek Blvd.	B-21
First National Bank Building	1st & Santa Clara	B-72
Garden Alameda Association	1550 The Alameda	B-52
Garden Alameda Executive Suite	1530 The Alameda	B-52
Gemma Building	99 N. Redwood Avenue	B-21
Great Western Financial Building	111 W. St. John	B-72
Hamilton Office Center	1777 Hamilton Avenue	B-22
Medical Dental Building	6th & Santa Clara	B-76
Medical Science Building	25 N. 14th Street	B-76
Meridian Park Office Center	4300 Stevens Creek Blvd.	B-23
Orchard Business Plaza	800 Charcot Avenue	B-56
Park Center Plaza	100 W. San Fernando	B-72
Paulsen Office Park	4020 Moorpark Avenue	B-23
San Jose Gateway	2025 Gateway Place	B-51
San Jose Medical Arts Plaza	2444 Moorpark Avenue	B-55
Security Building	84 S. 1st Street	B-72
Sherman Building	3031 Tisch Way	B-21
Swenson Building	777 N. 1st Street	B-13
Twohy Building	210 S. 1st Street	B-72
Westgate Office Plaza	4960 Hamilton Avenue	B-22
Whitson Building	1922 The Alameda	B-52
Winchester Plaza	1101 S. Winchester Blvd.	B-22
ZDS	64 S. 2nd Street	B-72

HOTELS

AAA Motel	1525 Monterey Hwy.	B-82
Aconda	141 W. Santa Clara Street	B-72
Alameda Motel	1050 The Alameda	B-72
American	73-½ S. Market	B-72
Americana Motor Inn	1310 N. 1st Street	B-51
Auditorium Travel Inn	455 S. 2nd Street	B-71
Bell Motel	2165 The Alameda	B-54
Best Western-San Jose Lodge	1440 N. 1st Street	B-51
California	237 S. 1st Street	B-72
California 6 Motel	1240 Camden Avenue	B-42
Campbells Motel	281 E. Taylor Street	B-73
Casa Linda	1669 Monterey Hwy.	B-82
Catholic Women's Center	195 E. San Fernando Street	B-76
City Center Motel	45 E. Reed Street	B-71
Charles Motel	1036 N. 4th Street	B-51
Civic Center Lodge	1310 N. 1st Street	B-51
De Anza Hotel	233 W. Santa Clara Street	B-72
Depot	564 W. Santa Clara Street	B-52
Douglas	277 S. 1st Street	B-72
El Cortez Motor Inn	3120 Monterey Road	B-84
El Rancho De San Jose	2724 Monterey Hwy.	B-84
EZ-8 Motel	1550 N. 1st Street	B-13
EZ-8 Motel	2050 N. 1st Street	B-14
Flamingo Motor Lodge	1084 The Alameda	B-52
Foothills Motor Lodge	655 S. 34th Street	B-12
Garden City Hotel	105 N. San Pedro	B-72
Glazenwood	189 S. 3rd Street	B-72
Holiday Inn	1355 N. 4th Street	B-51
Holiday Inn	282 Almaden Blvd.	B-72
Holiday Lodge	3030 Monterey Road	B-84
Hotel St. Claire	Market & San Carlos	B-72
Hotel St. James	241 N. 1st Street	B-72
Howard Johnson	1755 N. 1st Street	B-51
Hyatt House	1740 N. 1st Street	B-51
Jefferson Hotel	154 W. Santa Clara	B-72
La Casa Siesta	1550 N. 1st Street	B-51
LeBaron Hotel	1350 N. 1st Street	B-51
Lenox Hotel	260 S. 1st Street	B-72
Maas Hotel	96 Almaden	B-72
Metropole	33 S. Market	B-72
Mission	4180 Monterey Road	B-72
Motel 6	2560 Fontaine	B-35
Motel 101	10 S. 30th Street	B-74
Mother Olsen's Boarding House	122 N. 8th Street	B-76
Murotsume Hotel	605 N. 5th Street	B-73
Oasis	5340 Monterey Road	B-65
Parkview	1140 S. 2nd Street	B-81
Pepper Tree Inn	2112 Monterey Hwy.	B-83
Purple Sage Motel	3382 Monterey Road	B-84

HOTELS - continued

Rainbow	291 N. 1st Street	B-72
Regency Lodge	195 N. 13th Street	B-76
San Carlos	28 S. 2nd Street	B-72
San Jose Inn	1860 The Alameda	B-52
Sandman Motel	2585 Seaboard Avenue	B-56
Sands Motel	1787 S. 1st Street	B-81
Sherry Motel	1095 Oakland Road	B-51
St. Nicholas Motel	2194 The Alameda	B-54
Star Motel	875 N. 13th Street	B-12
Sterling Motel	2234 The Alameda	B-52
Swan Lake Motel	6100 Monterey Hwy.	B-67
Sycamore Lane Motel	1370 Oakland Road	B-56
Terry Hotel	286 W. San Carlos	B-72
Thrift Motel	3131 Cadillac	B-22
Town House Motel	475 S. 2nd Street	B-71
Travel Lodge	1041 The Alameda	B-52
Traveler Rest Motel	1315 S. 1st Street	B-81
Vagabond Motor Hotel	1488 N. 1st Street	B-51
Vendome Hotel	161 W. Santa Clara	B-72
Wagon Wheel Motel	3200 Monterey Road	B-84
White Way Motel	1135 Oakland Road	B-56

BANKS/SAVINGS & LOANS

Allstate Savings & Loan		
	285 S. 1st Street	B-72
	3510 Leigh Avenue	B-42
	2830 Alum Rock Avenue	B-19
	6233 Santa Teresa Blvd.	B-67
	4400 Stevens Creek Blvd.	B-23
	1304 Saratoga Avenue	B-24
	1378 Blossom Hill Road	B-44
	6009 Snell Avenue	B-64
American Savings & Loan Association		
	55 W. Santa Clara Street	B-72
	1114 S. King Road	B-33
	2915 Stevens Creek Blvd. (Valley Fair)	B-21
	1285 Lincoln Avenue	B-53
Bank of America		
	6490 Camden Avenue	B-45
	1370 Kooser Road	B-44
	971 Blossom Hill Road	B-64
	771 N. 1st Street	B-51
	2225 Quimby Road	B-35

BANKS/SAVING & LOANS - continued

Bank of America - continued	
2300 Alum Rock Avenue	B-12
8 S. 1st Street	B-72
3005 Almaden	B-41
2975 Meridian Avenue	B-42
1510 The Alameda	B-52
3491 McKee Road	B-19
1682 Monterey Hwy.	B-81
5215 Prospect Road	B-23
101 Park Center Plaza (W. San Fernando)	B-72
155 Bernal Road	B-67
2nd and San Carlos	B-72
4140 Monterey Road	B-85
5615 Snell Avenue	B-64
5120 Stevens Creek Blvd.	B-23
1175 S. King Road	B-33
3000 Story Road	B-36
5000 Cribari Lane	B-38
Stevens Creek Blvd. (Valley Fair)	B-21
1245 Lincoln Avenue	B-53
1600 Saratoga-Sunnyvale Road	B-25
Bank of California	
170 Park Center Plaza	B-72
1700 The Alameda	B-52
838 Town & Country Village	B-21
Bank of San Jose	
2490 Story Road	B-33
Barclays Bank of California	
3550 Stevens Creek Blvd.	B-21
2039 Forest Avenue	B-54
31 N. Market Street	B-72
Bells Savings & Loan Association	
1099 Lincoln Avenue	B-53
Brentwood Savings & Loan Association	
908 Blossom Hill Road	B-64
361 N. Capitol Avenue	B-19
California Canadian Bank	
100 W. San Fernando	B-72
California Federal Savings & Loan	
4th & Santa Clara	B-76
883 Blossom Hill Road	B-64

SHOPPING CENTERS

Alec	Saratoga & Stevens Creek Blvd. B-21
Almaden	Almaden & Capitol Expressway B-41
Almaden Center	6400 Almaden Road B-45
Almaden Fashion Plaza	5353 Almaden Road B-44
Almaden Plaza	1580 Almaden Road B-82
Alpha Beta	1320 Branham Lane B-44
	7076 Santa Teresa Blvd. B-64
Ann Darling	33rd & McKee B-75
Branham Square	1114 Branham Lane B-44
Business Circle	Bascom & Stevens Creek Blvd. B-54
Cambrian Park Plaza	Woodard & Union (14481 Camden) B-42
Capitol Square	390 N. Capitol Avenue B-19
Caribees	2875 Senter B-84
Casa View Plaza	Stevens Creek Blvd. & Casa View B-23
Country Club Villa	McKee & Toyon Avenue B-19
Cribari	Parkway & Cribari B-38
De Anza	Kentwood & Highway 9 B-25
Dicks	1350 S. Bascom B-55
Dick's Super-Angels	King & Story B-13
Eastridge	2200 Tully Road at Quimby B-35
Edenview	5200 Monterey B-65
El Paseo De Saratoga	1750 Saratoga Avenue B-24
Foxworthy	Foxworthy & Plummer B-41
Hacienda Gardens	Meridian & Foxworthy B-42
Hillsdale	1800 Hillsdale B-42
Hillview	Almaden & Koch B-41
House of Many Shops	314-316 Monroe B-21
Kato	Quito & Saratoga B-24
La Pala	McKee & Pala B-19
Lincoln Glen	Almaden & Foxworthy B-41
LoBue Plaza	White & Story B-36
Lone Hill	Kooser & Camden B-43
Lucky Market	Cottle & Santa Teresa B-66
Maple Leaf	1100 Saratoga Avenue B-22
Mayfair	Hamilton & Meridian B-42
Meadow Brook	Almaden & Redbird B-62
Meridian Center	Lopina & Stevens Creek Blvd. B-23
Mervyn's	Story Road, east of Capitol B-13
Mt. Pleasant	White & Story B-36
Northwood Park	Capitol & Trimble B-11
Oakridge	Blossom Hill & Pearl B-64
Orchard Farm	6130-6134 Bolinger Road B-25
Park Lane Plaza	Moorpark & Lawrence Expwy. B-23
Pay Less	Capitol & Lombard B-13
Piedmont Center	Sierra & Piedmont B-16
Princeton Plaza	Blossom Hill & Kooser B-44/45
Pueblo Plaza	Blossom Hill & Almaden B-44/45
Rancho	Rancho & Monterey Rd. B-84
Rhodesway (Futurama)	5100 Stevens Creek Blvd. B-23
Robertsville	Almaden & Branham B-44
Saratoga Plaza	300 So. Saratoga B-23
Saratoga Square	Kiely & Saratoga B-23
Sears	1300 W. San Carlos B-53

Shopping Centers - continued

Seven Trees	4140 Monterey Road	B-85
Southgate	Blossom Hill & Snell	B-64/65
Stevens Creek Plaza	3043 Stevens Creek Bl	B-21
Strawberry Park	Moorpark & Saratoga	B-23
Sunrise Plaza	600 Blossom Hill	B-64
Town & Country Village	2850 Stevens Creek Blvd.	B-21
Union Plaza	2900 Union Ave.	B-42
Union Square	1900 Foxworthy	B-42
Valley Fair	2801 Stevens Creek Blvd.	B-21
Village Square	Hamilton & Meridian	B-41
Westgate Shopping Center	1600 Saratoga Ave.	B-24
West Park Plaza	Payne & Winchester	B-22
Westgate	Prospect & Saratoga	B-23
West Valley	Stevens Creek & Lawrence Expwy	B-23
Winfield Center	Blossom Hill & Winfield	B-64

FIRE STATIONS

Police District	Location	Beat #	Fire Station	Phone
1	2933 Alum Rock Av.	19	2	258-3471
	1025 Piedmont Rd.	16	19	251-9262
	1771 Via Cinco De Mayo	11	23	262-8049
2	1248 Blaney Av.	25	15	252-9200
	511 S. Monroe St.	21	10	248-2696
	1201 San Tomas Aquino Rd.	22	14	241-6690
3	1749 Mt. Pleasant Rd.	36	21	259-6034
	2525 Aborn Rd. (Pomeroy)	38	24	274-0768
	2001 S. King Rd.	34	16	259-4381
4	6461 Bose Ln.	45	22	997-0931
	1386 Cherry Av.	41	6	294-5454
	1494 Ridgewood Dr.	44	17	266-1151
	3410 Ross Av.	44/43	9	269-3872
5	1433 Airport Blvd.	51	20	297-2675
	1386 Cherry Av.	53	6	294-5454
	800 Emory St.	52	7	294-9693
	4758 Gold St. (Alviso)	56	25	262-0516
	1380 No. 10th St.	56	5	292-5417
6	239 Bernal Rd.	67	27	226-5004
	502 Calero Av.	64/65	12	227-5500
	4380 Pearl Av.	62	13	265-1884
7	454 Auzerais Av.	71	4	295-1361/294-0340
	201 N. Market St.	72	1	293-8727
	802 E. Santa Clara St.	74/75	8	292-0540
8	4430 S. Monterey Rd.	85	18	225-2765
	528 Tully Rd.	84	26	295-3452
	98 Martha St.	81	3	295-0198

SCHOOL DISTRICTS - ADMINISTRATION

Alum Rock	2930 Gay Av	B-19	258-4923
Berryessa	935 Piedmont Rd	B-16	258-3121
Burbank	4 Wabash Av	B-52	295-1813
Cambrian	2675 S. Bascom, CA	B-42	377-2103
Campbell Union Grammar	155 N. 3rd, CA	B-55	378-3405
Campbell Union High	3235 Union AV	B-55	371-0960
Cupertino	10301 Vista Dr, CU	B-25	252-3000
Eastside Union High	12660 N. Capitol Av	B-56	251-0570
Evergreen	3188 Quimby Rd	B-35	274-2520
Franklin McKinley	400 Tully Rd	B-84	286-0640
Fremont Union High	589 Fremont Av, SV		735-6060
Moreland	4710 Canpbell Av	B-24	379-1370
Morgan Hill Unified	5 E. 2nd St, MH	B-67	225-2132
Mt. Pleasant	14271 Story Rd	B-36	923-5800
Oak Grove	6578 Santa Teresa Bl	B-67	227-8300
Orchard	711 E. Gish Rd	B-14	998-2830
San Jose Unified	1605 Park Av	B-54	998-6000
Santa Clara	1889 Lawrence Rd		246-2100
Union	5175 Union Av	B-43	377-8010

COLLEGES

Condie College	4340 Stevens Creek	B-23	984-8811
De Anza Jr. College	Stevens Creek & Stelling	B-25	257-5550
Evergreen Jr. College	San Felipe & Yerba Buena	B-38	274-7900
Foothill Jr. College	12345 El Monte, LA		948-8590
Gavilan Jr. College	5310 San Felipe Rd, HO		637-1158
San Jose Bible	12th & Virginia	B-76	293-5584
San Jose City	2100 Moorpark	B-55	298-2181
San Jose State	125 S. 7th St	B-76	294-6414
Santa Clara	1889 Lawrence Station Rd, SC		246-3200
West Valley	44 E. Latimer, CA	B-22	379-1735
West Valley	1400 Fruitvale, SA		867-2200

SCHOOLS AND SCHOOL DISTRICTS

School	District	Address	Beat	Telephone
Adult & Community Ed.	Fremont	10511 Tantau	B-25	735-6219
Adult Education	San Jose	1149 E. Julian	B-75	293-5400
Allen	San Jose	5845 Allen Av	B-64	998-6205
Almaden	San Jose	1295 Dentwood	B-44	998-6207
Alta Vista	7th Day Adv.	281 N. 33rd St	B-75	251-4853
Amber Drive	Moreland	3500 Amber Dr	B-22	243-9562
Anderson	Moreland	4000 Rhoda Dr	B-22	243-6031
Anderson	Oak Grove	5800 Calpine	B-65	225-6556
Ann Darling	San Jose	333 N. 33rd St	B-75	998-6209
Arbuckle	Alum Rock	1970 Cinderella Ln	B-13	259-2910
Athenour	Union	5200 Dent	B-44	265-8455
Bagby	Cambrian	1840 Harris/Leigh	B-42	377-3882
Baker	Moreland	4845 Bucknall Rd	B-24	379-2101
Bachrodt	San Jose	02 Sonora Av	B-51	998-6211
Baldwin	Oak Grove	200 Martinvale	B-67	226-3370
Bascom	San Jose	1800 Moorpark	B-55	297-0921
Belden	San Jose	479 Hyde Park Dr	B-62	998-6347
Bellarmine	Parochial	University & Elm	B-52	294-9224
Bernal	Oak Grove	6610 San Ignacio Av	B-67	578-5731
Berryessa	Berryessa	1171 N. Capitol Av	B-11	923-1901
Birchwood	Berryessa	3435 Birchwood	B-16	923-1906
Blackford High	Campbell	3800 Blackford	B-23	241-0330
Blackford School	Campbell	1970 Willow	B-55	266-8771
Blossom Valley	Oak Grove	420 Allegan Cl	B-66	227-4260
Boeger	Mt. Pleasant	1944 Flint	B-36	238-1440
Bonnett	Cambrian	2275 S. Bascom Av	B-42	377-8807
Booksin	San Jose	1590 Dry Creek Rd	B-41	998-6213
Branham High	Campbell	1570 Branham Ln	B-44	265-8440
Broadway	San Jose	1088 Broadway Av	B-71	998-6215
Brooktree	Berryessa	1781 Olivetree Dr	B-11	923-1911
Bucknall	Moreland	4300 Bucknall Rd	B-24	379-3969
Burbank (Luther)	Burbank	Wabash & San Carlos	B-54	295-1813
Burnett Jr. High	San Jose	850 N. 2nd St	B-73	998-6267
Cadwallader	Evergreen	3799 Cadwallader	B-38	274-4760
Calabazas Creek	Cupertino	1455 Longfellow	B-25	252-2623
Calero	Oak Grove	420 Calero	B-66	227-3464
Cambrian	Cambrian	7211 Curtner, CA	B-42	377-2140
Camden High	Campbell	2075 Camden	B-42	371-0252
Canoas	San Jose	880 Wren Dr	B-62	998-6217
Carlton	Union	Carlton & Elester Dr	B-43	356-1141
Carson	San Jose	4245 Meg Dr	B-62	998-6287
Castillero Jr. High	San Jose	6384 Leyland Park Dr	B-45	998-6385
Cassell	Alum Rock	1300 Tallahassee	B-33	259-2653
Castlemont	Campbell	3040 Payne	B-22	379-8775
Castro	Moreland	4600 Student Ln	B-24	379-3620
Cedar Grove	Evergreen	2702 Sugar Plum	B-35	238-0682

Stone	Frank-McKin.	2605 Gassmann Dr	B-84	227-6411
Strawberry Park	Moreland	730 Camino Escuela	B-23	252-7070
Summerdale Elem.	Berryessa	1124 Summerdale	B-16	923-1960
Sylvandale	Frank.McKin.	653 Sylvandale	B-84	227-1804
Taylor	Oak Grove	410 Sautner Dr	B-66	226-0462
Terrell	San Jose	3925 Pearl Av	B-62	998-6255
Toyon	Berryessa	995 Bard St	B-19	923-1966
Trace	San Jose	651 Dana Av	B-54	998-6257
Union	Union	2130 Los Gatos/Almaden	B-43	371-0366
Valle Vista	Mt Pleasant	2400 Flint	B-35	238-3525
Valley View	San Jose	1290 Kimberly	B-41	998-6259
Vinci Park	Berryessa	1311 Vinci Park Wy	B-11	923-1970
Vineland	Union	1444 Blossom Hill Rd	B-45	264-2661
Vocational Center	San Jose	760 Hillsdale	B-62	266-9282
Washington	San Jose	100 Oak St	B-81	998-6261
Westmont High	Campbell	4805 Westmont	B-24	378-1500
Whaley	Evergreen	2655 Alvin Av	B-35	274-1900
Williams Elem.	San Jose	1150 Raikovich	B-45	998-6263
Williams High	Campbell	3925 Williams	B-23	241-2095
Willow Glen Elem.	San Jose	1425 Lincoln	B-53	998-6265
Willow Glen High	San Jose	2001 Cottle Av	B-41	998-6330
Yerba Buena High	Eastside	1855 Lucretia Av	B-83	279-1500

PAROCHIAL SCHOOLS

Alta Vista	7th Day Adv.	281 N. 33rd St	B-75	251-9883
Apostles	Lutheran	6085 Blossom Av	B-64	225-0107
Bellarmine Col. Prep	Catholic	Emory & Elm	B-52	294-9224
Curtner Christian	Christian	1548 Curtner	B-41	269-0958
Five Wounds	Catholic	1390 Five Wounds Ln	B-75	293-0425
Harker Academy	Private	500 Saratoga	B-23	249-2510
Lutheran Church of Our Savior	Lutheran	5825 Bollinger	B-25	252-0345
Mitty High	Catholic	5000 Mitty Dr	B-23	252-6610
Most Holy Trinity	Catholic	1940 Cunningham	B-36	259-1010
Notre Dame High	Catholic	596 S. 2nd St	B-71	294-1113
Presentation High	Catholic	2281 Plummer	B-41	264-1664
Queen of Apostles	Catholic	4950 Mitty Dr	B-23	252-3659
Sacred Heart	Catholic	310 Edwards	B-71	293-5921
San Jose Bible College	Christian	790 S. 12th St	B-74	293-5584
SC Valley Luthern Sch.	Lutheran	5825 Bollinger	B-25	252-0345
SJ Christian School	Christian	2350 Leigh Av	B-42	377-8713
St. Christopher's	Catholic	1576 Curtner	B-41	264-8764
St. John Vianney	Catholic	4601 Hyland	B-19	258-7677
St. Joseph	Catholic	170 S. River	B-72	297-1888
St. Leo	Catholic	1051 W. San Fernando	B-52	293-1662
St. Martin's	Catholic	300 O'Connor Dr	B-54	295-3488
St. Mary's	Catholic	560 S. 3rd St	B-71	294-8565
St. Patrick's	Catholic	51 N. 9th St	B-76	294-5761
St. Victor	Catholic	3150 Sierra Rd	B-16	251-1740
Temple Emanu-El	Jewish	1010 University	B-52	292-0939

PARKS

Alma Tot Lot	Pamona Av & Robert Ct	B-82
Almaden Regional Park	Almaden Ex & Coleman Av	B-45
Alpine Park	2300 Canoas Garden	B-62
Alum Rock	Alum Rock Av	B-16
Alviso Park	Park & Truman Wy	B-56
Anderson Dam	Cochran Rd	B-67
Arroyo Park	Meridian & Princeton	B-44
Backesto	13th & Empire	B-73
Baker	Campbell Av & Mayfield	B-24
Bernal Memorial Park	8th & Hedding	B-73
Berryessa Park	1789 Messina Dr & Berryessa Crk.	B-16
Biebrach Park	400 W. Virginia, Delmas & Willis	B-71
Boggini	3085 Remington Wy & Millbrook Dr	B-35
Bramhall (Willow Glen)	1300 Willow St, Britton & Hicks Av	B-53
Brigadoon	Brigadoon Wy & Moloney Dr	B-38
Brigadoon Tot Lot	1801 Threadneedle & Firth Wys	B-38
Brooktree	Fallingtree Dr, Flickinger/Olive Tree	B-11
Brown-Spencer	Brown & Spencer Avs	B-71
Butcher	Lancaster, Oakwood, Ross & Camden	B-43
Cadwallader	1st & 2nd & Keyes	B-81
Cahalan	Cahalan & Pearlwood Wy	B-64
Calabazas	Rainbow Dr at Calabazas & Blaney	B-25
Calero	Calero Av & Lean Av	B-66
Calero Reservoir	McKean Rd & Bailey Av	B-67
Canoas	Wren Dr & Kingfisher Dr	B-62
Canha	Singleton Rd & Capitol Ex	B-84
Capitol Park	Bambi & Peter Pan (750 Gallahad)	B-13
Center Plaza Park	Market, San Antonio & San Carlos	B-51
Century Oaks Park	Coyote/Alamitos Canal off Curve, south of Cottle	B-66
Cerro Verde Park	Camden Av, east of Los Cerritos	B-45
Cimarron Park	Pelleas Lan & Orange St	B-19
Claitor	Coyote Rd opposite Snow Dr	B-84
Columbus Park	Spring & Taylor	B-52
Comanche Park	Comanche Dr & Shawnee Ln	B-64
Coyote Creek Park Chain	Coyote Creek from Phelan to Anderson Dam	B-83/84
Danna Park Outcropping	Houndshaven Wy at Valley haven Wy	B-85
Doerr	Potrero & Park Wilshire Dr	B-42
Dove Hill Park	Dove Hill btwn Colt & Yerba Buena	B-38
Fernish	Rubion Dr East of adj to Foothill School (Flint at Mt. Pleasant)	B-36
Flickinger Park	Tourney & Hounslow Drs	B-11
Foothill	Foothill Dr & Cahalan Av	B-64
Forestdale Tot Lot	Forestdale Av S of Jeanne Av	B-74
Fountain Alley	Btwn S. 1st & 2nd S of Santa Clara	B-72
Frontier Village	4885 Monterey Rd	B-65
Fuller Avenue Plaza	Fuller Av btwn Bird & Delmas	B-71

PARKS - continued

Turtle Rock	Malden Av btwn Boa Vista & Bikini	B-81
Vinci Park	Vinci Park Wy, Donohue & Hikido	B-11
Watson	Jackson St & N 22nd St	B-75
Welch	Santiago Av, Clarice & Huran	B-34
Wilcox	1301 Winona Dr, Duke & Wilcox Wys	B-41
William Street	E William St, S 16th, S 19th and Coyote Creek	B-74/83

NEIGHBORHOOD AND COMMUNITY CENTERS

Almaden Valley Comm. Cntr.	7050 Bret Harte	B-45
Bernal Neighborhood Cntr.	6610 San Ignacio	B-67
Berryessa Community Cntr.	955 Piedmont Rd	B-16
Berryessa Youth Center	14630 Noble Av	B-16
Burnett Neighborhood Cntr.	850 N. Second St	B-73
Cambrian Community Cntr.	277r S. Bascom Av	B-42
Catholic Women's Center	195 E. San Fernando	B-76
Edenvale Neighborhood Cntr.	285 Azucar	B-65
Evergreen Community Cntr.	3190 Quimby Rd	B-35
Fair Neighborhood Cntr.	1702 McLaughlin	B-83
Gardner Neighborhood Cntr.	520 W. Virginia	B-71
Herman Neighborhood Cntr.	5955 Blossom Av	B-64
Idywild Center	1975 Cambrianna Dr	B-42
Jollyman Community Cntr.	1001 Jollyman Dr	B-25
Mayfair Neighborhood Cntr.	2039 Kammerer Av	B-12
Meadow Fair Neighborhood Center	2696 S. King Rd	B-35
Morrill Community Center	1970 Morrill	B-16
Mt. Pleasant Comm. Cntr.	3411 Rocky Mountain Dr	B-36
Muir Community Center	1260 Branham Ln	B-44
Newman Center	79 S Fifth St	B-76
Park Naglee Center	1700 Park Av	B-54
Rainbow Neighborhood Cntr.	1295 Johnson	B-25
Roosevelt Neighborhood Cntr.	901 E. Santa Clara	B-75
San Tomas Neighborhood Cntr.	4093 Valerie Dr	B-24
Southside Community Cntr.	5585 Cottle	B-65
Starbird Neighborhood Cntr.	1050 Boynton Av	B-22
Thousand Oaks Neighborhood Center	4270 Pearl Av	B-62
Union Community Center	4949 Harwood	B-43
Willow Glen Community Cntr.	1800 Bird Av	B-82

BOWLING ALLEYS, HALLS, THEATERS, ETC.

Alma Bowl	355 W. Alma	B-82
Aloha Roller Palace	397 Blossom Hill Rd	B-65
Ann Darling Bowl	1661 McKee Rd	B-75
Aztec Hall	1148 E. San Antonio St	B-74
Bruce Hall Danceland	158 S. Second St	B-72
Burbank Lions Hall	99 N. Bascom Av	B-54
Capitol Lanes	3246 Almaden Rd	B-62
Cambrian Bowl	14900 Camden Av	B-42
Camera One	366 S. First St	B-71
Center for the Performing Arts	255 Almaden Bl	B-51
Century 21	3161 Olsen Dr	B-22
Century 23	3161 Olsen Dr	B-22
Century 24	741 S. Winchester Bl	B-22
Century 25	1694 Saratoga Av	B-24
Civic Auditorium	145 W. San Carlos	B-51
Costa Hall	15 S. Third St	B-54
Danceland	158 S. Second St	B-72
Eagles Lodge	152 N. Third St	B-72
Esquire Theater	1191 E. Santa Clara St	B-75
Fiesta Lanes	1523 W. San Carlos St	B-54
Flea Market	12000 Berryessa Rd	B-56
Fourth Street Bowl	1441 N. Fourth St	B-51
Futurama Bowl	5140 Stevens Creek Bl	B-23
Garden Theater	1165 Lincoln Av	B-53
Germania Hall	261 N. Second St	B-72
IES Hall	1401 E. Santa Clara St	B-75
Jose Theater	64 S. Second St	B-72
King Little's Roller Palace	1070 S. White Rd	B-36
La Fiesta Latina Hall	301 E. Santa Clara St	B-76
Liberty Theater	67 S. Market	B-72
McCabe Hall	175 W. San Carlos St	B-72
Meadowbrook	2476 Almaden Rd	B-62
Meridian Quad Theaters	4396 Stevens Creek Bl	B-23
Montgomery Theater	145 W. San Carlos	B-51
Mt. Hamilton Grange	3310 S. White Rd	B-38
Napredak Hall	770 Trimble	B-56
New Paris Theater	25 W. San Salvador	B-71
Oakridge Cinemas	913 Blossom Hill Rd	B-64
Oakridge Lanes	953 Blossom Hill Rd	B-64
Plaza Lanes	1050 S. White Rd	B-36
Pussycat II	400 S. First St	B-72
San Jose Auto Movie	750 E. Gish	B-56
Saratoga Lanes	1585 Saratoga Av	B-23
Skateland	1525 Almaden Rd	B-82
Solari Neighborhood Center	3596 Cas Dr	B-85
Studio Theater	396 S. First St	B-71
Towne Theater	1433 The Alameda	B-54
Tropicaire Drive-In	1963 Alum Rock Av	B-81
United Artists	263 S. First St	B-72
YMI Hall	1970 Evans Ln	B-82

TRAILER AND MOBILE HOME PARKS

Name	Address	Beat
Arcadia Mobile Homes	962 Parkmoor Ave.	53
Arcadia Trailer Park	962 Parkmoor Ave.	53
Bella Rosa Trailer Court	1500 Virginia Pl.	12
California Hawaiian Mobile	3637 Snell Ave.	62
Caribees Mobile Home Park	411 Lewis	84
Casa Alondra Mobile Home Estates	5450 Monterey Hwy.	65
Casa Del Lago Mobile Home Park	2151 Oakland Rd.	56
Colonial Manor Mobile Home Park	3300 Narvaez	62
Cottage Trailer Grove	111 Barnard Ave.	82
County Fair Mobile Estates	270 Umbarger Rd.	84
Coyote Creek Mobile Home Park	2580 Senter Rd.	84
Downtown	275 Balbach St.	71
Four Seasons	200 Ford	67
Garden City Trailer Park	1309 Oakland Rd.	56
Hillview Trailer Court	241 S. Jackson Ave.	12
Hilton Mobile Park	661 Bonita Ave.	74
Imperial San Jose Mobile Estates	5770 Winfield	64
Lamplighter Mobile Park	4201 N. First St.	56
Magic Sands	165 Blossom Hill Rd.	65
Mayfair Trailer Park	1840 S. Seventh St.	83
Mobile Home Manor	1300 E. San Antonio St.	74
Mobile West Three Family Park	100 Nicholson Ln.	56
Mobile West For Adults	300 Nicholson Ln.	56
Mobile West For Two Adults	500 Nicholson Ln.	56
Mobile West For One Family	700 Nicholson Ln.	56
Monterey Oaks Mobile Home Park	6130 Monterey Hwy.	67
Mountain Shadows Trailer Park	633 Shadow Creek Dr.	62
Old Orchard	2135 Little Orchard St.	82
Pepper Tree Estates Mobile Homes	2150 Monterey Hwy.	83
Pleasant Grove Trailer Park	2298 Monterey Hwy.	83
Quail Hollow Mobile Park	1445 S. Bascom Ave.	55
Rancho Santa Teresa Mobile Estates	5101 Monterey Hwy.	65
Redwood Mobile Home Park	2745 Monterey Hwy.	84
River Glen	2150 Almaden Rd.	82
San Jose Mobile Park	540 Bollinger Rd.	25
San Jose Verde Mobile Home Park	555 Umbarger Rd.	84
Silver Creek	1520 E. Capitol Expwy.	35
Sleepy Hollow Trailer Court	4210 Monterey Hwy.	85
Spanish Cove Mobile Home Community	2600 Senter Rd.	84
Sunset Mobile Manor	555 S. 24th St.	74
Town and Country Mobile Village	195 Blossom Hill Rd.	65
Trailer Inn Park	2800 Monterey Hwy.	84
Travelodge Mobile Home Park	1350 Oakland Rd.	56
Triangle Trailer Court	1200 N. Tenth St.	56
Twin Palms Trailer Court	2774 Monterey Hwy.	84
Walnut Park Mobile Homes	4320 Monterey Hwy.	85
Western Trailer Park	2784 Monterey Hwy.	84
Willow Glen Mobile Estates	1850 Evans Ln.	82

INDEX OF STREETS

The pages which follow contain a listing of streets, map coordinates, and beats for streets in or near San Jose Police jurisdiction.

For example:	Street	Map Coordinates	Beat No.
	Goldentree Dr	40-76	11

LATE ADDITIONS

LATE ADDITIONS TO THE STREET INDEX HAVE BEEN INSERTED IN ALPHABETICAL ORDER IN THE SPACES IN THE CENTER OF THE COLUMNS.

SUBSTITUTION OF NUMBERS FOR STREETS

In areas where streets are congested and there is no room on the beat map to print all the street names, numbers may be used to label streets. (This happens most frequently on mobile home park streets.)

For example: Lava Dr #21, Coordinates 43-73, Beat 18, actually appears on the map as #21. (Note, however, that on the map but to the side, is a listing of the numbers on the streets which correspond.)

INDEX LINES

Each page contains an index line at the top which shows the streets included in the columns on that page.

For example: MAC ARTHUR - MARGARET M

ABBREVIATIONS USED IN THIS BEAT BOOK

AL	Alley	HY	Highway
AV	Avenue	LN	Lane
BL	Boulevard	LP	Loop
CL	Circle	PK	Parkway
CT	Court	PL	Place
CR	Creek	RD	Road
DR	Drive	SQ	Square
ES	Estates	ST	Street
EX	Expressway	TR	Terrace
FY	Freeway	WY	Way

Buena Vista Dr #15	37-76	56
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Bufkin Dr	47-53	66
Buggy Whip Ct #7	42-50	45
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Bunce Ct	44-76	16
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Burchell Ct	39-52	45
Burdette Dr	46-65	35
Burdick Wy	49-66	35
Burgundy Ct	45-76	16
Burgundy Dr	45-76	16
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Burl Ct	51-63	38
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Butterfly Dr	40-52	45
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Calle De Farrar	38-56	41/44
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Cape Colony Dr		43-73	11
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Cape George Pl		41-73	11
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Cape Hilda Pl		42-73	11
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Cape Jessup Dr		42-73	11
Cape Kennedy Dr		42-73	11
Cape May Pl		42-73	11
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Cape Morris Pl		42-73	11
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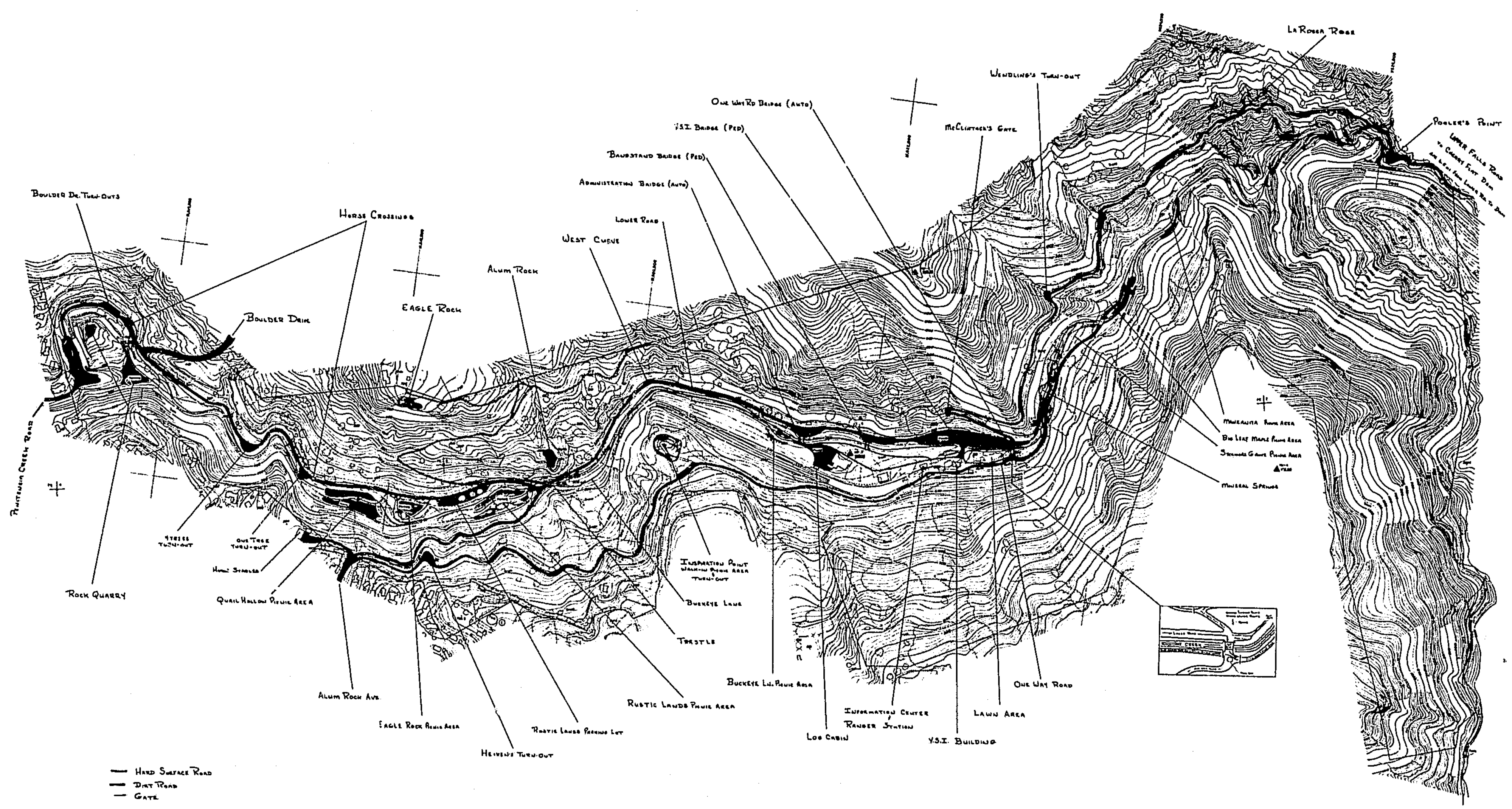
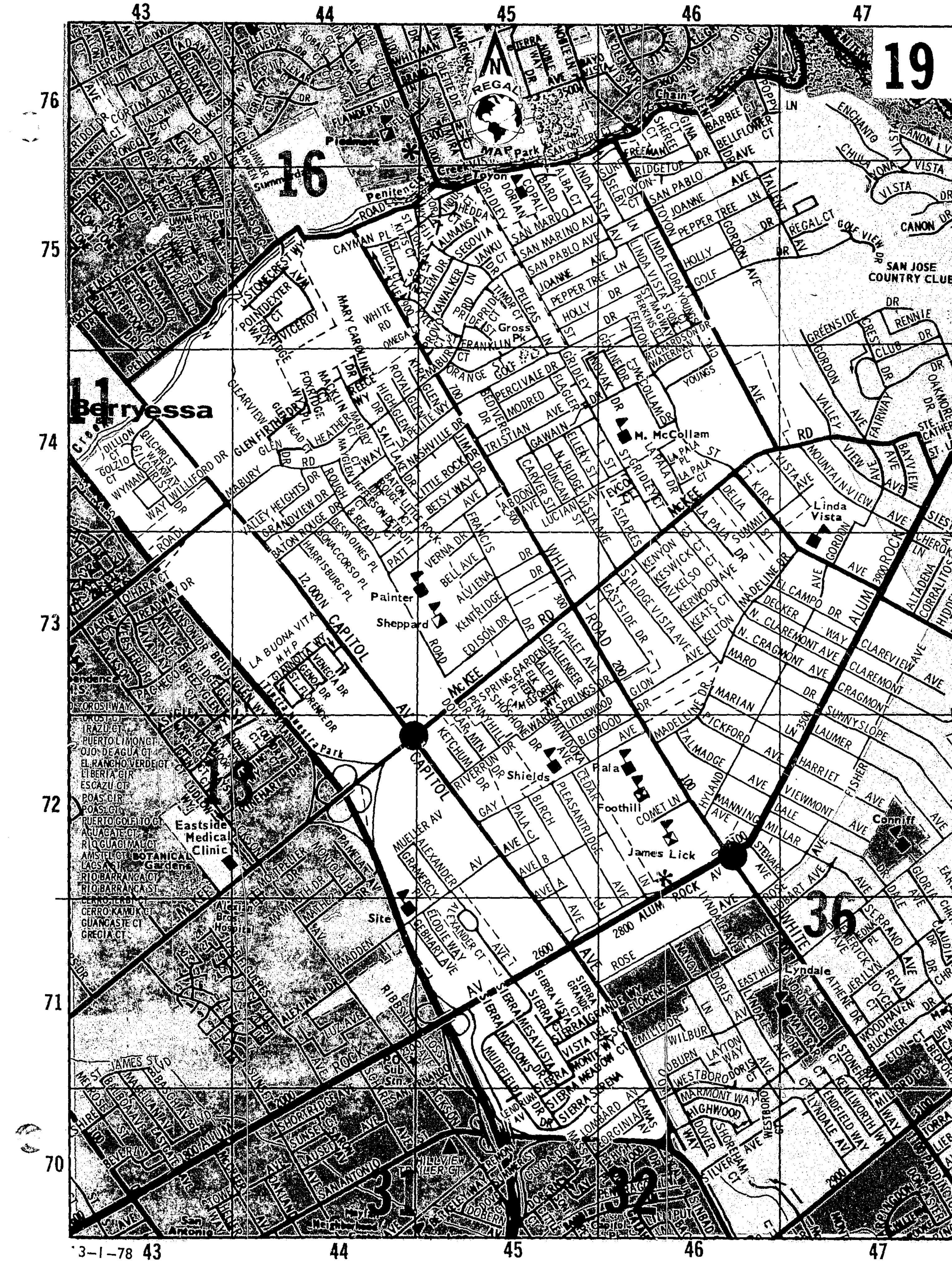
Capitol Av N			
Alum Rock-Penitencia Ck		45-71	19
Penitencia Ck-Berryessa			
	Even	43-74	16
	Odd		11
Berryessa-Trimble Rd		42-75	11


Boulder Dr. Turn-Outs
Horse Crossings
Boulder Drive
Eagle Rock
Alum Rock
West Curve
Lower Road
Administration Bridge (Auto)
Bandstand Bridge (Ped)
Y.S.I. Bridge (Ped)
One Way Rd Bridge (Auto)
McClintock's Gate
Wendling's Turn-out
Mineral Springs
Rock Quarry
Oak Tree Turn-out
Quail Hollow Picnic Area
Alum Rock Ave.
Eagle Rock Picnic Area
Rustic Lands Parking Lot
Rustic Lands Picnic Area
Trestle
Buckeye Lane
Inspiration Point
Walk-in Picnic Area
Turn-out
Buckeye Ln. Picnic Area
Log Cabin
Information Center
Ranger Station
Y.S.I. Building
Lawn Area
One Way Road
Hard Surface Road
Dirt Road
Gate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Berryessa
SAN JOSE COUNTRY CLUB
Penitencia
CAPITOL
McKEE
WHITE ROAD
ALUM ROCK
M. McCollam
Linda Vista
Painter
Sheppard
Shields
Pala
Foothill
James Lick
Conniff
Lyndale
Eastside Medical Clinic
BOTANICAL Gardens
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LA BUONA VITA M H P
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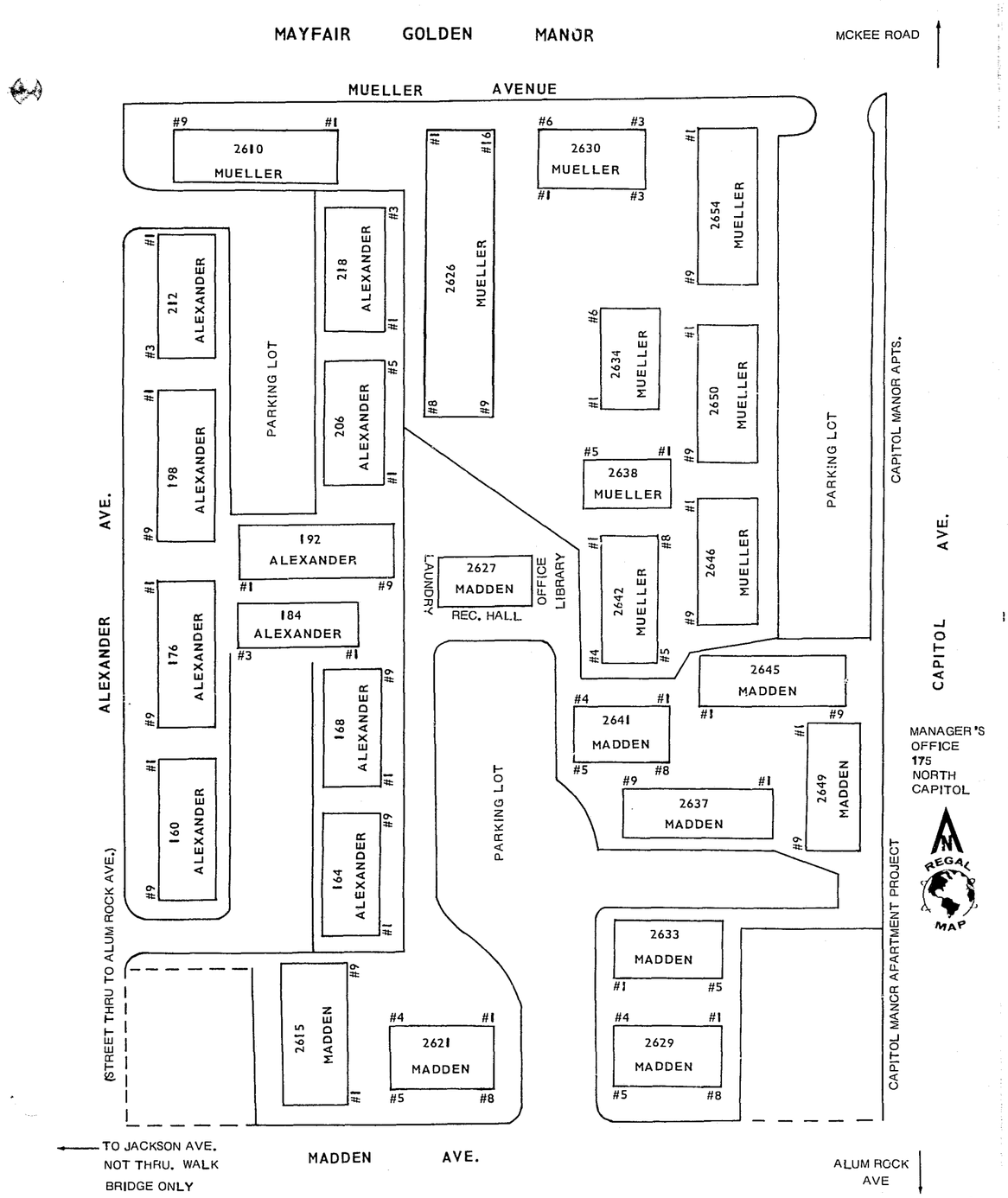
MAYFAIR GOLDEN MANOR
MCKEE ROAD
MUELLER AVENUE
2610 MUELLER
2630 MUELLER
2654 MUELLER
2626 MUELLER
2634 MUELLER
2650 MUELLER
2638 MUELLER
2646 MUELLER
2642 MUELLER
218 ALEXANDER
212 ALEXANDER
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168 ALEXANDER
164 ALEXANDER
160 ALEXANDER
ALEXANDER AVE.
PARKING LOT
2627 MADDEN
REC. HALL
LAUNDRY
OFFICE
LIBRARY
2645 MADDEN
2641 MADDEN
2649 MADDEN
2637 MADDEN
2633 MADDEN
2629 MADDEN
2621 MADDEN
2615 MADDEN
CAPITOL MANOR APTS.
CAPITOL AVE.
MANAGER'S OFFICE 175 NORTH CAPITOL
REGAL MAP
CAPITOL MANOR APARTMENT PROJECT
(STREET THRU TO ALUM ROCK AVE.)
TO JACKSON AVE. NOT THRU. WALK BRIDGE ONLY
MADDEN AVE.
ALUM ROCK AVE

BEAT BOOK REVISION

Methodology

The task involves coordinating the update of the department's beat book, to be ready by shift change March 6, 1978. To update the existing beat book, it was necessary to check both the indices and maps for accuracy and completeness using many sources. Some work had been done on update of the street index section by Research and Development, using the attached procedures and adding the errata also attached. The only method found which assured accurate checking was a complete repetition of the previous work, following the same methods. Newer source material (Barclay Locaide and an updated Fire Manual printout) was obtained. All alpha entries were checked against the fire manual printout for accuracy. In case of discrepancy, a search was made of the actual map location using the beat book map. In addition, new information was compiled for the supplementary indices. One of the final steps in preparation was to change each section of the book to reflect the new beat/district numbers. This change was saved until nearly last to avoid confusion of new beat and corrected beat numbers. The final step was coordination with the map company to make certain that the beat map pages reflected proper information, particularly items which had been in error previously, such as coordinate numbering and location on the page.

1) The main problem encountered during the beat book revision was that there is no standard, that is, no single source in existence from which to obtain correct information about streets, map coordinates, or beat designation for streets within the Department's jurisdiction. The beat book itself was hopelessly outdated. CAPSS and the resident Geo-file were considered to be not yet "clean" enough to use as a source. Commercial locaters were known

to have built-in error for copyright purpose. The Department had not kept close contact with City Planning and their information on new subdivisions. Even information update which had been done previously within the unit was suspect, as different methods had been used by different personnel attempting update. Two separate methodologies evolved during the update - one for the indices and one for the map pages.

A) Updating the street index was accomplished by comparing the Beat Book index with the geo-file printout from CAPSS. However, the CAPSS information is as yet judged to be unreliable. Any dispute about the existence of a street, its location, proper spelling, "one word or two", etc. which came about in the forementioned comparison was resolved by extending the comparison to include: a) the information in the beat book; b) with the geo-file information; c) with the information in a map book printed by a vendor other than the one selected; d) with the large map found on the wall in Research and Development ; and, sometimes, e) with the "Zip Code" index utilized by the Post Office. The result of this comparison was a "voting system" by which the information most commonly found was assumed to be accurate. This seemed to be the only method which would produce any degree of accuracy, but which was obviously high arbitrary.

A check of the existing beat book index showed beat designations inaccurate (assuming that the beat map pages and the Locaide map were accurate) by approximately five errors per alpha page verification. Coordinate errors ran about an additional five to seven errors per page. The reason for this error margin was largely undetermined. It was generally blamed on the "shifting of coordinate grids" between the time the information was proofread at the printers and the time the book was printed. Some efforts had been made in the Research and Development

Unit at updating the book. The index was not, however, corrected to reflect geo-file coordinates because it was assumed that the geo-file was unreliable at that time.

Some long arterials and short length streets cross over beat boundaries. The index generally showed the coordinates for the beginning point of the street, but did not break the street into sections crossing several beats. Every attempt was made to identify multi-beat streets for the new index. There is a possibility that more work may be necessary in this area in the future books.

Although the geo-file and the beat book index both contain address ranges for streets, only a rudimentary check was made at this time to reconcile the two lists. Because the geo-file information is yet inaccurate, but is the only source for this information at this time, it was deemed inadvisable to attempt to correct the beat book index. Certainly this is a matter which needs to be addressed in a later revision.

B) Beat map updating also became a problem because of the lack of standards for comparison. The beat maps had been of poor quality and difficult to read due to poor reproduction or small size print. Some attempts had been made had been made to pencil in or paste on copies of corrections furnished by the map company from time to time. These sporadic efforts were largely illegible and often obliterated the original information printed on the map. Information from these penciled books, the new data on streets as reflected on the wall map, and names of new streets found in the Locaide were compiled to take to the map company to check their maps. This task of checking was not facilitated by the necessity to refer to a compendium of information from different sources.

It was originally thought that the map company could furnish the Department with a printed "proof" of each map plate so that the information could be checked for accuracy. This was a misunderstanding of the process used to produce the maps. The map company utilizes an "offset" method by which as many as six images are merged to produce each map plate. The images never actually appear as one completed unit until the last print run is done. Because of this, once the information is given to the map company, there is no way that it can be altered.

C) The miscellaneous indices at the front of the book were expanded for this printing in an attempt to provide further information to the beat officer. Existing indices were updated. The gathering of information for these indices was a time consuming task, for which necessity based on actual use has not been established. There were time constraints which precluded updating the information on the back of the map pages (mobile home parks, shopping centers, etc.). It is believed that the map company could furnish this information were they given a more respectable lead-in time for publication.

D) Although it was not planned, due to the short amount of time scheduled for this project, it became necessary for staff to assist the map company in order that the book could be completed by the date it was needed. Assistance was given on masking and cutting the mylar overlays, in cutting and punching holes in the pages, and in collating the pages.

E) The final stage of the project was the review of the finished product, running a check for errors, and publishing an errata sheet for use by those who received a beat book.

2) The present effort should result in a "standard", that is, a model which contains the best information available at this time, in the best judgement of those given the responsibility of preparing the beat book. Several recommendations for consideration by the department regarding the beat book have surfaced and are listed as follows:

A) As the efforts of this revision have shown, it is a difficult task to update the book after a long period of neglect. As rapidly as the geographical are within this department's jurisdiction is expanding, new information for the beat book is created almost daily. The last publication of the book was two years ago. It is not expedient to wait such long intervals for update because this lengthens and increases the difficulty of what should be a relatively simple task, were it done on a frequent basis. A more critical consideration caused by long intervals may be that as the beat book is recognized by the beat officer to be outdated and/or incorrect, it suffers non-use. This practice, in effect, negates the original usefulness and necessity for publication initially.

B) The Department must recognize the need for establishing a beat book revision function within the Department, complete with necessary staff to keep the beat book up to date and accurate. This function needs a staff of persons acquainted with the information systems used in the Department and with the geography of the city. If the personnel involved are accustomed to working with such information, an indoctrination period is not necessary and time is saved. The work is done more rapidly and accurately by experienced persons. A great deal of time and accuracy are lost each time this update project is undertaken by persons unfamiliar with the information who have no vested interest in the total product. Every attempt should be made by the Department

CONTINUED

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to assign personnel to this function, to make the function on-going, and to set realistic time allowances for this update assignment, with preference being given to a continual update procedure.

C) This revision function must be established in conjunction with the geo-file update in the CAPSS system. Most of the geo-file information should, in the near future, reflect nearly identical data to much of that in the beat book (new streets, extensions, additions, spelling, beat numbers, address ranges, etc.). Update of these two data bases should be done simultaneously. In this manner, the two functions should act a information update for one another.

D) The beat book function must identify a primary source or sources from which information is to be obtained. Options for the source of the index section used in this update were the alpha index by the map company, the geo-file listing, the Center for Urban Analysis alpha listing, the Locaide, or City Planning material. It is imperative to determine a definite accurate source of information to use as a base to avoid the "guessing game" previously used to determine correct information.

Information sources for beat book map section at this time are limited to periodic map company updates and after-the-fact review of any of the geographic locaters printed commercially. The beat book function must identify sources (such as City Planning) which can provide information about streets as soon as it is available, so that update happens before the need for the information becomes acute.

E) Given that the update information has been identified, a method of getting those index/map changes to the officer must be established. The only attempt at this in the past has been distribution of a xeroxed page of index changes to the officer. More frequent issue of the beat book would alleviate much of this problem. At a minimum, the Department

should consider reprinting some pages for update insertion at a later time, particularly those beat maps which contain areas of high growth and street expansion.

The methods of update for the beat book should be reinforced by periodic, unscheduled inspection of the book by supervisory personnel. Officers (and others who use the book) may also be considered first hand update sources. A method of feedback from all personnel to the beat book staff should be established as part of the periodic update. In this manner, items may come to the attention of the staff early enough for inclusion in the update effort.

The beat book has been critized in the past by officers as error ridden. Soliciting and utilizing information from departmental personnel in compiling the book may establish a climate of responsiveness toward the beat book which will result in a better product for all concerned.

F) Actual utilization of the book by personnel should be examined to determine if the present layout and information contained therein is functional and responsive to the needs of the beat officer or others using the book. Other formats or information sections might be beneficial. Use of the added information appearing on the back of the map pages and the miscellaneous indices should be determined to see if the cost is justified by actual use. For example, printing a special page of the Monterey Highway corridor (67D) for use by Traffic may be unnecessary if the unit does not make use of the map. A study of the feasibility of further grid delineation, perhaps combining numbers with alpha characters, might show that the beat book could be easier to use.

G) If the update effort becomes a continual one, the rush procedures necessary for this revision would be elimated. Future update attempts

would then be allowed the luxury of closer communications with the map company. One consideration might be to determine if clearer, better map reproduction would be done. Perhaps changing the colors of the flat overlays would alleviate the problem of muddy and vague reproduction. Another suggestion to consider is use of a different color paper for the index to facilitate reading the book by flashlight at night.

H) If the book and its reproduction process are to remain in present form, each update will demand a time consuming re-typing of information. This method increases the potential for errors on index coordinates and beat numbers due to possible typographical errors on what was initially error-free information. The present length of the index requires two typists approximately ninety hours of typing time plus an additional forty-five hours of proofreading. Even these hours of proofreading cannot guarantee a perfect copy. Use of a word processor to store and update the beat book indices should be examined. The processor would allow corrections on a stored information base without increasing error ratio by complete retyping. In addition, rapid reproduction of a print ready copy would be available.

I) Distribution of the books should be closely monitored so that books do not disappear in an undetermined manner. Because of the short time-line for this project, BFO distributed their own books during the first week. It is suggested that the books be placed in Central Supply and be signed for and issued as equipment to individual sworn personnel. If copies were ordered for individual units, these could be distributed through regular routing.

3) These suggestions must be examined by the Department in view of adopting different methods of handling the beat book and its revision. Otherwise, the same unwieldy and time consuming attempts at update will produce, at some cost, a beat book of questionable accuracy, which will be obsolete before the volumes leave the print shop.

APPENDIX "D"

(CITIZEN SURVEY)

ATTITUDES ABOUT POLICE SERVICE

IN THE CITY OF SAN JOSE

San Jose Police Department

Patrol Emphasis Program

Terry Eisenberg, Ph.D.

March, 1978

"This project was partially supported by Grant Number 76-DF-09-0032, awarded by the Law Enforcement Assistance Administration United States Department of Justice. Points of view or opinions stated in this publication are those of Terry Eisenberg, Ph.D. and do not necessarily represent the official position of the United States Department of Justice."

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ACKNOWLEDGEMENTS

A large number of people participated in the development and conduct of this citizen survey. The results, as described in the following pages of this report, could not have been obtained without their able and energetic assistance.

Sgt. Tom Johnson, Craig Broadus, and James Gibson of the Patrol Emphasis Program staff all participated in the survey from its inception to its completion. Their continued involvement in all aspects of the survey substantially contributed to the quality achieved.

The following members of the S.J.P.D. Re-organization Task Force provided input with regard to the development of the questionnaire surveys: Lt. Robert Bradshaw, Sgt. John Diehl, and Officer Roger Cripe. Their help in articulating questions to be asked of citizens is greatly appreciated.

During the course of the survey, the following five people were utilized as interviewers: Rosemary Arce, Terry Argilla, Janie Garcia, Susan Garza, and Judy Porras. These people performed with great competence and sincerity, setting the occasion for the capture of honest and candid information from San Jose residents pertaining to their attitudes about police service.

The typing and proof reading of this report represent the efforts of Claudia Gardner and Lani Rosker. The author is most appreciative of their able efforts.

Finally, the participating citizens of San Jose who willingly offered their opinions in the hope of improving police service are to be thanked. The attitude data to be presented and discussed could not have been obtained without their cooperation and support.

BACKGROUND

The conduct of a citizen survey was first discussed with Chief Joseph McNamara in August of 1977. At that time, the Department had just begun an elaborate re-organization effort. This effort, designed to improve the delivery of police services to the citizens of San Jose, was composed of a wide range of sworn and civilian police personnel. Their inputs were being solicited for the purpose of developing and implementing changes in Departmental policies, procedures, and programs which would prove beneficial to the San Jose community.

Through the citizen survey, the public would have a forum for expressing their attitudes and opinions about police services. In this regard, selected re-organization changes would have both police and citizen participation and input prior to any implementation.

On August 18, 1977, the task of conducting the citizen survey was assigned to the staff of the Patrol Emphasis Program (PEP).[1] Dr. Terry Eisenberg, Staff Psychologist for the PEP was designated to coordinate the survey.

METHOD

Samples of Residents

Samples of citizens were drawn from three different populations of San Jose residents. One population consisted of residents drawn at random from

[1] The Patrol Emphasis Program is a three-year, million dollar project funded by the Law Enforcement Assistance Administration, a federal agency under the Department of Justice. PEP projects are intended to improve the delivery of police services.

the telephone directory. This sample was referred to as the RDD (Random Digit Dialing) sample.[2] A second population was composed of San Jose residents who had recently called for service during a 28-day period in September and October of 1977. A random sample of these people was drawn from the population and referred to as the CFS (Calls For Service) sample. The third population was composed of San Jose residents who had recently received traffic tickets for moving violations during the months of September and October of 1977. A random sample of these people was drawn from the population and referred to as the MC (Moving Citation) sample.

Survey Questions

The initial efforts pertaining to the survey focused upon the types of questions to be asked and the technique(s) for gathering the data. A brief and contemporary review of citizen surveys of police service was conducted. Members of the S.J.P.D. Re-organization Task Force were consulted on a number of occasions for their ideas pertaining to the content of the questions. These efforts which took place over the course of approximately two months (i.e., September through October, 1977) resulted in the development of three questionnaires which moderately varied in content from one another (see Appendices A, B, and C). Additionally, telephone interviewing was selected as the data gathering technique. Spanish language versions were developed for each of the three questionnaire forms.

Although three different populations of San Jose residents were sampled pertaining to their attitudes about police service, the three survey questionnaires contained questions in common. The specific questions in common

2 Tuchfarber, Alfred J. & Klecka, William R., Random Digit Dialing: Lowering the Cost of Victimization Surveys. Police Foundation, Washington, D.C., 1976

were the following twelve:

- In regards to your own personal contact with the San Jose Police, would you say that you have had a lot, some, or no contact with the San Jose Police?
- If you have had contact with the San Jose Police in the last year, how many contacts have you had?
- If you have had contact, under what circumstances have you had contact with the San Jose Police? Were you a victim, witness, complainant, suspect, etc.?
- If you have had contact, would you describe these personal contacts with the San Jose Police as having been generally positive, negative, neither, or both?
- What most influences your opinions of the San Jose Police; personal experience, the experiences of your friends and/or family, the news and newspapers, or TV and the movies?
- Would you say, in general, that the San Jose Police try all of the time, try most of the time, try some of the time, don't try very much, or don't try at all, to help people with their problems or situations?
- In your opinion, would you say that the San Jose Police use physical force appropriately all of the time, most of the time, some of the time, seldom, or never?
- Do you know any of the police officers who patrol in your neighborhood?
- If you don't know any of the police officers who patrol in your neighborhood, would you like to?
- In general, would you say that most people who call the San Jose Police Department are satisfied with the service they receive?

- In general, would you say that the San Jose Police are always fair, usually fair, sometimes fair, seldom fair, or unfair in dealing with the public?
- What improvements or changes in service should the San Jose Police try to accomplish?

An additional five questions were in common between two of the three survey questionnaires:

- Would you say, in general, that the San Jose Police are doing an excellent job, a good job, a fair job, or a poor job? (RDD & MC)
- Do you feel that the officer(s) was/were very courteous, somewhat courteous, somewhat discourteous, or very discourteous in his/their manner? (CFS & MC)
- Did the officer(s) provide explanations and answer your questions? (CFS & MC)
- Were you satisfied with the answers and/or explanations? (CFS & MC)
- Because of this recent contact with the police, do you feel better, worse, or the same about the San Jose Police Department? (CFS & MC)

A number of questions were unique to each of the three populations of San Jose residents. For the RDD survey, the following four questions were asked:

- In the area of crime prevention, would you say in general, that the San Jose Police do a lot of things, do some things, don't do much, or don't know?
- Are you confident that you know what to do should a crime occur in your presence?
- Do you know what the emergency number of the San Jose Police Department is?
- Would you like to have more information about crime prevention?

For the CFS survey, the following seven questions were asked:

- When you contacted the police recently, did you consider the call for service to be of an emergency or a non-emergency nature?
- When you first called the police, were you very dissatisfied, somewhat dissatisfied, somewhat satisfied, or very satisfied with the amount of time it took for them to answer the phone?
- Were you very dissatisfied, somewhat dissatisfied, somewhat satisfied, or very satisfied with the amount of time it took for the officer(s) to arrive at your residence or location?
- Did the uniformed officer(s) tell you that there would be follow-up by investigators on your case?
- If the officer(s) told you that there would be follow-up on your case by an investigator, to your knowledge, has that happened?
- Were you very satisfied, somewhat satisfied, somewhat dissatisfied, or very dissatisfied with the investigator's attitude about your case?
- Because of this recent contact with the police, would you call the San Jose Police Department again for a similar problem?

For the MC survey, the following question was asked:

- In the past year, how many tickets have you received for traffic violations other than parking tickets?

Finally, the age, race, sex, address, and family income were asked of each respondent for all three survey questionnaires. Badge number(s) of officers were obtained for the CFS and MC surveys. Type of call, priority, and disposition were obtained for the CFS survey.

Data Collection

In early November of 1977, five female interviewers were recruited, selected, and trained. All interviewers were people without any police experience and minimal contact with the police prior to the citizen survey activity. Three of the five interviewers spoke Spanish as well as English. The interviewing of residents was initiated in mid-November and completed in mid-December.

RESULTS

Sample Characteristics

A total of 793 San Jose residents were interviewed by telephone. Included were 504 people randomly selected from the telephone directory (RDD sample), 155 people who recently called the S.J.P.D. for police service (CFS sample), and 134 people recently receiving traffic tickets for moving violations (MC sample). With rare exception, citizens agreed to participate in the survey when requested to do so by the interviewers.

The residents ranged in age from 13 to 89 with a median age of 33. Slightly over one-half of the residents were female (i.e., 55%). Citizens resided throughout the City ranging from a minimum of 53 in Police District 7 to a maximum of 169 in Police District 6. Two of every three citizens reported at least some personal contact with members of the S.J.P.D. prior to the conduct of the survey (i.e., 64%). The average reported family income of the respondents was in the vicinity of $15,000 per year; 21% of the citizens reported family incomes of less than $10,000 per year. Approximately 74% of the respondents were white; 26% non-white. Mexican-Americans constituted 15% of the total number of citizens interviewed.

A more detailed description of respondent characteristics (i.e., family income, race, sex, police district, type of survey, age, and amount of prior contact) appears in Appendix D.

A total of five survey questions were not analyzed. Included were the role of the respondent (e.g., victim, witness, suspect, etc.), the factor which most influences the respondents opinion of the S.J.P.D. (e.g., personal experience, TV, etc.), and three questions pertaining to the area of follow-up investigations. These questions were not analyzed because of unintentional, but nevertheless, ambiguous wording which produced uninterpretable data.

All other questions were analyzed, the results of which appear below:

Citizen Attitudes

- 70% of the respondents described their personal contacts with the San Jose Police prior to the conduct of the survey as having been generally "positive"; 16% responded "negative". This result was consistent across all three groups of citizens. Negative responses included the following descriptors: "didn't do anything", "cold shoulder", "seemed that I was bothering them", "didn't help", and "didn't listen enough".
- 71% of the respondents indicated that the San Jose Police try all or most of the time to help people with their problems or situations. 6% indicated that they don't try much or don't try at all. A similar question asked only of the CFS respondents resulted in 88% indicating that they felt the officer(s) tried very hard or tried somewhat to help them with their problem or situation; 8% felt that the officer(s) tried very little or didn't try at all.
- 43% of the respondents felt that the San Jose Police use physical force

appropriately all or most of the time; 35% responded "don't know", and 5% responded "seldom" or "never". When respondents were asked why they feel as they do, responses fell into the following three categories which are presented in their order of frequency: proper use (73), use too much (57), and don't use enough (33). The numbers in parentheses refer to the number of respondents in each category.

- When asked, "Do you know any of the police officers who patrol in your neighborhood", 17% responded "yes". When asked, "Would you like to", 67% responded "yes". When asked for suggestions on how to get to know police officers better, the majority of citizens from all three groups proposed structured meetings of some sort. The desire for face-to-face contact was cited very often by respondents as a means of getting to know police officers better.
- 71% of the citizens reported that the San Jose Police are doing an excellent or good job; 3% reported that they are doing a poor job. A related question asked, "In general, would you say that most people who call the S.J.P.D. are satisfied with the service they receive?" Only 46% said "yes"; 23% said "no". Another related question asked only of the CFS respondents was whether they were satisfied on the whole with the service they recently received from the S.J.P.D. 90% responded that they were very or somewhat satisfied. These discrepancies in responses among the questions suggests that people are themselves more satisfied with police than they think other people are satisfied with police.
- 70% of the citizens indicated that the San Jose Police are always or usually fair in dealing with the public; 3% indicated that they are seldom or never fair.

- With regard to crime prevention, 73% of the respondents indicated that the San Jose Police do a lot or some things; 17% indicated that they don't know; and 10% that they don't do much. However, 71% of the respondents indicated that they would like to have more information about crime prevention. When asked what type of information citizens would like, the most popular was burglary protection/home security. Other popular requests included: general information, rape prevention, robberies, and legal rights as a citizen. The most popular method cited was classes and meetings in schools and homes.
- Two of every three citizens (i.e., 64%) did not know the S.J.P.D. emergency phone number.
- When respondents were asked whether they considered their recent call for service to be of an emergency or non-emergency nature, 50% responded "yes" and 50% responded "no". There were no priority 1 calls in the CFS survey sample; 36% were priority 2 and 64% were priority 3. It goes almost without saying then that citizens obviously perceive their needs for assistance to be more serious than does the S.J.P.D.
- 74% of the respondents answered "yes" to the question, "Are you confident that you know what to do should a crime occur in you presence?" When asked why they feel as they do, most citizens who responded "yes" indicated that the thing to do was to call the police. Only a very few responded in the following ways: "write down details", "help victim".
- 68% of the respondents were very or somewhat satisfied with the amount of time it took for the officer(s) to arrive at their residence or location. 80% were very or somewhat satisfied with the amount of time

it took for someone to answer the phone when they first called the police. These data suggest that citizens are more satisfied (or less dissatisfied) with the time it takes for someone to answer the phone than with the time it takes for the officer(s) to arrive.

- 87% of the respondents indicated that they felt that the officer(s) were very or somewhat courteous in their manner; 11% felt they were very or somewhat discourteous.
- 89% of the respondents indicated that the officer(s) provided explanations and answered their questions. 73% of these respondents indicated that they were satisfied with the answers and/or explanations. Dissatisfaction responses included the following descriptors: "nothing getting done", "police officer(s) are hurried and not thorough", "questions were left unanswered", and "didn't spend enough time".
- When asked, "Is there anything you would like to see changed about the police officers' attitude or behavior in future similar situations", 31% responded "yes". These responses were categorized as follows according to their frequency: attitude/manner (54), policy/procedure (36), and communication skills (31). Examples of attitude/manner include: "not tactless and rude", "less bitchy", "less sarcastic", "take more time", and "show more interest". Examples of police/procedures include: "improve response time", "more police personnel", and "more contact with people". Communication skills were basically "listening and understanding better and more". The moving citation sample respondents were more likely to respond "yes" to this question than were the CFS sample respondents (i.e., 37% vs. 25%).
- When respondents were asked, "Because of this recent contact with the police, do you feel better, worse, or the same about the S.J.P.D.", 63% said, "the same", 9% said, "worse", and 25% responded, "better".

Reasons given for feeling "worse" included the following: "kissed off the call", "slow phone service and late arrival", "didn't think the ticket was of any benefit", and "worse financially - $35 worth!" It is interesting to note that 12% of the MC sample had no prior tickets in the past year, whereas 14% had 5 or more tickets for traffic violations.

- 93% of the CFS respondents answered "yes" to the question, "Because of this recent contact with the police, would you call the S.J.P.D. again for a similar problem?" The most popular response given by those responding "no" was, "They can't help me with my problem." The most popular response given by those responding "yes" was, "Who else is there to call?"
- "What improvements or changes in service should the San Jose Police try to accomplish?" This question was one of a number of non-quantitative, open-ended questions. Responses were categorized into the following three areas: resources increase, programs, and attitude related. Citizen comments were of a similar frequency in each of these areas. The most popular responses within the resources increase category were, "more police officers" and "more visible police cars". The most popular response within the programs category was "crime prevention". The most popular responses within the attitude related category were "more patrol on a one-to-one basis", "more understanding, tact, and courteousness", and "less violence/force - stop pushing people around".

CFS Type and Disposition

With regard to the type of calls in the CFS sample (N=155), the three most frequent calls were 415's (33%), 459's (14%), and traffic accidents (8%).

Collectively, these types of calls accounted for 55% of all CFS in the sample.

In terms of dispositions, "no report required" was the most frequent (38%), "report filed" was the second most frequent (30%), "unable to locate/ gone on arrival" was the third most frequent (13%), "unfounded" was the fourth (6%), and "on view arrest" the fifth most frequent disposition (5%).

Differences

The data were also analyzed to asertain differences in attitudes by amount of prior police contact (i.e., a lot, some, none), type of survey (i.e., RDD, CFS, MC), family income (i.e., less than $5,000 through more than $25,000), race (i.e., white, black, Mexican-American, Asian, other), sex (i.e., male, female), and age (i.e., 13 through 89). The results of these analyses may be found in Appendix E.

CONCLUSIONS AND IMPLICATIONS

The following conclusions and implications appear reasonable in light of the experience and results of the citizen survey:

1 - Within the sample limits and boundaries of this citizen survey, residents of the City of San Jose are generally very positive about police service.

2 - White residents tend to be more positive about police service than Mexican-American residents, although the latter are still clearly positive.

3 - There is significant room for improvement in police-citizen relations and the survey results offer some suggestions pertaining to direction and focus.

4 - Differences in attitudes toward police service were found to exist

with regard to race, age, sex, amount of prior police contact, family income, type of survey, and address.

5 - The sample of citizens interviewed closely reflects racial population proportions within the City of San Jose.

6 - A methodology has been developed which allows for the conduct of continuing citizen surveys which can be implemented with increased efficiency at reasonable cost.[3]

7 - A methodology is evolving which can be employed for evaluating police officer performance and encouraging improved police-citizen relations.

8 - The developed methodology employed in this survey is applicable to other City Departments.

9 - The citizens of San Jose want more face-to-face personal contact with police officers.

10 - The citizens of San Jose need and want more information and programming pertaining to crime prevention.

11 - A more comprehensive analysis of call for service types and dispositions should be conducted for the purpose of describing and evaluating productivity.

---

[3] See Appendix F for a breakdown of survey costs.

APPENDIX A

RDD QUESTIONNAIRE

Form

RDD M...

Demographic Information:

A. Age: (Fill in Actual Age) _____

B. Race: White _____ (Check one)
Black _____
M-A _____
Asian _____
Other _____
Note: (See Code Book to code letters B and C.)

C. Sex: Male _____ Female _____ (Check one)

D. Address: _____
(Ask respondent for street address or, failing that, for the nearest major street intersection.)

Survey Questions:

1. In regards to your own personal contact with the San Jose Police, would you say that you have had a lot, some, or no contact with the San Jose P...
   1. A Lot
   2. Some
   3. No Contact (If respondent answers 'No Contact', skip to Item 6.)

2. (For those having a lot or some contact:) If you have had contact with the San Jose Police in the last year, how many contacts have you had? _____ (Fill in Actual Number)

3. (For those having contact:) Under what circumstances have you had contact with the San Jose Police? Were you a: (Check all that apply)
   Victim _____
   Witness _____
   Reporting Party _____
   Complainant _____
   Suspect _____
   Arrestee _____
   Cited Party _____
   Observer _____
   Other (describe) _____

4. (For those having contact:) Would you describe these personal contacts with the San Jose Police as having been generally positive, negative, neither, or both?
   1. Positive
   2. Negative
   3. Neither
   4. Both
   9. Don't Know

5. Could you explain why you feel the way you do?
(positive, negative, neither, or both)

_____

_____

6. What most influences your opinions of the San Jose Police; personal experience, the experiences of your friends and/or family, the news and newspapers, or TV and the movies?

1. Personal Experience
2. Experiences of Friends and/or Family
3. News and Newspapers
4. TV and Movies
5. Other (Describe) _____
9. Don't Know (If other: Do not enter 5; simply fill in response.)

7. Would you say, in general, that the San Jose Police try all of the time, try most of the time, try some of the time, don't try very much, or don't try at all, to help people with their problems or situations?

1. Try all of the time
2. Try most of the time
3. Try some of the time
4. Don't try very much
5. Don't try at all
9. Don't know - No opinion

8. In your opinion, would you say that the San Jose Police use physical force appropriately all of the time, most of the time, some of the time, seldom, or never?

1. All
2. Most
3. Some
4. Seldom
5. Never
9. Don't Know - No opinion

9. (If respondent expressed an opinion:) Could you explain why you feel the San Jose Police Department uses force appropriately?(all of the time, most of the time, some of the time, seldom, or never - use appropriate response.)

_____

_____

10. Do you know any of the police officers who patrol in your neighborhood?

1. Yes
2. No
9. Don't Know - Not Certain

11. If you don't know any of the police officers who patrol in your neighborhood, would you like to?

1. Yes
2. No
9. Don't Know - No Opinion

12. If you would like to know the officers who patrol in your neighborhood or to know them better, what would you suggest be done to get to know them?
(Fill in only if the respondent answered previous questions affirmatively.)

_____

_____

13. Would you say, in general, that the San Jose Police are doing an excellent job, a good job, a fair job, or a poor job?

1. Excellent
2. Good
3. Fair
4. Poor
9. Don't Know - No Opinion

14. (If respondent expressed an opinion:) Could you explain why you think the San Jose Police Department is doing an excellent, good, fair, or poor job?

_____

_____

15. In general, would you say that most people who call the San Jose Police Department are satisfied with the service they receive?

1. Yes
2. No
9. Don't Know - No Opinion

16. (If respondent has answered:) Could you explain why or why not most people are (satisfied) or (dissatisfied) with the service they receive from the San Jose Police Department?

_____

_____

17. In general, would you say that the San Jose Police are always fair, usually fair, sometimes fair, seldom fair, or unfair in dealing with the public?

1. Always
2. Usually
3. Sometimes
4. Seldom
5. Unfair
9. Don't Know - No Opinion

18. In the area of crime prevention, would you say, in general, that the San Jose Police:

    1. Do A Lot of Things
    2. Do Some Things
    3. Don't Do Much
    9. Don't Know - No Opinion

    (Note: You may have to explain crime prevention.)

19. Are you confident that you know what to do should a crime occur in your presence?

    1. Yes
    2. No
    9. Don't Know

20. Could you explain your answer?

    _____

    _____

21. Do you know what the emergency number of the San Jose Police Department is?

    1. Yes
    2. No

    What is it? (Code yes only if the respondent can give the correct number) 297-3565

22. Would you like to have more information about crime prevention?

    1. Yes
    2. No
    9. Don't Know

23. What information would you like?

    _____

    _____

24. What improvements or changes in service should the San Jose Police try to accomplish? _____

    _____

APPENDIX B

CFS QUESTIONNAIRE

Form B

Calls For Service Mode

Demographic Information:

A. Age: (Fill in Actual Age) _____

B. Race: White _____ (Check one)
Black _____
M-A _____
Asian _____
Other _____

Note: (See Code Book to code letters B and C.)

C. Sex: Male _____ Female _____ (Check one)

D. Address: _____

(Address will be coded by interviewer from 3x5 card.)

Survey Questions:

1. Not Applicable

2. Not Applicable

3. Not Applicable

4. Not Applicable

5. Not Applicable

6. What most influences your opinions of the San Jose Police; personal experience, the experiences of your friends and/or family, the news and newspapers, or TV and the movies?

1. Personal Experience
2. Experiences of Friends and/or Family
3. News and Newspapers
4. TV and Movies
5. Other (Describe) _____
9. Don't Know

(If other: Do not enter 5; simply fill in response.)

7. Would you say, in general, that the San Jose Police try all of the time, try most of the time, try some of the time, don't try very much, or don't try at all to help people with their problems or situations?

1. Try all of the time
2. Try most of the time
3. Try some of the time
4. Don't try very much
5. Don't try at all
9. Don't know - no opinion

8. In your opinion, would you say that the San Jose Police use physical force appropriately all of the time, most of the time, some of the time, seldom, or never?

1. All
2. Most
3. Some
4. Seldom
5. Never
9. Don't Know - No Opinion

9. (If respondent expressed an opinion:) Could you explain why you feel the San Jose Police Department uses force appropriately (all of the time, most of the time, some of the time, seldom, or never?) (Use appropriate response.)

_____

_____

10. Do you know any of the police officers who patrol in your neighborhood?

1. Yes
2. No
9. Don't Know

11. If you don't know any of the police officers who patrol in your neighborhood, would you like to?

1. Yes
2. No
9. Don't Know

12. If you would like to know the officers who patrol in your neighborhood or to know them better, what would you suggest be done to get to know them? (Fill in only if respondent answered previous question affirmatively.)

_____

_____

13. Not Applicable

14. Not Applicable

15. Not Applicable

16. Not Applicable

17. In general, would you say that the San Jose Police are always fair, usually fair, sometimes fair, seldom fair, or unfair in dealing with the public?

1. Always
2. Usually
3. Sometimes
4. Seldom
5. Unfair
9. Don't Know - No Opinion

18. Not Applicable

19. Not Applicable

20. Not Applicable

21. Not Applicable

22. Not Applicable

23. Not Applicable

24. Not Applicable

25. Prior to your recent call to the Police Department, how would you describe your own personal contact with the San Jose Police? Would you say that you have had a lot, some, or no contact with the San Jose Police? (Note: If respondent does not understand the meaning of the word prior try previous or other than.) (Note: If respondent answers 'No Contact' skip to Item No. 30.)

1. A lot
2. Some
3. No Contact

26. (For those who have had prior contact:) If you have had some prior contacts with the San Jose Police in the last year, how many contacts have you had? _____ (Fill in actual number.)

27. (For those who have had prior contact:) Under what circumstances did your prior contact occur? Were you a: (Repeat for each possible response.)

Victim
Witness
Reporting Party
Complainant
Suspect
Arrestee
Cited Party
Observer
Other (describe) _____

28. (For those having prior contact:) Would you describe these personal contacts with the San Jose Police as having been generally positive, negative, neither, or both?

1. Positive
2. Negative
3. Neither
4. Both
9. Don't know - No opinion

29. Could you explain why you feel as you do? (positive, negative, neither, or both)

_____

_____

30. When you contacted the police recently, did you consider the call for service to be of an emergency or a non-emergency nature?

1. Emergency
2. Non Emergency

31. When you first called the police, were you very dissatisfied, somewhat dissatisfied, somewhat satisfied, or very satisfied with the amount of time it took for them to answer the phone? (Note: the negative responses come first.)

1. Very Dissatisfied
2. Somewhat Dissatisfied
3. Somewhat Satisfied
4. Very Satisfied
9. Don't know - no opinion

32. Were you very dissatisfied, somewhat dissatisfied, somewhat satisfied, or very satisfied with the amount of time it took for the officer(s) to arrive at your residence or location? (Note: the negative responses come first.)

1. Very Dissatisfied
2. Somewhat Dissatisfied
3. Somewhat Satisfied
4. Very Satisfied
9. Don't know - no opinion

33. Do you feel that the officer(s) tried very hard, tried somewhat, tried very little or didn't try at all to help you with your problem or situation?

1. Tried very hard
2. Tried somewhat
3. Tried very little
4. Didn't try at all
9. Don't know - no opinion

34. Do you feel that the officer(s) was/were very courteous, somewhat courteous, somewhat discourteous, or very discourteous in his/their manner?

1. Very courteous
2. Somewhat courteous
3. Somewhat discourteous
4. Very discourteous
9. Don't know - don't remember

35. Did the officer(s) provide explanations and answer your questions?

1. Yes
2. No
9. Don't know - don't remember

36. (If questions were answered or explanations given:) Were you satisfied with the answers and/or explanations?

1. Yes
2. No
9. Don't know - no opinion

37. Why were you (satisfied or dissatisfied) with his/her answers or explanations?

_____

_____

38. Is there anything you would like to see changed about the police officer's attitude or behavior in future similar situations?

1. Yes
2. No
9. Don't know - no opinion

39. (If yes to #38 above:) What changes would you like to see?

_____

_____

40. Did the uniformed officer(s) tell you that there would be follow-up by investigators on your case?

1. Yes
2. No
9. Don't know - don't remember

41. If the officer(s) told you that there would be follow-up on your case by an investigator, to your knowledge, has that happened?

1. Yes
2. No

42. (If there has been a follow-up investigation, i.e., respondent answered yes to #41 above:) Were you very satisfied, somewhat satisfied, somewhat dissatisfied, or very dissatisfied with the investigator's attitude about your case?

1. Very satisfied
2. Somewhat satisfied
3. Somewhat dissatisfied
4. Very dissatisfied
9. Don't Know - No Opinion

43. Because of this recent contact with the police, do you feel better, worse, or the same about the San Jose Police Department?

1. Better
2. Worse
3. The same
9. Don't know - no opinion

44. (Ask only if respondent felt better or worse about the San Jose Police:) Can you explain why you feel (better) or (worse) about the San Jose Police Department?

_____

_____

45. Because of this recent contact with the police, would you call the San Jose Police Department again for a similar problem?

1. Yes
2. No
9. Don't know - can't make up mind

46. Why (would) or (wouldn't) you call the San Jose Police Department again for a similar problem?

_____

_____

47. On the whole, were you very satisfied, somewhat satisfied, somewhat dissatisfied, or very dissatisfied with the service you recently received from the San Jose Police Department?

1. Very satisfied
2. Somewhat satisfied
3. Somewhat dissatisfied
4. Very dissatisfied
9. Don't know - no opinion

48. Not Applicable

49. Not Applicable

50. Not Applicable

E. Officer's Badge No. (from CAPS) _____

F. Not Applicable

G. Type of Event (from TYPE ON CAPS) _____

H. Priority (from CAPS) _____

I. Assigned Unit No. (from CAPS _____

J. Disposition (from CAPS) _____

APPENDIX C

MC QUESTIONNAIRE

Form

Moving Citation Mode

Demographic Information:

A. Age: (Fill in Actual Age) _____

B. Race: White _____ (Check one)
Black _____
M-A _____
Asian _____
Other _____

C. Sex: Male _____ Female _____ (Check one)

D. Address: _____
(Will be coded by interviewer from 3x5 card.)

Survey Questions:

1. Not Applicable

2. Not Applicable

3. Not Applicable

4. Not Applicable

5. Not Applicable

6. What most influences your opinions of the San Jose Police; personal experience, the experiences of your friends and/or family, the news and newspapers, or TV and the movies?

1. Personal Experiences
2. Experiences of Friends and/or Family
3. News and Newspapers
4. TV and Movies
5. Other (Describe) _____
9. Don't Know (If other: Do not enter 5; simply fill in response.)

7. Would you say, in general, that the San Jose Police try all of the time, try most of the time, try some of the time, don't try very much, or don't try at all to help people with their problems or situations?

1. Try all of the time
2. Try most of the time
3. Try some of the time
4. Don't try very much
5. Don't try at all
9. Don't Know - No Opinion

8. In your opinion, would you say that the San Jose Police use physical force appropriately all of the time, most of the time, some of the time, seldom, or never?

   1. All
   2. Most
   3. Some
   4. Seldom
   5. Never
   9. Don't Know - No Opinion

9. (If respondent expressed an opinion:) Could you explain why you feel the San Jose Police Department uses force appropriately? (all of the time, most of the time, some of the time, seldom, or never - use appropriate response.)

   _____

   _____

10. Do you know any of the police officers who patrol in your neighborhood?

    1. Yes
    2. No
    9. Don't Know

11. If you don't know any of the police officers who patrol in your neighborhood, would you like to?

    1. Yes
    2. No
    9. Don't Know

12. If you would like to know the officers who patrol in your neighborhood or to know them better, what would you suggest be done to get to know them? (Fill in only if the respondent answered previous question affirmatively.)

    _____

    _____

13. Would you say, in general, that the San Jose Police are doing an excellent job, a good job, a fair job, or a poor job?

    1. Excellent
    2. Good
    3. Fair
    4. Poor
    9. Don't Know - No Opinion

14. (If respondent expressed an opinion:) Could you explain why you think the San Jose Police Department is doing an (excellent, good, fair, or poor) job?

    _____

    _____

15. In general, would you say that most people who call the San Jose Police Department are satisfied with the service they receive?

    1. Yes
    2. No
    9. Don't Know - No Opinion

16. (If respondent has answered:) Could you explain why or why not most people are (satisfied) or (dissatisfied) with the service they receive from the San Jose Police Department? _____

    _____

17. In general, would you say that the San Jose Police are always fair, usually fair, sometimes fair, seldom fair, or unfair in dealing with the public?

    1. Always
    2. Usually
    3. Sometimes
    4. Seldom
    5. Unfair
    9. Don't Know - No Opinion

18. Not Applicable

19. Not Applicable

20. Not Applicable

21. Not Applicable

22. Not Applicable

23. Not Applicable

24. Not Applicable

25. Prior to receiving your recent traffic citation, how would you describe your own personal contact with the San Jose Police? Would you say that you have had a lot, some, or no contact with the San Jose Police? (Note: if respondent does not understand the meaning of the word prior - try previous or other than.) (Note: If respondent answers 'No Contact,' skip to Item No. 30.)

    1. A lot
    2. Some
    3. No Contact

26. (For those who have had some prior contact:) If you have had some prior contacts with the San Jose Police in the last year, how many contacts have you had? _____ (Fill in actual number.)

27. (For those who have had some prior contact:) Under what circumstances did your prior contact occur? Were you a: (Repeat for each possible response:)

Victim _____
Witness _____
Reporting Party _____
Complainant _____
Suspect _____
Arrestee _____
Cited Party _____
Observer _____
Other (Describe) _____

28. (For those having prior contact:) Would you describe these personal contacts with the San Jose Police as having been generally positive, negative, neither, or both?

1. Positive
2. Negative
3. Neither
4. Both
9. Don't Know - No Opinion

29. Could you explain why you feel as you do? (positive, negative, neither, or both)

_____

_____

30. Not Applicable

31. Not Applicable

32. Not Applicable

33. Not Applicable

34. In regard to your recent citation, did you consider the officer's behavior very courteous, somewhat courteous, somewhat discourteous, or very discourteous while he or she was giving you a ticket?

1. Very courteous
2. Somewhat courteous
3. Somewhat discourteous
4. Very discourteous
9. Don't Know - No Opinion

35. Did the officer explain the traffic violation for which you were cited?

1. Yes
2. No
9. Don't Know - Don't Remember

36. (If an explanation were given:) Were you satisfied with the explanation?

1. Yes
2. No
9. Don't Know - No Opinion

37. Why were you (satisfied) or (dissatisfied) with his/her explanation?

_____

_____

38. Not Applicable

39. Not Applicable

40. Not Applicable

41. Not Applicable

42. Not Applicable

43. Because of this recent contact with the police, do you feel better, worse, or the same about the San Jose Police Department?

1. Better
2. Worse
3. The Same
9. Don't Know - No Opinion

44. (Ask only if the respondent felt better or worse about the San Jose Police.) Can you explain why you feel (better) or (worse) about the San Jose Police Department?

_____

_____

45. Not Applicable

46. Not Applicable

47. Not Applicable

48. Is there anything you would like to see changed about the police officer's attitude or behavior in future similar situations?

1. Yes
2. No
9. Don't Know - No Opinion

49. (If respondent answered yes to #48.) What would you like to see changed about the officer's attitude or behavior in a similar situation?

_____

_____

50. In the past years, how many tickets have you received for traffic violations other than parking tickets?

1. None
2. 1 or 2
3. 3 or 4
4. 5 or more

E. Officer's Badge No. (From citation file) _____

F. Not Applicable

G. Not Applicable

H. Not Applicable

I. Not Applicable

J. Not Applicable

APPENDIX D

RESPONDENT CHARACTERISTICS

RESPONDENTS BY FAMILY INCOME

	Number	Percent
$5,000/Less	47	7.0
$5,000-$10,000	96	14.3
$10,000-$15,000	125	18.6
$15,000-$20,000	167	24.9
$20,000-$25,000	98	14.6
$25,000/More	113	16.8
Unemployed	12	1.8
Other	14	2.1
TOTAL	672 *	100.1

Survey Question: "We would like to get some idea of your gross family income." "I'll read a list of figures and, if you will, please indicate the range you fall into."

* Missing Data: 121

RESPONDENTS BY RACE

	Number	Percent
White	582	73.5
Black	35	4.4
Mexican-American	116	14.6
Asian	20	2.5
Other	39	4.9
TOTAL	792 *	99.9

Survey Question: "What racial group do you consider yourself to be a member of?" "I'll read off a list. . ."

* Missing Data: 1

RESPONDENTS BY SEX

	Number	Percent
Male	344	44.6
Female	427	55.3
TOTAL	771 *	99.9

* Missing Data: 22

RESPONDENTS BY POLICE DISTRICT

	Number	Percent
1	127	16.7
2	108	14.2
3	104	13.7
4	139	18.3
5	60	7.9
6	169	22.2
7	53	7.0
TOTAL	760 *	100.0

Missing Data: 33

RESPONDENTS BY TYPE OF SURVEY

	Number	Percent
RDD	504	63.6
CFS	155	19.5
MC	134	16.9
TOTAL	793	100.0

RESPONDENTS BY AGE

	Number	Percent
0-17	57	7.3
18-24	144	18.4
25-29	109	13.9
30-39	212	27.1
40-49	112	14.3
50-59	85	10.9
60 +	64	8.2
TOTAL	783 *	100.1

*Missing Data: 10

RESPONDENTS BY AMOUNT OF PRIOR CONTACT

	Number	Percent
A Lot	67	8.7
Some	424	55.4
None	275	35.9
TOTAL	766 *	100.0

Survey Question: "In regards to your own personal contact with the San Jose Police, would you say that you have had a lot, some, or no contact with the San Jose Police?"

* Missing Data: 27

APPENDIX E

RESPONDENT DIFFERENCES

CONTACT DIFFERENCES (N = 17)

1 - Males have more prior contact with the police than females.

2 - A greater proportion of people with some prior contact feel that the S.J.P.D. tries all or most of the time to help people (i.e., 74%) than a lot of or none (i.e., 64%, 68%).

3 - A greater proportion of people with a lot of prior contact feel that the S.J.P.D. seldom or never uses force appropriately (i.e., 18%) than some or none (i.e., 5%, 3%).

4 - A greater proportion of people with a lot of prior contact know P.O.s in their neighborhood (i.e., 40%) than some or none (i.e., 18%, 9%).

5 - A greater proportion of people with no prior contact feel that the S.J.P.D. is doing an excellent/good job (i.e., 73%) than some (i.e., 71%) or a lot (i.e., 58%). Similar results were obtained with regard to the question on citizen satisfaction with the S.J.P.D. (i.e., a lot/32% yes; some/46%; and none 46%).

6 - The lesser the amount of prior contact, the greater the proportion of "Don't Know" responses.

7 - A greater proportion of people with a lot of prior contact felt that the S.J.P.D. was seldom fair or unfair with the public (i.e., 11%) than some or none (i.e., 3%, 0%).

8 - A greater proportion of people with a lot of prior contact felt they knew what to do should a crime occur (i.e., 82%) than some or none (i.e., 76%, 70%).

9 - A greater proportion of people with no prior contact want more CP information (i.e., 74%) than a lot of or some (i.e., 63%, 70%).

10 - A greater proportion of people with a lot of prior contact were dissatisfied with the amount of time they had to wait on the phone (i.e., 32%) than some or none (i.e., 16%, 15%).

11 - A greater proportion of people with some prior contact were satisfied with P.O. response time (i.e., 73%) than a lot of or none (i.e., 63%, 57%).

12 - A greater proportion of people with some prior contact felt the officer(s) was/were courteous (i.e., 90%) than a lot of or none (i.e., 78%, 86%).

13 - A greater proportion of people with some prior contact were satisfied with P.O. explanations (i.e., 78%) than a lot of or none (i.e., 63%, 68%).

14 - A greater proportion of people with some prior contact felt better about the S.J.P.D. after this recent contact (i.e., 27%) than a lot of or none (i.e., 17%, 21%).

15 - A greater proportion of people with some prior contact would call the S.J.P.D. again (i.e., 96%) than a lot of or none (i.e., 83%, 95%).

16 - A greater proportion of people with no prior contact were satisfied on the whole with the S.J.P.D. (i.e., 95%) than a lot of or some (i.e., 84%, 90%).

17 - A greater proportion of people with a lot of prior contact have had 5 or more tickets (i.e., 54%) than some or none (i.e., 13%, 7%).

MODE DIFFERENCES (N = 14)

1 - A greater proportion of juveniles in MC (i.e., 14%) than RDD or CFS (i.e., 8%, 1%).

2 - A greater proportion of District 4 residents in MC (i.e., 26%) than RDD or CFS (i.e., 18%, 12%).

3 - A greater proportion of males in MC (i.e., 72%) than RDD or CFS (i.e., 39%, 40%).

4 - Median estimated family income was lower for CFS (i.e., $10,000-$15,000) than RDD and MC (i.e., $15,000-$20,000).

5 - A greater proportion of people having no prior contact in MC (i.e., 41%) than RDD or CFS (i.e., 36%, 26%).

6 - A greater proportion of positive people by prior contact in CFS (i.e., 48%) than RDD or CFS (i.e., 36%, 35%).

7 - A lesser proportion of MC saying force is used appropriately all or most of the time (i.e., 34%) than RDD or CFS (i.e., 45%, 46%).

8 - A greater proportion of MC know P.O.s in neighborhood (i.e., 30%) than RDD or CFS (i.e., 12%, 20%).

9 - A greater proportion of CFS want to know P.O.s in neighborhood (i.e., 80%) than RDD or MC (i.e., 66%, 60%).

10 - A greater proportion of MC saying most people are not satisfied with the S.J.P.D. (i.e., 34%) than RDD (i.e., 20%). (Also a greater proportion of RDD responding "Don't Know" (i.e., 34%) than MC (i.e., 22%).

11 - A greater proportion of CFS saying S.J.P.D. is always or usually fair with the public (i.e., 78%) than RDD or MC (i.e., 68%, 71%).

12 - A greater proportion of CFS saying P.O.(s) was/were courteous (i.e., 94%) than MC (i.e., 80%). However, a greater proportion of MC said P.O.(s) provided explanations (i.e., 93%) than CFS (i.e., 84%). But, a greater proportion of CFS were satisfied with explanations (i.e., 78%) than MC (i.e., 68%).

13 - A greater proportion of MC felt that P.O.s should change their behavior (i.e., 36%) than CFS (i.e., 23%).

14 - A greater proportion of CFS felt better about the S.J.P.D. (i.e., 37%) than MC (i.e., 10%).

INCOME DIFFERENCES (N = 9)

1 - Estimated family income lower for M/As and Bs than Ws.

2 - Estimated family income highest in Districts 4 and 6 and lowest in Districts 3 and 7.

3 - A smaller proportion of $25,000 and over respondents felt that most people are satisfied with the S.J.P.D. (i.e., 34%) than the average respondent (i.e., 47%).

4 - A greater proportion of $5,000 and under respondents felt they knew what to do should a crime occur (i.e., 89%) than the average respondent (i.e., 75%).

5 - Unemployed respondents are generally negative about P.O.s and the S.J.P.D. (N.B. sample small/9-12).

6 - A smaller proportion of $5,000 and under respondents felt that they wanted more information on CP (i.e., 61%) than the average respondent (i.e., 72%).

7 - A greater proportion of $5,000 and under respondents felt "better" after recent contact with the S.J.P.D. (i.e., 44%) than the average respondent (i.e., 24%). Additionally 15% of the $25,000 and over respondents indicated that they felt "better."

8 - A greater proportion of $25,000 and over respondents were dissatisfied on the whole with the S.J.P.D. (i.e., 27%) than the average respondent (i.e., 9%).

9 - The $10,000-$15,000 group had the greatest proportion of respondents having five or more traffic tickets (i.e., 29%) whereas the $25,000 and over group had the lowest (i.e., 4%). The average was 14%.

RACE DIFFERENCES (N = 7)

1 - Median estimated family income was lower for M/As (i.e, $10,000-$15,000) than Ws (i.e., $15,000-$20,000). Bs were even lower (i.e., $5,000-$10,000).

2 - A greater proportion of Ws were positive prior to recent contact (i.e., 74%) than M/As (i.e., 62%).

3 - A greater proportion of Ws feel that the S.J.P.D. is doing an excellent/good job (i.e., 75%) than M/As (i.e., 56%).

4 - A greater proportion of M/As feel that most people are not satisfied with the S.J.P.D. (i.e., 33%) than Ws (i.e., 21%).

5 - A greater proportion of Ws feel that the S.J.P.D. is fair with the public (i.e., 74%) than M/As (i.e., 63%).

6 - A greater proportion of Ws were dissatisfied with P.O. response time (i.e., 26%) than M/As (i.e., 11%).

7 - A greater proportion of M/As have had five or more prior tickets (i.e., 25%) than Ws (i.e., 13%).

SEX DIFFERENCES (N = 7)

1 - A greater proportion of males know P.O.s in neighborhood than females (e.g., 22% vs. 12%).

2 - A greater proportion of males know what to do if a crime occurs than females (i.e., 84% vs. 68%).

3 - A greater proportion of females want more CP information than males (i.e., 76% vs. 65%).

4 - A greater proportion of females considered their CFS emergency than males (i.e., 54% vs. 43%).

5 - A greater proportion of males were dissatisfied with response time than females (i.e., 33% vs. 23%).

6 - A greater proportion of females felt better after recent contact than males (i.e., 32% vs. 18%).

7 - A greater proportion of males have had five or more prior tickets than females (i.e., 20% vs. 0%).

AGE DIFFERENCES (N = 3)

1 - As age increases, the proportion of people having had positive prior police contacts tends to increase. The age group 18-24 was the most negative (i.e., 28%) in contrast to juveniles (i.e., 15%) for example. The average proportion of negative responses pertaining to prior police contacts was 16%.

2 - A smaller proportion of juveniles would like to get to know their P.O. (i.e., 56%) than the average respondent (i.e., 68%). However, 13% of the juveniles responded, "Don't Know."

3 - A greater proportion of juveniles felt that the S.J.P.D. does a lot or some things pertaining to CP (i.e., 92%) than the average respondent (i.e., 73%).

APPENDIX F

SURVEY COSTS

INTERVIEWERS (5) (325.5 hours @ $4.00/hour)	$1,302.00
PRINTING (File Cards/Capture Sheets)	140.00
KEY PUNCHING (1600 Cards)	148.00
COMPUTER TIME (Estimate)	100.00
TOTAL	$1,690.00*

* Survey costs described above do not include the time of key Patrol Emphasis Program staff who developed and implemented the Survey (i.e., T. Eisenberg, J. Gibson, C. Broadus, and T. Johnson). Time is estimated at 4 man-months.

END